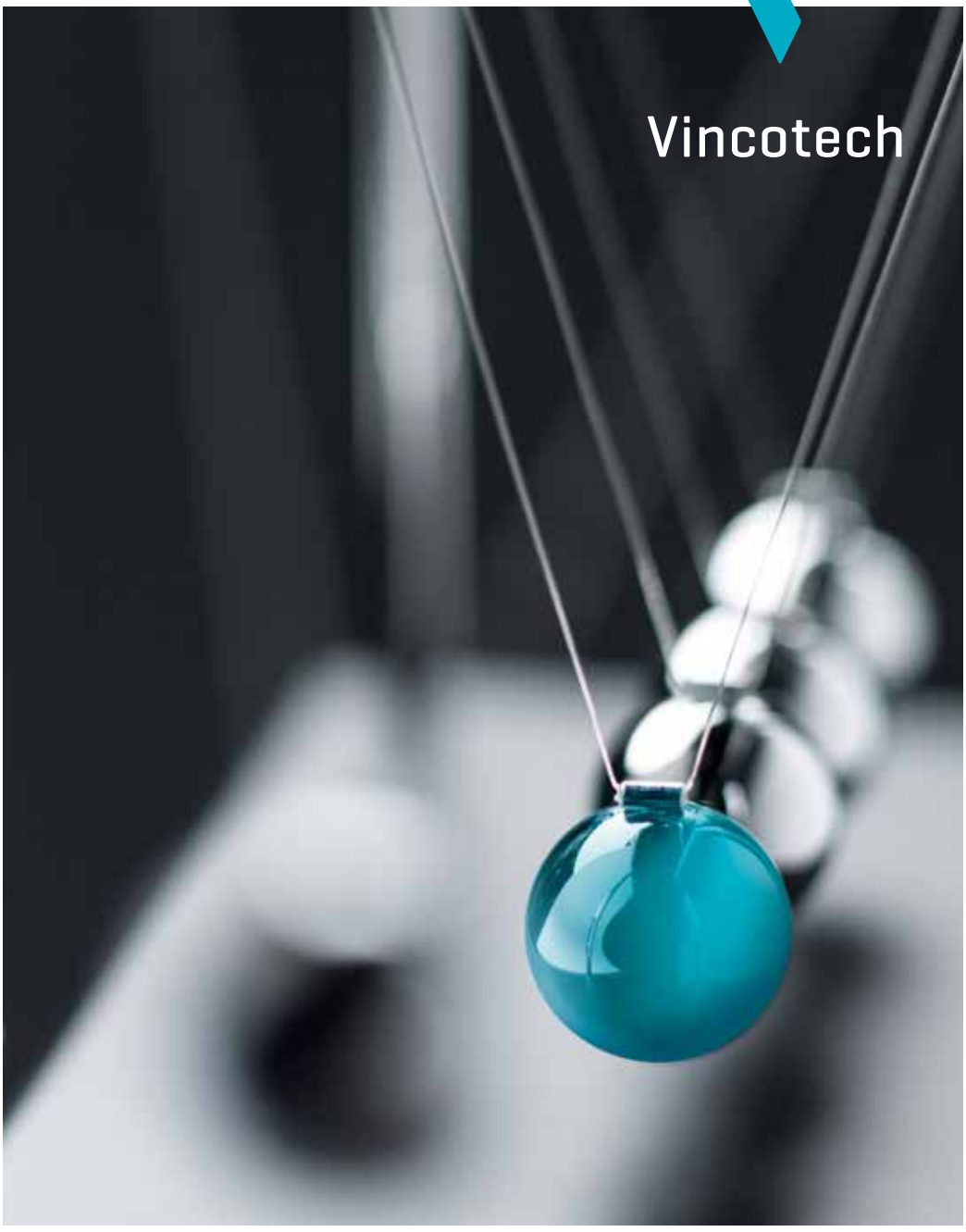

POWER MODULES 2017 / 2018

At Vincotech, we optimize our power modules to craft the perfect solution for your requirements. Our success hinges on knowing who you are, where you're coming from, and what you're aiming for. Count on us as a reliable partner to put your needs first.

EMPOWERING **YOUR IDEAS**

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VINCOTECH, AN INDEPENDENT COMPANY WITHIN THE MITSUBISHI ELECTRIC CORPORATION, **is a market leader and your reliable partner in power modules.**

Established and dependable, Vincotech is the partner of choice when it comes to designing and building power modules for motion control, renewable energy, and power supply applications, setting performance standards for both off-the-shelfand application-specific solutions.

An independently operating affiliate of Mitsubishi Electric Corporation staffed with around 500 people worldwide,

Vincotech delivers fast, flexible and customer-focused solutions, service and support to empower customers' ideas.

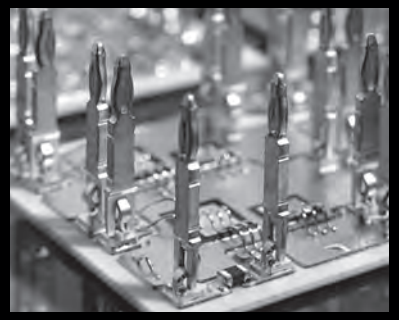
Headquartered in Unterhaching near Munich, Germany, Vincotech also owns and operates a production site in Bicske, Hungary. This ISO / TS16949- and ISO14001-certified factory develops and manufactures all power modules.

Engineered to comply with the RoHS and REACH standards, these modules are subjected to a battery of electrical and functional tests prior to packaging to ensure they fully satisfy Vincotech's rigorous standards for quality.

Vincotech, your reliable partner of choice.

The name Vincotech stands for highest product reliability, excellent customer service, and flexible, competitive solutions, all of which culminate in outstanding customer satisfaction.

A highly motivated and experienced engineering team at the R&D facility, supported by skilled technical service crews in all major regions, provides the underpinning for the company's strong technology portfolio.



Direct Pressed DCB

(Baseplate-less Modules)
Modules without baseplates are ready for assembly and can be pressed directly to the heat sink. A reliable and cost-effective solution for applications where thermal capacity is not an issue. These modules are the perfect substitute for solid copper or aluminum silicon carbide baseplates.

Description:
/ Single DCB substrate
/ W/o baseplate
/ Modules to be pressed directly to the application heat sink
/ Variable pins
Solder pins / Press-fit pins

Thick Film Based

IPM Platform
Thick film serves to produce highly integrated power modules in an additive process where various layers of conduction and insulation materials are printed on a ceramic sheet.

The layers can form tracks, pads, or resistors. This technology offers good thermal conductivity, the option of creating layouts similar to a PCB, and freedom in designing housings and pins.

Thick film is a mature technology, having seen several years of use, particularly in critical automotive and other applications.

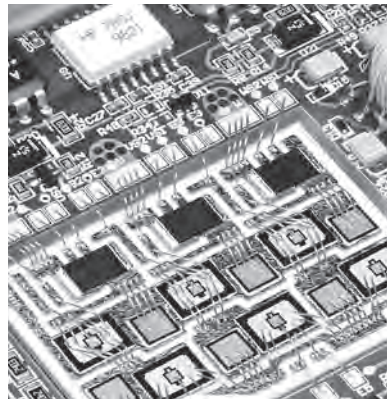
Description:
/ Single substrate TF Al_2O_3
/ Printed AgPd connection tracks
/ Printed, laser-trimmed resistive tracks
/ Bare die / SMD component mix
/ Variable pins
Solder pins / Press-fit pins

DCB Substrate on

Cu-Baseplate
Power modules with baseplates are more robust, extend systems' life and enlarge the active area for heat to *flow* from the module to the heat sink.

A module with a baseplate can dissipate up to 48% more power. This results in more available inverter power or in reduced junction temperatures. Modules also last longer with the benefit of baseplates' superior thermal dissipation.

Description:
/ Multiple DCB substrates on Cu baseplate
/ Baseplate screwed to the heat sink
/ Variable pins
Solder pins / Press-fit pins



DCB Substrate on Cu-Baseplate with ScrewContacts

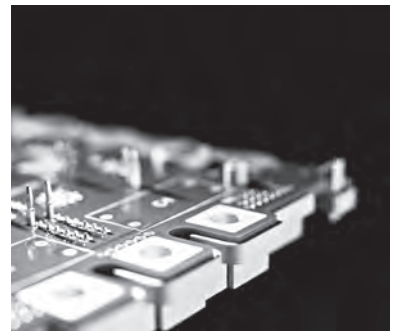
Vincotech high-power modules come in a low inductive package for high-power applications. Optimized for three-level topologies, these modules allow for high switching frequencies and fully symmetrical layouts.

Description:
/ One or several Cu baseplates
/ Baseplate(s) screwed to heat sink
/ Press-fit or solder pins for signal leads
/ Cu screw contact with nuts for power leads

DCB Substrate on Cu-Baseplate Based IPM Platform

IPM platforms with a baseplate can accommodate various topologies as well as a gate drive circuit, SMPS, voltage and current sensors, and many other components. A typical six-pack topology is the most frequently used option. The power semiconductors are bonded directly to a standard PCB that holds the discrete components.

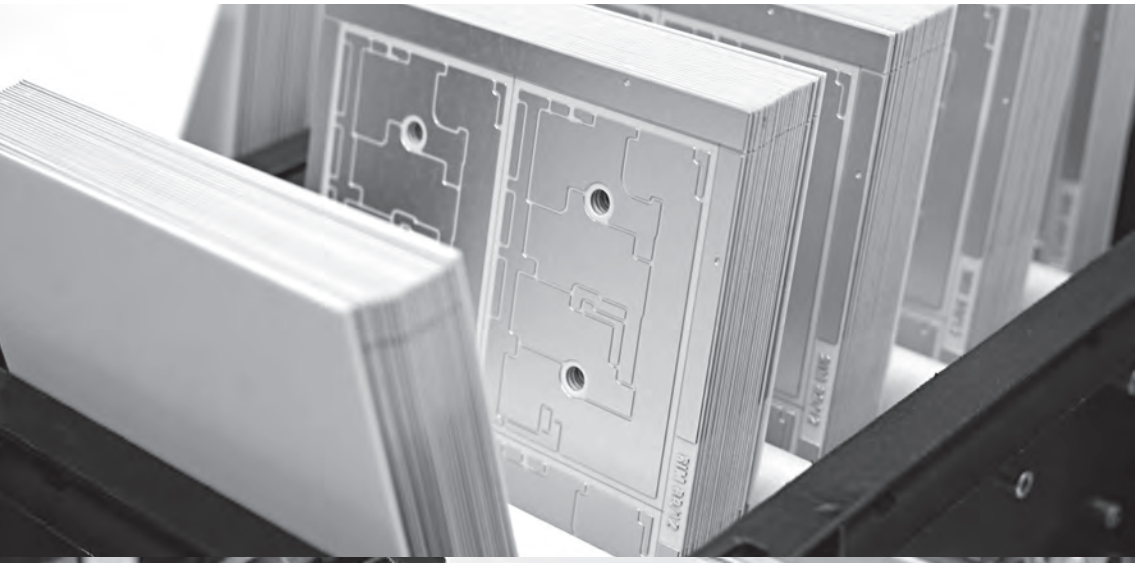
Description:
/ Multiple substrates on Cu baseplate
/ Baseplate screwed to the heat sink
/ Variable interconnect technology
/ PCB-DBC wire interconnection

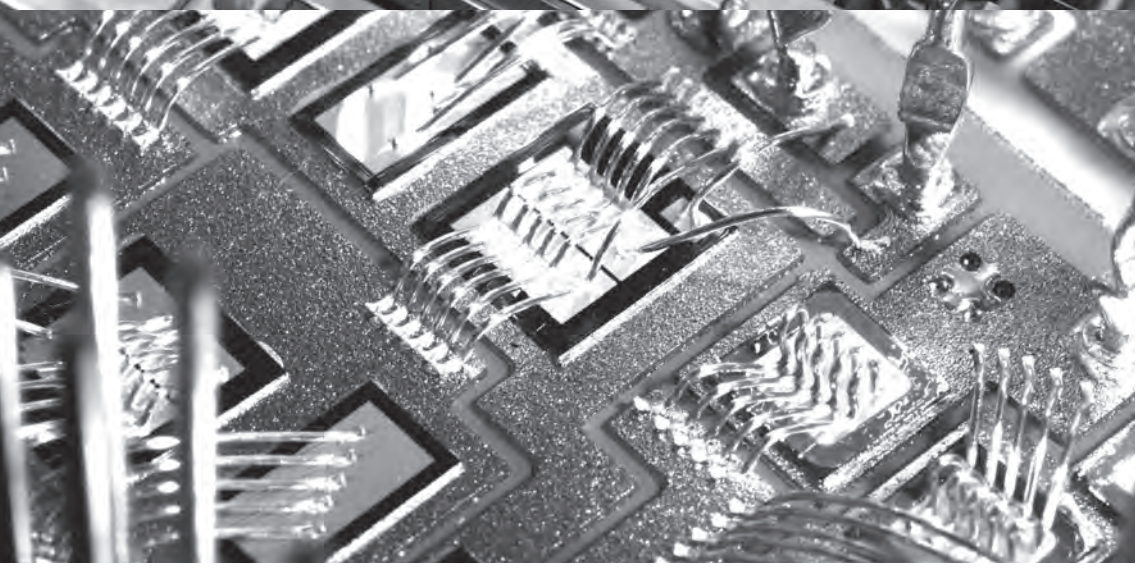


Direct Pressed DCB

(Baseplate-less Modules with SPRiNG Contact)
Direct Pressed in modules can be mounted in a single step to the heat sink and driver board. These modules are affixed with SPRiNG contacts and just a single screw to create electrical and thermal connections and make assembly an exercise in convenience. There is no need for time-consuming, costly mounting procedures, and even entire modules are easy to replace with SPRiNG contacts should the need arise.

Description:
/ Single DCB substrate
/ W/o baseplate
/ Cross module assembly
/ Variable press on contacts





SUPERIOR SUBSTRATE MATERIAL
High-performance Si_3N_4

Remarkable mechanical strength, superior toughness, and high thermal conductivity make silicon nitride substrates the material of choice for power modules designed for ultra reliable products.

Si_3N_4 Ceramic
- / High thermal conductivity (four times that of Al_2O_3)
- / 50% lower R_{th} for MiniSKiiP® (incl. thermal interface material)
- / Physically robust enough for high-performance thermal interface material (phase-change with 3.4 W/mK) to be used to expedite module assembly and handling
- / Lower thermal expansion rates for improved load power cycling capability

SUPERIOR SUBSTRATE MATERIAL
AlN – Aluminium Nitride

With the benefit of its high thermal conductivity, AlN can serve to increase power modules' current carrying capability while maintaining robust insulating capacity. Vincotech's advanced power module design accommodates AlN substrates without requiring architectural modifications.

This design uses pressure-contact technology to establish a thermal connection between the module and heat sink.

The life span of a power module with an AlN substrate is more than twice that of an Al_2O_3 version.

Key Attributes of Aluminium Nitride
- / Beneficial dielectric properties
- / High thermal conductivity
- / Low thermal expansion coefficient, close to that of Silicon
- / Non-reactive to normal emiconductor process chemicalsand gases

INTERCONNECTION TECHNOLOGIES
Sintered Ag (Die Attach Technology)

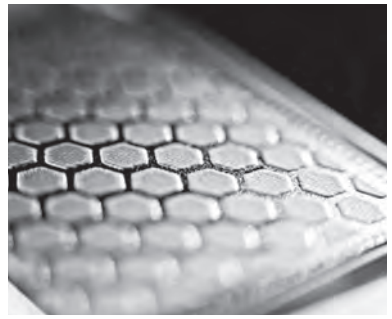
High-end power modules must meet challenging demands for thermal and electrical performance and reliability. Vincotech has taken sintering to the next level to meet these demands and is able replace all soldered points with sintered connections.

Sintering – the Multiple Solution

/ All Vincotech suppliers' chips may be sintered
/ Chip substrate and baseplate sintered in one step
/ Multi-component capability – chip, NTC and shunt may be sintered together
/ Multi-level capability – up to 3 mm difference in height can be accommodated
/ Lower thermal expansion rates for improved load cycling capability

INTERCONNECTION

INTERCONNECTION TECHNOLOGIES
Pre-applied Thermal Interface Material (TIM) Phase-change Material.



The benefits of using phase-change material to enable thermal conductivity between the module and heat sink are considerable.

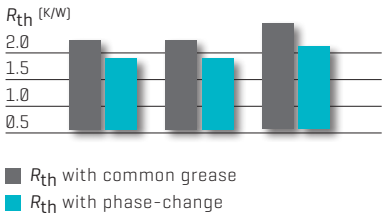
The phase-change material is solid at room temperature. This makes it smear-resistant during transportation and module assembly. Our in-house screen-printing process ensures the material's thickness configured and optimized for maximum heat transfer capability.

Benefits:
- Up to 20% R_{th} reduction from T_j to heat sink for Al_2O_3-based modules
- 30 % R_{th} reduction from T_j to heat sink for AlN-based high performance modules
- Solid, non-sticky surface – minimizes contamination risk, prevents layer damage

Features:
- Optimized thickness for improved R_{th} and reduced risk of DCB cracking
- Easier production process; no need for screen printing facilities
- Automated screen printing for utmost precision and reliability
- No risk of smearing thermal paste; material is solid at room temperature
- Standard solder profile applicable (e.g. J-STD-001, J-STD-003)
- Non-stick surface, resistant to dirt, dust and other contaminants

Properties:

Parameter	Value	Unit
Thermal conductivity	3.4	W/mK
Phase-change temperature	+45	°C



Order codes:
Example order code for phase-change material:
Version 1: V23990-P840-A48-/3/-PM
Version 2: 10-FZ06BIA045FH01-P897E10-/3/

Please ask your regional contact about the availability of phase-change material.

INTERCONNECTION TECHNOLOGIES
Press-fit Technology. Press to Save Time.

Vincotech's Press-fit technology reduces PCB assembly time and effort considerably.

Well established in the automotive industry, the Press-fit pin eliminates the need for soldering. This cuts process time and costs, and boosts production output capacity.

With no need to solder modules, engineers enjoy great flexibility in design.

The module can easily be mounted on top or bottom of the PCB at no extra cost and effort.

Features:
/ Approved rounded Press-fit area
/ Complies with DIN and IEC standards
/ Tapered pin head
/ Available for almost all housings

Benefits:
/ Eliminates costly additional soldering
/ Pins are in the same position as solder pins
/ High current carrying capability (30 A @ 80 °C)
/ Flexible mounting onto the power module DCB
/ Cuts production costs
/ Reliable cold-welding connection to PCB
/ No PCB hole damage to enable reuse
/ Thermo-mechanical push-and-pull-force relief

Order codes for Press-fit pins:
Version 1: Press-fit option is shown as an additional letter "Y" at the end of option code. Example order code version 1: V23990-P840-F49Y-PM

Version 2: Press-fit option is indicated by "P" at the beginning and "Y" at the end. Example order code version 2: 10-PZ06BIA045FH01-P897E10Y

EXCEPTIONAL HOUSINGS
*flow*90 Housing. Twist 90° to Save Space.

Vincotech *flow*90 power modules are the perfect match for book-sized inverters and 19-inch rack-mounted power supplies with a 90-degree angle between the heat sink and PCB.

Featuring pins arrayed at a 90-degree angle, *flow*90 0 and *flow*90 1 modules are available as standard products with CON, PIM, and PACK configurations.

This package is also a good choice for custom topologies for switched-mode power supplies, battery chargers and the like.

There is no need for a flexible PCB, and *flow*90 modules make the most of the PCB to minimize the application footprint.

Modules with pre-applied phase-change material are available on demand. Vincotech can handle this critical task to spare customer the precise application effort. With all these purpose-driven features, the *flow*90 is the module of choice for many applications that benefit from 90-degree mounting.

Features:
/ Complies with DIN and IEC standards
/ Topologies are easily customized
/ Pre-applied phase-change material available on demand

Benefits:
/ Space-saving housing enabling a 90-degree angle between the heat sink and PCB
/ Accommodates standard heat sinks, so no costly L-shaped versions needed
/ Easy clip-in mounting into the PCB
/ Enables installation on the same side of the PCB as other through-hole components
/ Can be wave-soldered along with the other components in one pass
/ Perfect match for book-sized inverters and 19-inch rack-mounted power supplies

Detailed view of the *flow*90 module

EXCEPTIONAL HOUSINGS
flow 0B Housing. The Compact Cost-cutter.

This ultra compact housing for small power applications is an excellent choice for cost-effective, space-saving designs.

A condensed version of the *flow* 0 housing, the *flow* 0B housing is sized for smaller power applications, providing a compact alternative to meet the demands of smaller power embedded drives and frequency inverters.

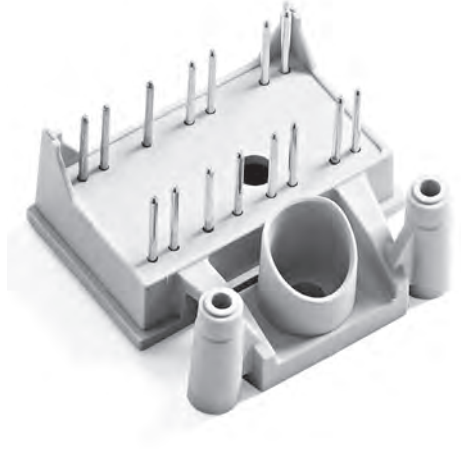
The first of the two debut topologies in the *flow* 0B housing consists of a PIM + PFC and is called *flow*PIM® 0B + PFC.

Equipped with a single-phase input rectifier, a PFC booster and a three-phase inverter, it uses high-speed 650 V IGBTs for the PFC. A DC capacitor and an NTC are integrated. The *flow*PIM® 0B + PFC module rated for the highest current features a PFC circuit based on a nominal chip current of 15 A and an inverter section equipped with 10 A components.

The other topology is called *flow*PACK 0B. This standard inverter topology with 6 IGBTs and freewheeling diodes is available with 1200 V and 600 V ratings.

The 600 V variant covers currents ranging from 6 A to 30 A; the 1200 V variant comes with currents ratings between 4 A and 15 A.

Features:
/ Single-screw heat sink mounting
/ Built-in standoffs with optional PCB screw mounting
/ For very compact designs
/ 17 mm in height for greater creepage distance
/ Thin 0.38 mm Al_2O_3 ceramic for improved thermal performance
/ Solder or Press-fit pins
/ Optionally with pre-applied, highly conductive TIM with 3.4 W/mK
/ Size: 36 mm x 34 mm
/ 17 mm height
/ Phase-change material



EXCEPTIONAL HOUSINGS

VINco X. The Low-inductive High-power Package.

The low-inductive design of the VINco X package featuring onboard DC capacitors extends maximum switching frequencies up to 20 kHz, which is unique in this power range.

A modular Package

/ Low-inductive PCB
/ Optional onboard snubber capacitors
/ High-current screw terminals
/ Independent baseplates for better thermal performance

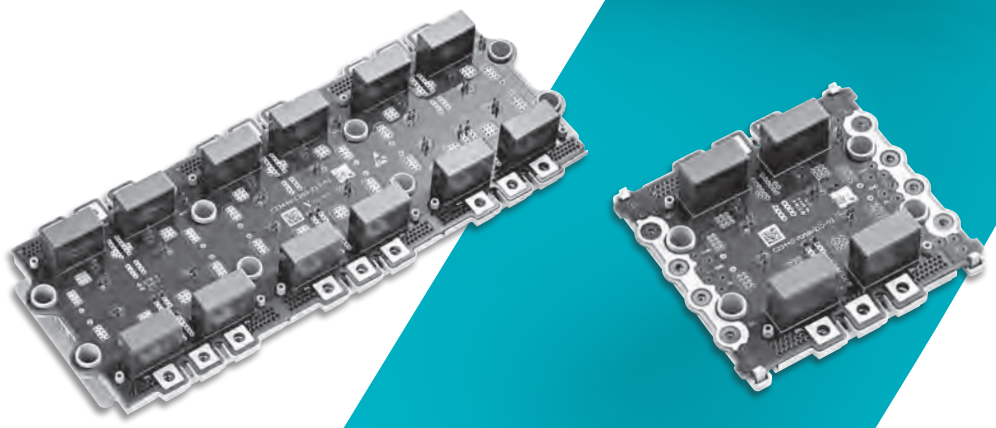
Benefits:

/ Easier busbar design
/ Smaller passive components needed
/ Individual dies are not overloaded extending their lifetime
/ Outstanding efficiency
/ Cost competitive solution for central inverters

Features:

/ Optimized connections for three-level topologies
/ Fully symmetrical layouts for uniform current perfomance
/ Available up to 1800 A in both NPC and MNPC
/ Stray Inductance: 3 – 15 nH* NPC low-inductive path
/ Easy paralleling: <5 nH module to module

(* Depending on model)



VINco E3
Packaged to meed your mid-power needs.

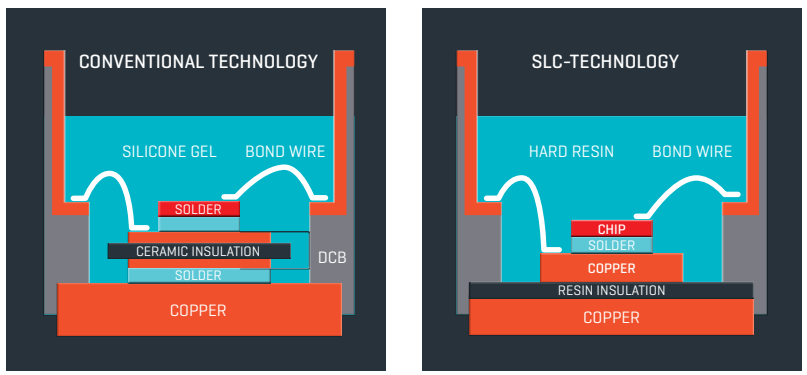
Engineered mainly for industrial drives, solar power and UPS applications, the VINco E3 package raises the performance bar with its enhanced power density and reliability.

Featuring the SLC (SoLid Cover) technology in the industry-standard low-profile package, **Vincotech's new VINco E3 package enables engineers to design mid-power inverters with higher output current, higher power density and improved reliability.**

The new IMB (Insulated Metal Baseplate) combines an electrically insulating resin layer with a direct-bonded top- and bottom-side copper layer.

Direct potting resin distributes the mechanical stress more uniformly than silicone gel.

Housing features:
/ Industry standard low-profile package
/ Improved thermal impedance
/ High thermal and power cycling capability



Structure comparison between conventional technology and the new SLC technology

EXCEPTIONAL HOUSINGS
MiniSKiiP®– Spring Contacts Connection.

For 10+ years Vincotech offers MiniSKiiP® modules with solderless spring contact mounting technology and pre-applied thermal paste.

These second-source modules are affixed with SPRiNG contacts and just a single screw to create electrical and thermal connections and make asassembly an exercise in convenience.

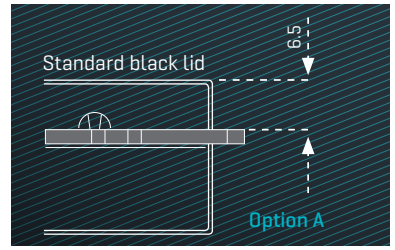
There is no need for time-consuming, costly mounting procedures, and even entire modules are easy to replace with SPRiNG contacts should the need arise.

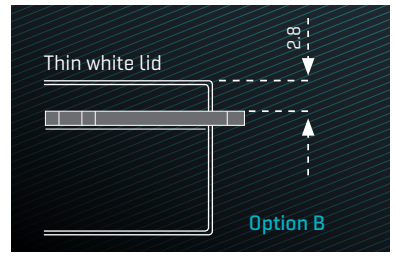
Thermal Interface Material Features:

/ Thermal conducting Material with optimized thickness for maximum heat transfer capability
/ Easy production process; no need for screen printing facilities
/ Automated screen printing for utmost precision and reliability
/ TIM available containing silicone free for silicone-sensitive applications

Lids: Two lids are available for all MiniSKiiP® modules:

/ Standard black 6.5 mm version allowing SMD parts to be mounted below the lid
/ Thin white 2.8 mm version sized for highly compact mechanical designs





Order codes: Example order code for different lids and applied grease:
Version 1: V23990-K220-A40-/1A/-PM
Version 2: 80-M206BIA045FH-K999E10-/1A/
Please ask your regional contact about the availability of MiniSKiiP® options.

Comparison of available Thermal Paste Materials:

Thermal conductivity	W/m*K	Detail
Wacker® Paste P12	0.81	silicone-based
Müller-Ahlhorn Thermigrease® TG 20032	2.5	silicone-free

Products:

Thermal Grease / Details	Lid	Order Code
-	Standard (6.5 mm)	-/0A/
-	Thin (2.8 mm)	-/0B/
Wacker® Paste P12 / silicone-based	Standard (6.5 mm)	-/1A/
Wacker® Paste P12 / silicone-based	Thin (2.8 mm)	-/1B/
Müller Ahlhorn Thermigrease® TG 20032 / silicone-free	Standard (6.5 mm)	-/4A/
Müller Ahlhorn Thermigrease® TG 20032 / silicone-free	Thin (2.8 mm)	-/4B/

VINCOTECH – YOUR RELIABLE PARTNER
Bringing your best ideas to life.

Vincotech: Making power modules is what we do. A reliable partner is what we are. Count on us to deliver on our performance promise and put your success first. Vincotech is your reliable partner for all power modules, off-the-rack and tailored solutions alike.

Having customized modules for over 15 years, we have a deep well of experience to draw on. You can count on our flexibility, responsiveness and cooperative spirit.

We put your success first – striving to find the best solution to fit your needs.

Our professionals will team up with your engineers to make the specification process an exercise in innovation and in the end to deliver solutions that fit your needs.

Vincotech is easy to reach when you need information or assistance. What we say goes. We stand by our word. And that makes decisions so much easier to come to. Vincotech products are all about truth in engineering.

Performance descriptions in the development phase are accurate. Customers can count on these products to provide a lifetime of good service based on bug-free, stable designs that minimize maintenance effort.

Vincotech lives by the principle of reliable partnership.

To this end, we communicate efficiently and dependably. We trust in our employees' capabilities. We are open, honest, reliable and as good as our word – or better. We mean what we say and do what we say we're going to do.

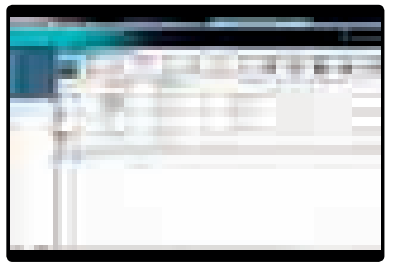
We put the customer's success first.
And that is why customers and Vincotech are equal partners.

INTEGRATED SIMULATION ENVIRONMENT TOOL

VincotechISE is an integrated simulation and selection environment for power modules.

It contains updated versions of the legacy tools *flow*SIM, *flow*SOL and *flow*SEL. Two other tools, *flow*MIS and the new thermal simulator *flow*THERM, are available; calculations can be provided on special request.

All power loss and temperature calculations are based on real measurements taken of each module.



01 *flow*SOL
is a simulation tool for solar power modules and similar applications. It features a parameter setup and function blocks tailored to this purpose and covers single-phase and three-phase power modules for transformer-less and transformer-based topologies.

02 *flow*SIM
calculates Vincotech power modules for industrial drive applications. Its GUI looks much like that of the *flow*SOL tool, but is geared towards industrial drives. This revamped user interface affords you in-depth insight into how parameter adjustments affect losses, temperatures and efficiency.

03 *flow*SEL
is a power module selector designed to help you find the solution best suited to your industrial drive application. Entering all the key application parameters is an exercise in convenience with its interactive schematic.

04 *flow*MIS
simulates power modules power and temperature characteristics based on an adjustable mission profile. Calculation data is available on request only.

05 *flow*THERM
gives you, as its name suggests, an inside look into the module to analyze thermal behavior. A thermal image of the power module's DCB provides detailed information on temperatures and thermal distribution. This data is available on request only.

Software Download
Step 01:
Download and install LabVIEW Runtime Engine once (if not already installed).

Step 02:
Download Vincotech ISE into your simulation directory.

Step 03:
Start Vincotech ISE.a

VINCOTECH DELIVERS APPLICATION-SPECIFIC SOLUTIONS **with utmost creative choice when it comes to design.**

Completely independent of component suppliers, we cherry-pick what's best for you from more than ten different leading semiconductor suppliers to build modules that benefit your business. Experience the peace of mind that comes with knowing your needs are being met.

Vincotech delivers solutions tailored to your applications.

Customers enjoy great freedom of choice. They are not locked in into one system or tied to standard products or specific suppliers. Free to configure their products as they see fit, they can find the best solution with a lot less effort.

Vincotech delivers to customer's specifications – that is, more efficient products with better thermal connections, optimized to improve their applications.

In our book, 'optimized' means more cost-effective, smaller, longer-lasting and easier-mounting modules that speed up production.

That's why Vincotech attaches such great value to its simulation and testing tools. The tools interactively calculate modules' electrical and thermal behavior based on fully measured parameters.

If you want your power module to be application-specific, it has to be Vincotech.

VINCOTECH IS FAST AND RESPONSIVE.
And that Agility Speed Benefits You.

Vincotech provides a wide selection of standard housings to keep your design options wide open. We're there for you at every step of your journey. When you opt for Vincotech, you will experience true face-to-face support from a most responsive supplier.

Our sample lead times are remarkably short at just four weeks on average.

Modules get approved that much faster, so customers' production runs commence sooner and their products are marketed much earlier. To this end, we make ordering easy, eliminate processes that do not add value, and keep the production line flexible.

Vincotech is agile enough to handle fluctuating demand even at short notice and deliver the goods just in time.

Speed and Flexibility – that sums up what Vincotech is all about.

Vincotech's customer focus, paired with efficient development and production flows, saves you time.

Flexibility, fast time to market, cost-effectiveness beyond our products, an innovative spirit, and a service-minded outlook – that´s what we´re all about.

Fast time to market:

/ The speed at which we can deliver the initial technical and commercial proposal (including a chip list, electrical configuration, mechanical details, pin-out and pin-positioning, options, etc) sets standards for the industry to follow.

/ Advanced simulation tools speed up component selection and mapping.

/ Sample lead time is phenomenally short (four weeks on average).

/ Module approval comes much faster with pre-qualified components and technologies.

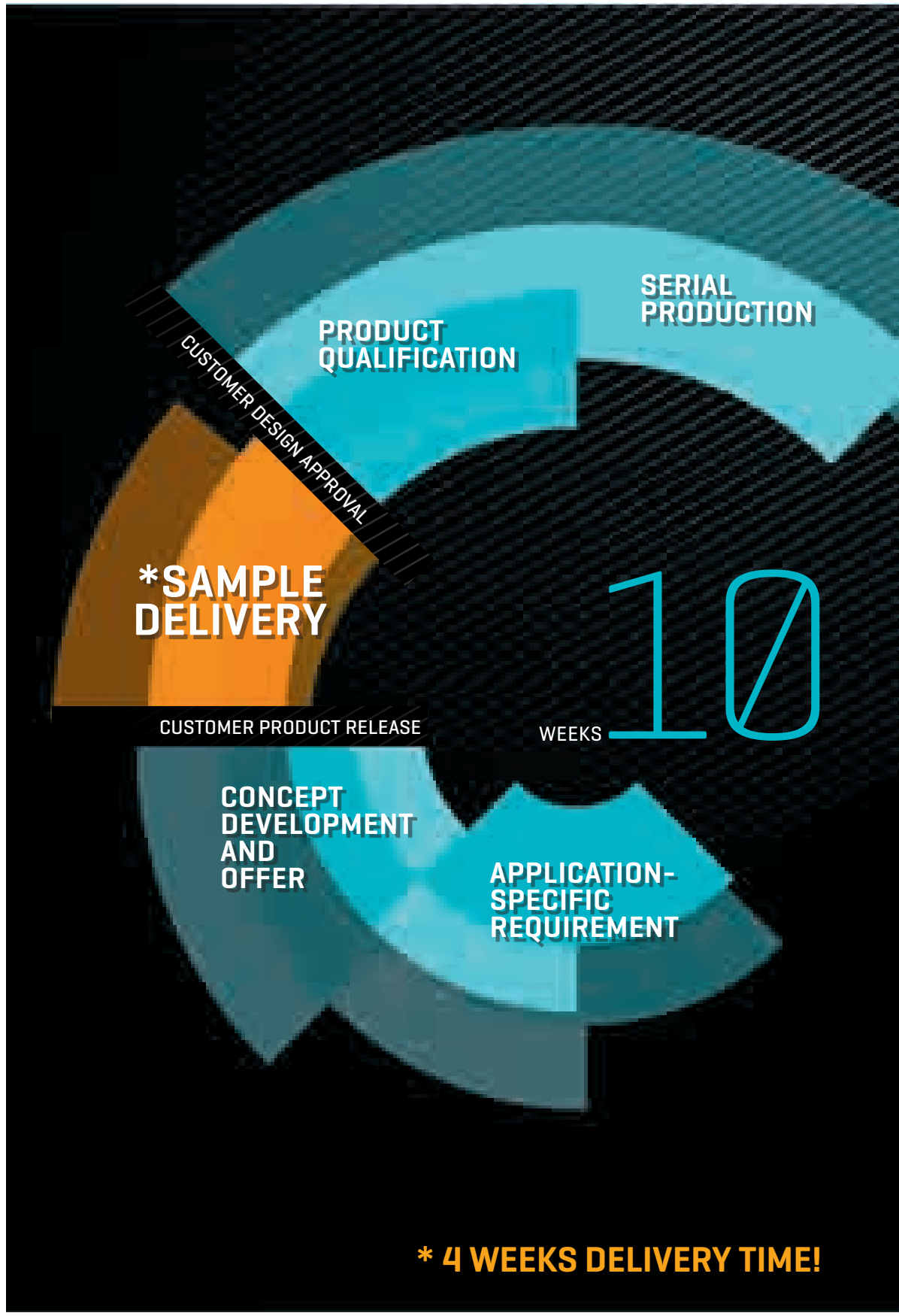
Cost efficiency:

/ Vincotech is fully independent of chip suppliers - choose your preferred chip from more than ten different leading semiconductor manufacturers (including SiC technology).

/ Enjoy the mechanical flexibility that comes with a broad variety of standard housings and free pin positioning.

/ Benefit from different interconnects (solder, Press-fit, screw and spring terminals) and stress-relief zones wherever they are needed.

/ Take advantage of readily customized standard products. Customers are free to cherry-pick from the largest selection of semiconductors and a wealth of pre-qualified topologies.



INDUSTRIAL DRIVES

Vincotech offers power integrated modules (PIM/CIB – converter, inverter and brake), sixpacks (three-phase modules), half-bridges and rectifier modules engineered to support standard drive applications for industrial use and motor power ranges from 1 kW to 60 kW.

For example: *flow*PIM® 0 | *flow*PACK 1 | *flow*PIM® 2 | VINcoDUAL E3

EMBEDDED DRIVES

Drives in circulation pumps, fans, air-conditioners, and other devices connected to the public power grid usually require active power factor correction (PFC). These PIM and IPM modules feature optional integrated PFC.

For example: *flow*PIM® 0 + PFC | *flow*IPM 1B | *flow*IPM 1C

CHARGING STATIONS

Switched-mode power supplies are used in industrial applications with power electronics and in battery chargers. Our modules are equipped with PFC circuits (AC/DC), half- and H-bridges, and step-up and step-down converters (DC/DC) for these applications.

For example: *flow*PFC 0 | *fast*PACK 0 H | VINcoBOOST X4 symmetric

SOLAR INVERTERS

The photovoltaic market requires DC/DC converters that adjust the solar input voltage to the DC-link or battery level and DC/AC converters to deliver the solar energy to the public grid. Vincotech's innovative modules support from small single-phase inverters to central inverters in the MW range.

For example: *flow*MNPC 1 and *flow*MNPC 2 for > 100 kW: VINcoMNPC X4
*flow*3xBOOST 0 SiC for < 100 kW: *flow*NPC 0 | *fast*PACK 0 HC
*flow*SOL 0 | *flow*SOL 1 | *flow*3xPHASE 0 SiC

UNINTERRUPTABLE POWER SUPPLIES (UPS)

Power components for UPS applications. Modules for AC/DC and DC/AC power conversion. Topologies such as single- and three-phase rectifiers, half- and H-bridges, boosters, and NPC/MNPC/AMNPC. Power ranges up to 200 kW.

For example: for < 100 kW: *flow*MNPC 0 | VINcoNPC X4
*flow*MNPC 1 and *flow*MNPC 2 for > 100 kW: VINcoMNPC X

WELDING

Inverter welding units need modules that can handle high switching frequencies in resonant mode or in zero voltage switching (ZVS) mode, and are equipped with H- and half-bridge topologies. Our modules also come with PFC to draw maximum power from the single-phase grid.

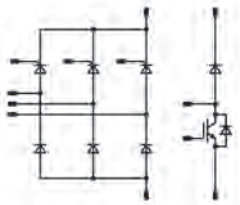
For example: *flow*PFC 0 | *fast*PACK 0 H | *flow*NPFC 0

OVERVIEW

APPLICATIONS / HOUSINGS

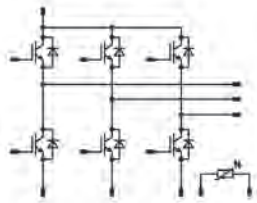
RECTIFIER (+BRAKE)

APPLICATIONS
/ INDUSTRIAL DRIVES
/ CHARGER STATIONS
/ UPS
/ WELDING



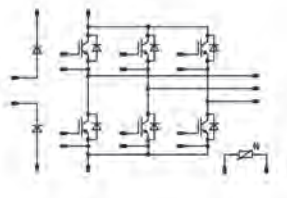
SIXPACK

APPLICATIONS
/ INDUSTRIAL DRIVES
/ EMBEDDED DRIVES
/ UPS



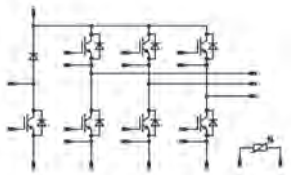
SIXPACK+RECTIFIER

APPLICATIONS
/ INDUSTRIAL DRIVES



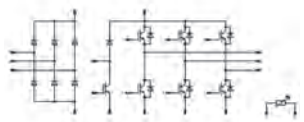
SEVENPACK

APPLICATIONS
/ INDUSTRIAL DRIVES



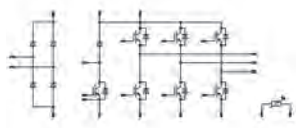
PIM (CIB)

APPLICATIONS
/ INDUSTRIAL DRIVES
/ EMBEDDED DRIVES



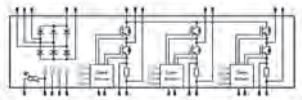
PIM+PFC (CIP)

APPLICATIONS
/ EMBEDDED DRIVES



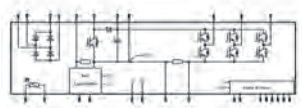
IPM (CIB)

APPLICATIONS
/ INDUSTRIAL DRIVES
/ EMBEDDED DRIVES



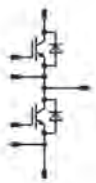
IPM (CIP/PIM+PFC)

APPLICATIONS
/ INDUSTRIAL DRIVES
/ EMBEDDED DRIVES



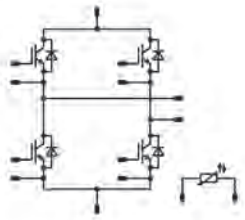
HALF-BRIDGE

APPLICATIONS
/ INDUSTRIAL DRIVES
/ CHARGER STATIONS
/ SOLAR INVERTERS
/ UPS
/ WELDING



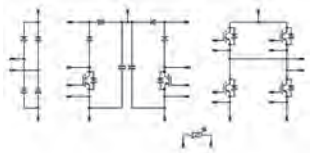
H-BRIDGE

APPLICATIONS
/ CHARGER STATIONS
/ SOLAR INVERTERS
/ UPS
/ WELDING



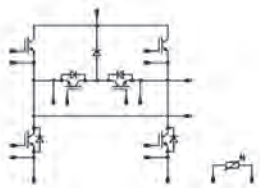
SINGLE-PHASE INVERTER

APPLICATIONS
/ CHARGER STATIONS
/ SOLAR INVERTERS
/ WELDING



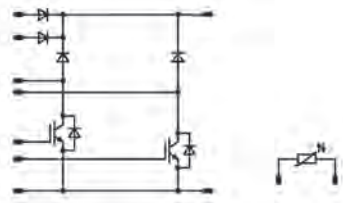
H6.5

APPLICATIONS
/ CHARGER STATIONS
/ WELDING



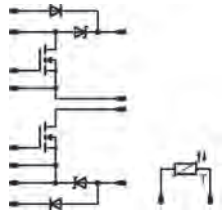
BOOSTER

APPLICATIONS
/ CHARGER STATIONS
/ SOLAR INVERTERS
/ UPS



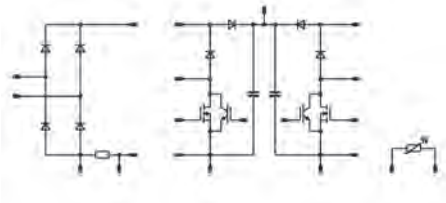
BOOSTER SYMMETRIC

APPLICATIONS
/ CHARGER STATIONS
/ SOLAR INVERTERS
/ UPS



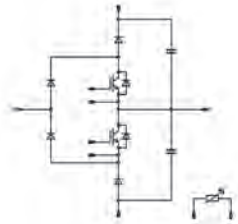
PFC (SINGLE-PHASE APPLICATIONS)

APPLICATIONS
/ EMBEDDED DRIVES
/ CHARGER STATIONS
/ WELDING



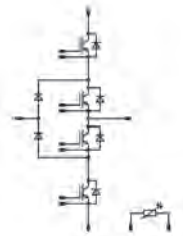
PFC (THREE-PHASE APPLICATIONS)

APPLICATIONS
/ CHARGER STATIONS
/ UPS



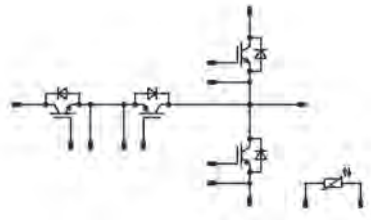
THREE-LEVEL NPC (I-TYPE)

APPLICATIONS
/ CHARGER STATIONS
/ SOLAR INVERTERS
/ UPS



THREE-LEVEL MNPC (T-TYPE)

APPLICATIONS
/ CHARGER STATIONS
/ SOLAR INVERTERS
/ UPS



TOPOLOGY **HOUSINGS**

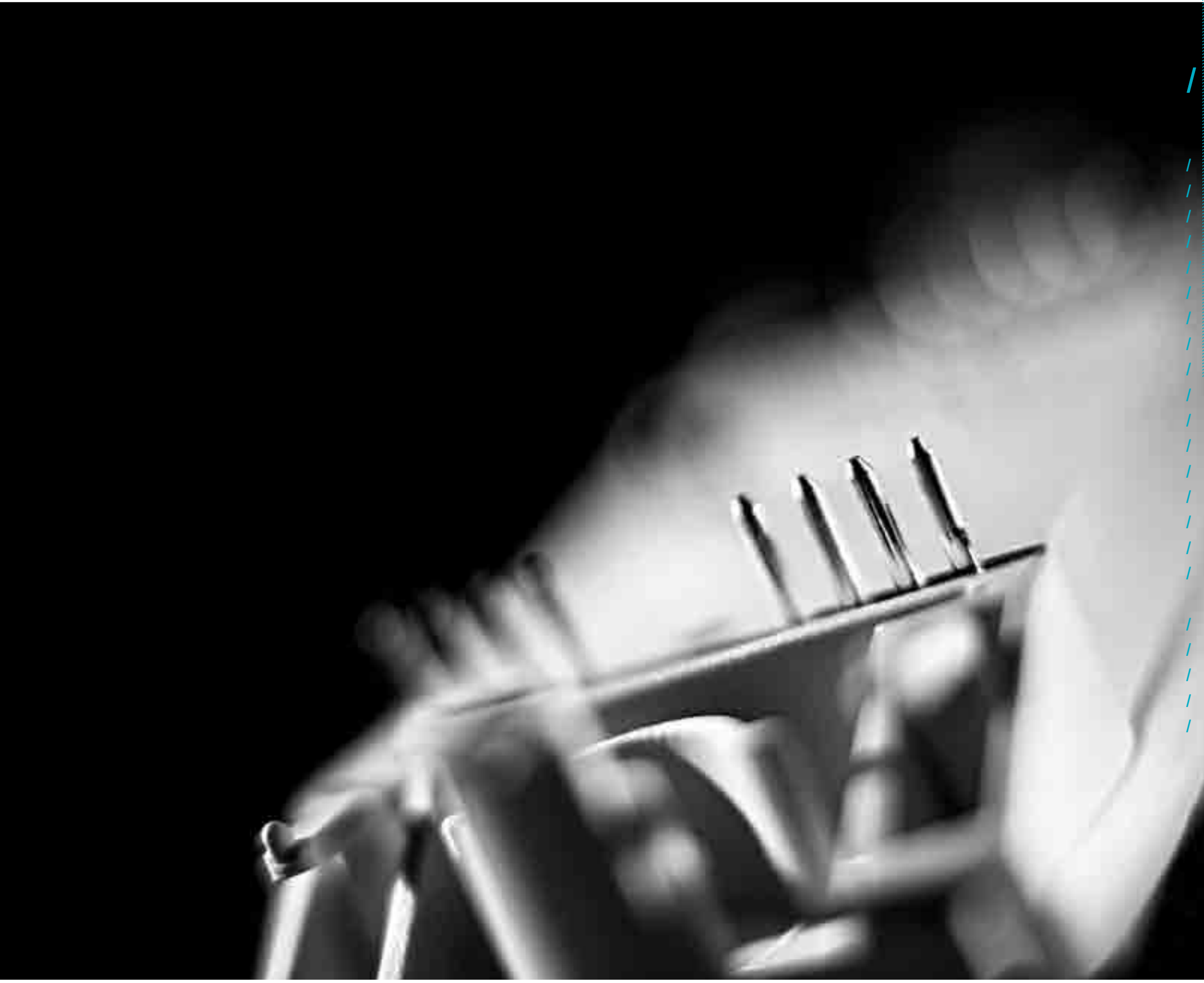
	flow 0B *flow* 1B / *flow* 1C	*flow* 0	*flow* 1	*flow* 2
RECTIFIER (+BRAKE)	*flow*CON 0B (P. 48 | 49)	*flow*CON 0 (P. 46 | 47)		*flow*CON 2 (P. 50 | 51)
SIXPACK	*flow*PACK 0B (P. 56 | 57)	*flow*PACK 0 (P. 54 | 55) *flow*PACK 0 SiC (P. 56 | 57)	*flow*PACK 1 (P. 60 | 61) *flow*PACK 0 SiS (P. 60 | 61)	*flow*PACK 2 (P. 62 | 63)
SIXPACK + RECTIFIER			*flow*PACK 1+R (P. 68 | 69)	*flow*PACK 2+R (P. 68 | 69)
SEVENPACK		*flow*7PACK 0 (P. 72 | 73)	*flow*7PACK 1 (P. 72 | 73)	*flow*7PACK 2 (P. 74)
PIM (CIB)	*flow*PIM 0B (P. 76 | 77)	*flow*PIM® 0 (P. 76 | 77)	*flow*PIM® 1 (P. 78 | 79)	*flow*PIM® 2 (P. 80 | 81)
PIM+PFC (CIP)	*flow*PIM® 0B+PFC (P. 86 | 87)	*flow*PIM® 0 + PFC (P. 86 | 86)		
IPM (CIB)	*flow*IPM 1B (CIB) (P. 90 | 91) *flow*IPM 1C (CIB) (P. 90 | 91)			
IPM (CIP/PIM+PFC)	*flow*IPM 1B (CIP) (P. 94 | 95)			
HALF BRIDGE		*flow*PHASE 0 (P. 98 | 99) *flow*PHASE 0+NTC (P. 100 | 101)		
H-BRIDGE		*fast*PACK 0 H (P. 106 | 107) *fast*PACK 0 HC (P. 108 | 109) *fast*PACK 0 MOS (P. 110 | 111) *fast*PACK 0 SiC (P. 106 | 107)	*flow*PACK 1 H (P. 108 | 109) *fast*PACK 1 MOS (P. 112) *fast*PACK 1 HC (P. 110 | 111)	
SINGLE-PHASE INVERTER		*flow*SOL 0 BI (TL) (P. 114 | 115) *flow*SOL 0 BI (T) primary (P. 116 | 117)	*flow*RPI 1 (P. 114 | 115) *flow*SOL 1 BI (TL) (P. 116 | 117) *flow*SOL 1 BI (T) primary (P. 118)	
H6.5		*flow*SOL 0 BI (TL) (P. 120 | 121)	*flow*PACK 1 H6.5 (P. 120 | 121)	
BOOSTER		*flow*BOOST 0 dual (P. 124 | 125) *flow*2xBOOST 0 (P. 126 | 127) *flow*3xBOOST 0 (P. 126 | 127) *flow*BOOST 0 SiC (P. 128 | 129) *flow*3xBOOST 0 SiC (P. 128 | 129)	*flow*BOOST 1 dual SiC (P. 124 | 125)	*flow*3xBOOST 2 SiC (P. 130)
BOOSTER SYMMETRIC		*flow*BOOST 0 symmetric (P. 132 | 133) *flow*BOOST 0 s+b (P. 132 | 133)	*flow*BOOST 1 symmetric (P. 134 | 135)	*flow*BOOST 2 symmetric (P. 134 | 135)
PFC (SINGLE-PHASE APPLICATIONS)		*flow*PFC 0 (P. 138 | 139) *flow*PFC 0 CD (P. 138 | 139)		
PFC (THREE-PHASE APPLICATIONS)		*flow*ANPFC 0 (P. 142 | 143) *flow*NPFC 0 (P. 142 | 143) *flow*SPFC 0 (P. 144 | 145)	3x*flow*NPFC 1 (P. 144 | 145)	
THREE-LEVEL NPC (I-TYPE)		*flow*NPC 0 IGBT (P. 148 | 149) *flow*NPC 0 MOS (P. 150 | 151) *flow*NPC 0 parallel (P. 150 | 151)	*flow*NPC 1 (P. 152 | 153) flow3xNPC 1 (P. 154 | 155) *flow*NPC 1 split (P. 154 | 155) *flow*NPC 1 MOS (P. 156 | 157)	*flow*NPC 2 (P. 156 | 157)
THREE-LEVEL MNPC (T-TYPE)		*flow*MNPC 0 (P. 162 | 163) *flow*MNPC 0 SiC (P. 162 | 163)	*flow*MNPC 1 (P. 164 | 165) 3x*flow*MNPC 1 (P. 164 | 165)	*flow*MNPC 2 (P. 166 | 167)

TOPOLOGY **HOUSINGS**

	*flow*90 0 *flow*90 1	VINco E3	VINco X4 VINco X8 / VINco X12	MiniSKiiP® 0 / MiniSKiiP® 1 MiniSKiiP® 2 / MiniSKiiP® 3
RECTIFIER (+BRAKE)	*flow*90CON 1 (P. 48 ¡ 49)			MiniSKiiP® CON 2 (P. 50 ¡ 51) MiniSKiiP® CON 3 (P. 52)
SIXPACK	*flow*90PACK 0 (P. 54 ¡ 55) *flow*90PACK 1 (P. 58 ¡ 59)	VINcoPACK E3 (P. 62 ¡ 63)		MiniSKiiP® PACK 1 (P. 64 ¡ 65) MiniSKiiP® PACK 2 (P. 64 ¡ 65) MiniSKiiP® PACK 3 (P. 66)
SIXPACK + RECTIFIER				
SEVENPACK				
PIM (CIB)	*flow*90PIM 1 (P. 78 ¡ 79)			MiniSKiiP® PIM 0 (P. 80 ¡ 81) MiniSKiiP® PIM 1 (P. 82 ¡ 83) MiniSKiiP® PIM 2 (P. 82 ¡ 83) MiniSKiiP® PIM 3 (P. 84)
PIM+PFC (CIP)	*flow*90PIM 1 + PFC (P. 88)			
IPM (CIB)				
IPM (CIP/PIM+PFC)				
HALF BRIDGE		VINcoDUAL E3 (P. 104)		MiniSKiiP® DUAL 2 (P. 102 ¡ 103) MiniSKiiP® DUAL 3 (P. 102 ¡ 103)
H-BRIDGE				
SINGLE-PHASE INVERTER				
H6.5				
BOOSTER				
BOOSTER SYMMETRIC			VINcoBOOST X4 symmetric (P. 136)	
PFC (SINGLE-PHASE APPLICATIONS)				
PFC (THREE-PHASE APPLICATIONS)				
THREE-LEVEL NPC (I-TYPE)			VINcoNPC X4 (P. 158 ¡ 159) VINcoNPC X8 (P. 158 ¡ 159) VINcoNPC X12 (P. 160)	
THREE-LEVEL MNPC (T-TYPE)			VINcoMNPC X4 (P. 166 ¡ 167) VINcoMNPC X12 (P. 168 ¡ 169)	

PRODUCTS

2017 / 2018



RECTIFIER (+BRAKE)

- SIXPACK
- SIXPACK + RECTIFIER
- SEVENPACK
- PIM (CIB)
- PIM+PFC (CIP)
- IPM (CIB)
- IPM (CIP/PIM+PFC)
- HALF-BRIDGE
- H-BRIDGE
- SINGLE-PHASE INVERTER
- H6.5
- BOOSTER
- BOOSTER SYMMETRIC
- PFC (SINGLE-PHASE APPLICATIONS)
- PFC (THREE-PHASE APPLICATIONS)
- THREE-LEVEL NPC (I-TYPE)
- THREE-LEVEL MNPC (T-TYPE)

- HOUSINGS
- HOUSING DIMENSIONS
- VINCOTECH WORLDWIDE
- GLOSSARY
- NAMING SYSTEM

*flow*CON 0

Facts

/ Input rectifier with diodes or optionally half controlled
/ Optionally w/o brake and reduced rectifier
/ Complementary to *flow*PHASE 0, *flow*PACK 0/1/2, *fast*PHASE 0
/ Clip-in PCB mounting possible

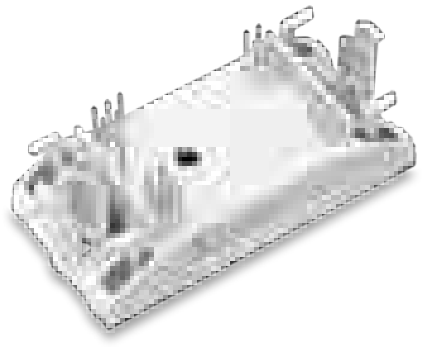
Housing

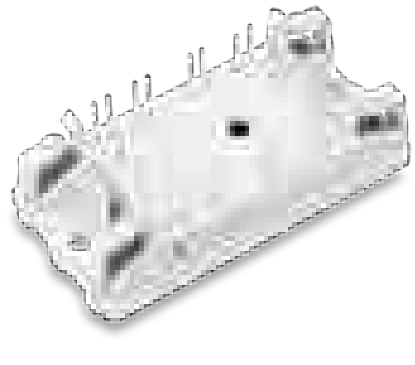
/ *flow* 0 17 mm
/ *flow* 0 17 mm 4-clip

www.vincotech.com/flowCON-0

Applications

/ INDUSTRIAL DRIVES / CHARGER STATIONS / UPS / WELDING

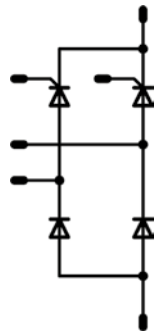




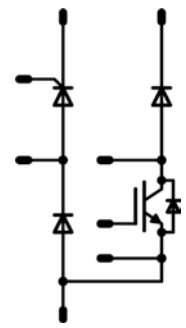
RECTIFIER (+BRAKE)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-P649-G10-PM	/ 1600	/ 34	/ Thyristor	
V23990-P649-H10-PM	/ 1600	/ 34	/ Thyristor	/ w/o brake
V23990-P640-H10-PM	/ 1600	/ 42	/ Thyristor	/ w/o brake
V23990-P640-G10-PM	/ 1600	/ 42	/ Thyristor	
V23990-P649-H-PM	/ 1600	/ 50	/ Rectifier	/ w/o brake
V23990-P649-G-PM	/ 1600	/ 50	/ Rectifier	
V23990-P640-G20-PM	/ 1600	/ 75	/ Rectifier	/ 2-clip
V23990-P640-H-PM	/ 1600	/ 75	/ Rectifier	/ w/o brake
V23990-P640-G-PM	/ 1600	/ 75	/ Rectifier	
V23990-P590-J19-PM	/ 1600	/ 75	/ Thyristor	/ complementary to P600-119
V23990-P600-I19-PM	/ 1600	/ 75	/ Thyristor	/ complementary to P590-119
V23990-P590-J09-PM	/ 1600	/ 105	/ Rectifier	/ complementary to P600-109
V23990-P600-I09-PM	/ 1600	/ 105	/ Rectifier	/ complementary to P590-I09

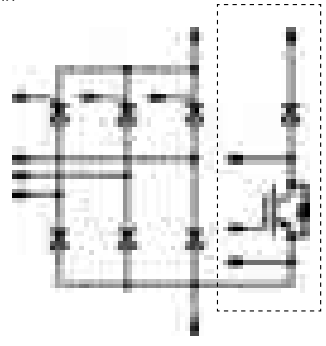
/ P59x



/ P60x

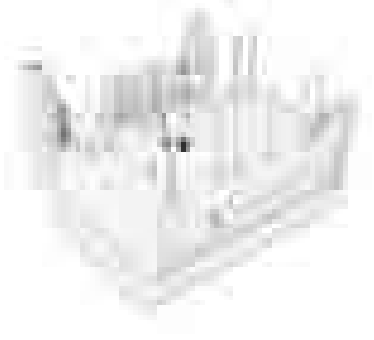


/ P64x



*flow*CON 0B

Facts
/ Modular input rectifier with brake
/ Complementary to *flow*PACK 0B
/ New ultra-compact housing with single-screw heat sink mounting



Housing
/ *flow* 0B 17 mm
www.vincotech.com/*flow*CON-0B

Applications
/ INDUSTRIAL DRIVES / CHARGER STATIONS / UPS / WELDING

*flow*90CON 1

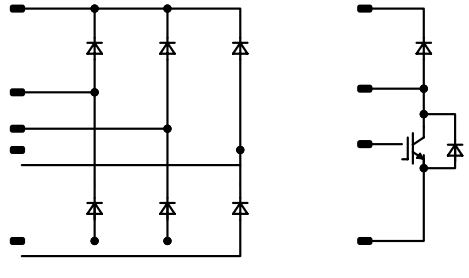
Facts
/ Input rectifier optionally half controlled with or without brake
/ Compatible with *flow*90 PACK 1
/ Clip-in PCB mounting
/ Clip or screw-on heat sink mounting

Housing
/ *flow* 90 1
www.vincotech.com/*flow*90CON-1

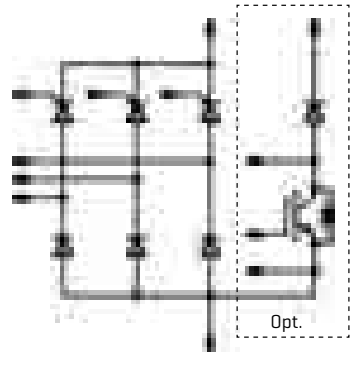
Applications
/ INDUSTRIAL DRIVES / CHARGER STATIONS / UPS / WELDING

RECTIFIER (+BRAKE)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-0B166BA028SC-M989G09	/ 1600	/ 35	/ Rectifier	



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-P717-G10-PM	/ 1600	/ 36	/ Thyristor	
V23990-P717-H10-PM	/ 1600	/ 36	/ Thyristor	/ w/o brake
V23990-P717-G-PM	/ 1600	/ 39	/ Rectifier	
V23990-P717-H-PM	/ 1600	/ 39	/ Rectifier	/ w/o brake
V23990-P718-G10-PM	/ 1600	/ 43	/ Thyristor	
V23990-P718-H10-PM	/ 1600	/ 43	/ Thyristor	/ w/o brake
V23990-P718-G-PM	/ 1600	/ 52	/ Rectifier	
V23990-P718-H-PM	/ 1600	/ 52	/ Rectifier	/ w/o brake
V23990-P719-G-PM	/ 1600	/ 75	/ Rectifier	
V23990-P719-H-PM	/ 1600	/ 75	/ Rectifier	/ w/o brake



*flow*CON 2

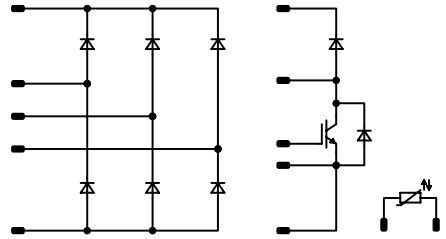
Facts
/ Input rectifier with brake
/ For high power drive applications
/ With *flow*PACK 2 up to 30 kW inverters
/ Temperature sensor

Housing
/ *flow* 2 17 mm
www.vincotech.com/*flow*CON-2

Applications
/ INDUSTRIAL DRIVES / CHARGER STATIONS
/ UPS / WELDING

RECTIFIER (+BRAKE)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
30-F2166BA150RW-L267G09	/ 1600	/ 150	/ Rectifier	
30-F2166BA150RW01-L267G19	/ 1600	/ 150	/ Rectifier	enhanced brake chopper



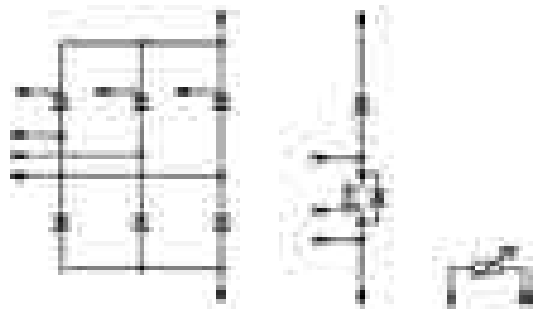
MiniSKiiP® CON 2

Facts
/ Three-phase half controlled rectifier
/ Brake chopper
/ Temperature sensor

Housing
/ MiniSKiiP® 2
www.vincotech.com/MiniSKiiPCON-2

Applications
/ INDUSTRIAL DRIVES / CHARGER STATIONS
/ UPS / WELDING

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
80-M2166BA060RW02-K369G	/ 1600	/ 60	/ Thyristor	



MiniSKiiP® CON 3

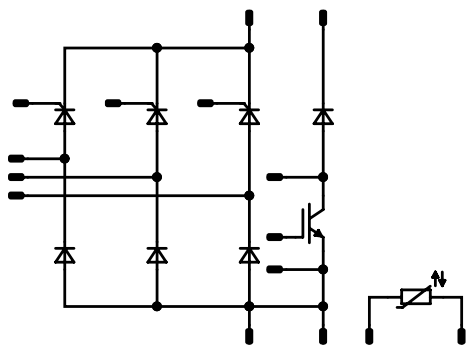
NEW

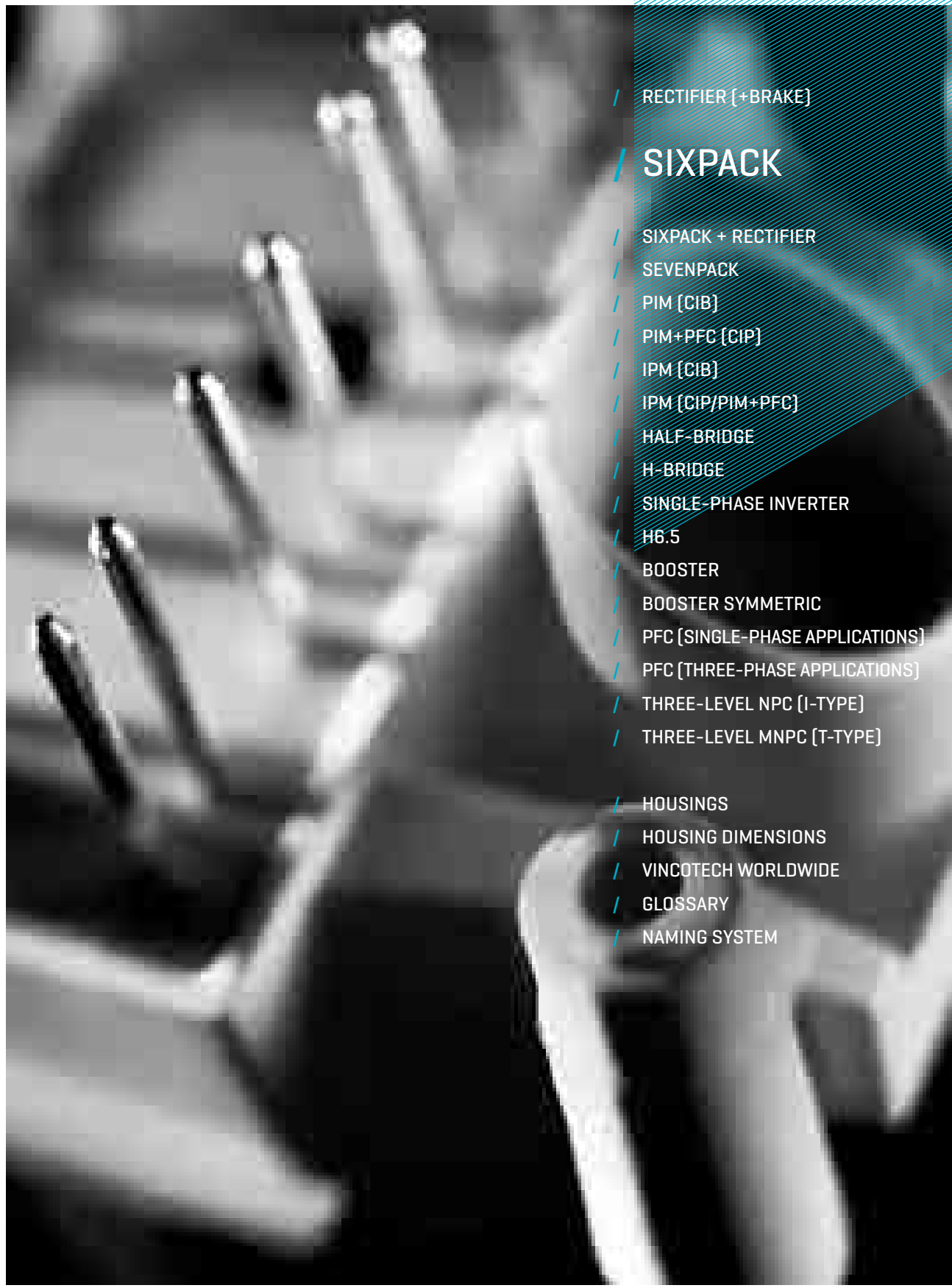
Facts
/ Three-Phase Rectifier
/ Brake Chopper
/ Temperature sensor

Housing
/ MiniSKiiP® 3
www.vincotech.com/MiniSKiiP-PACK-3

Applications
/ INDUSTRIAL DRIVES / CHARGER STATIONS / UPS / WELDING

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
80-M3166BA125AS-K489G30	/ 1200	/ 125	/ Thyristor	
80-M3166BA140SC02-K489G40	/ 1200	/ 140	/ Thyristor	
80-M3166BA140SC03-K489G42	/ 1200	/ 140	/ Thyristor	





/ RECTIFIER (+BRAKE)
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM (CIB)
/ PIM+PFC (CIP)
/ IPM (CIB)
/ IPM (CIP/PIM+PFC)
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC (SINGLE-PHASE APPLICATIONS)
/ PFC (THREE-PHASE APPLICATIONS)
/ THREE-LEVEL NPC (I-TYPE)
/ THREE-LEVEL MNPC (T-TYPE)
/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

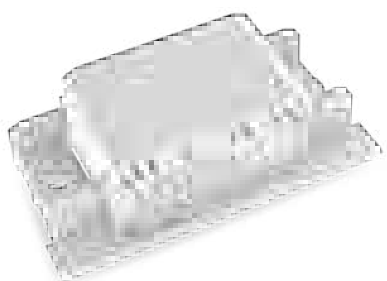
*flow*90PACK 0

Facts
/ IGBT4 (1200 V) technology for low saturation losses and improved EMC behavior
/ Supports designs with 90° mounting angle
/ Clip-in PCB mounting
/ Clip or screw-on heat sink mounting

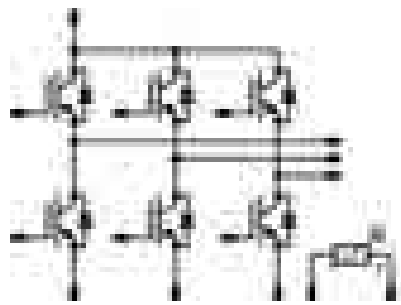
Available options
F40: housing with clips
F41: housing w/o clips

Housing
/ *flow*90 0
www.vincotech.com/*flow*90PACK-0

Applications
/ INDUSTRIAL DRIVES



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-R0126PA008SC-M627F40	/ 1200	/ 8	/ IGBT4	
10-RZ126PA008SC-M627F41	/ 1200	/ 8	/ IGBT4	
10-R0126PA015SC-M628F40	/ 1200	/ 15	/ IGBT4	
10-RZ126PA015SC-M628F41	/ 1200	/ 15	/ IGBT4	
10-R0126PA025SC-M629F40	/ 1200	/ 25	/ IGBT4	
10-RZ126PA025SC-M629F41	/ 1200	/ 25	/ IGBT4	
10-R0126PA035SC-M620F40	/ 1200	/ 35	/ IGBT4	
10-RZ126PA035SC-M620F41	/ 1200	/ 35	/ IGBT4	

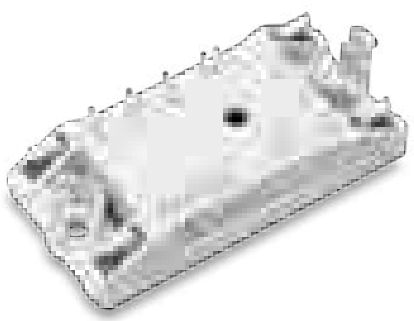


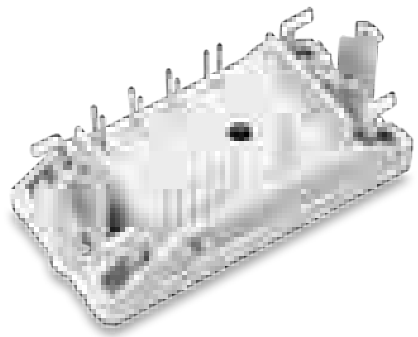
*flow*PACK 0

Facts
/ IGBT3 (600 V) and IGBT4 (1200 V) technology for low saturation losses
/ Compact and low inductance design
/ Open emitter configuration available upon request

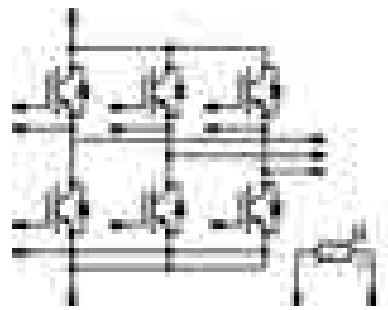
Housing
/ *flow* 0 12 mm (F48)
/ *flow* 0 17 mm (F49)
www.vincotech.com/flowPACK-0

Applications
/ INDUSTRIAL DRIVES





Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-P864-F48-PM	/ 600	/ 30	/ IGBT3	
V23990-P864-F49-PM	/ 600	/ 30	/ IGBT3	
V23990-P865-F48-PM	/ 600	/ 50	/ IGBT3	
V23990-P865-F49-PM	/ 600	/ 50	/ IGBT3	
V23990-P866-F48-PM	/ 600	/ 75	/ IGBT3	
V23990-P866-F49-PM	/ 600	/ 75	/ IGBT3	
V23990-P869-F48-PM	/ 1200	/ 25	/ IGBT4	
V23990-P869-F49-PM	/ 1200	/ 25	/ IGBT4	
V23990-P860-F48-PM	/ 1200	/ 35	/ IGBT4	
V23990-P860-F49-PM	/ 1200	/ 35	/ IGBT4	

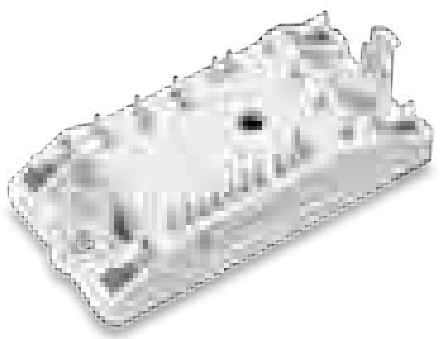


*flow*PACK 0 SiC

NEW

Facts

/ Three-phase inverter topology with split output
/ SiC-Power MOSFET´s and Schottky Diodes
/ Switching frequency >100 kHz
/ Improved switching behavior (reduced turn on energy and X-conduction)
/ Very low inductance with integrated DC-capacitors
/ Temperature sensor



Housing

/ *flow* 0 12 mm

www.vincotech.com/*fast*PACK-0-SiC

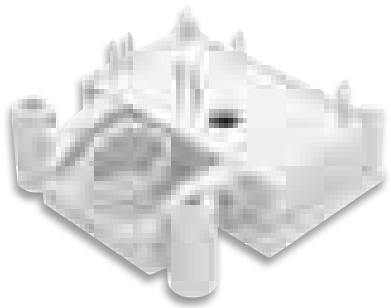
Applications

/ INDUSTRIAL DRIVES / CHARGER STATIONS / SOLAR INVERTERS / UPS

*flow*PACK 0B

Facts

/ IGBT3 (600 V) and IGBT4 (1200 V) technology for low saturation losses
/ Open emitter topology
/ New ultra-compact housing with single-screw heat sink mounting



Housing

/ *flow* 0B 12 mm

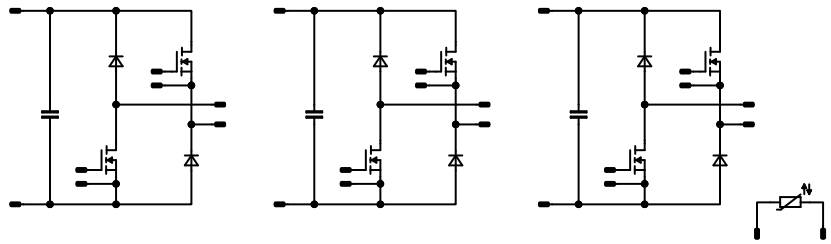
www.vincotech.com/*flow*PACK-0B

Applications

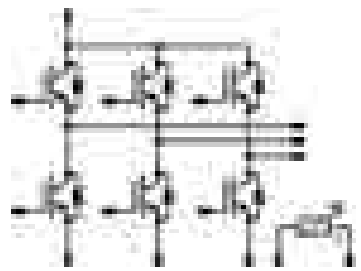
/ INDUSTRIAL DRIVES / EMBEDDED DRIVES

SIXPACK

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-PZ126PA080ME-M909F18Y	/ 1200	/ 35	/ SiC MOSFET	/ SiC MOSFET 2nd gen + SiC diode from Wolfspeed™
10-PZ126PA080MR-M909F28Y	/ 1200	/ 35	/ SiC MOSFET	/ SiC MOSFET 2nd gen + SiC diode from ROHM™



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-0B066PA006SB-M992F09	/ 600	/ 6	/ IGBT3	
10-0B066PA010SB-M993F09	/ 600	/ 10	/ IGBT3	
10-0B066PA015SB-M994F09	/ 600	/ 15	/ IGBT3	
10-0B066PA020SB-M995F09	/ 600	/ 20	/ IGBT3	
10-0B066PA030SB-M996F09	/ 600	/ 30	/ IGBT3	
10-ZB066PA030SB-M996F08	/ 600	/ 30	/ IGBT3	
10-0B126PA004SC-M997F09	/ 1200	/ 4	/ IGBT4	
10-0B126PA008SC-M998F09	/ 1200	/ 8	/ IGBT4	
10-0B126PA015SC-M999F09	/ 1200	/ 15	/ IGBT4	



*flow*90PACK 1

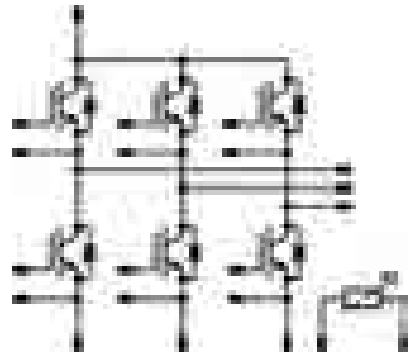
Facts
/ IGBT3 (600 V) and IGBT4 (1200 V) technology for low saturation losses
/ Open emitter topology
/ Supports designs with 90° mounting angle
/ Clip-in PCB mounting
/ Clip or screw-on heat sink mounting

Housing
/ *flow*90 1
www.vincotech.com/*flow*90PACK-1

Applications
/ INDUSTRIAL DRIVES

SIXPACK

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-P704-F-PM	/ 600	/ 30	/ IGBT3	
V23990-P705-F-PM	/ 600	/ 50	/ IGBT3	
V23990-P706-F-PM	/ 600	/ 75	/ IGBT3	
V23990-P707-F40-PM	/ 1200	/ 8	/ IGBT4	
V23990-P708-F40-PM	/ 1200	/ 15	/ IGBT4	
V23990-P709-F40-PM	/ 1200	/ 25	/ IGBT4	
V23990-P700-F40-PM	/ 1200	/ 35	/ IGBT4	
V23990-P700-F44-PM	/ 1200	/ 50	/ IGBT4	

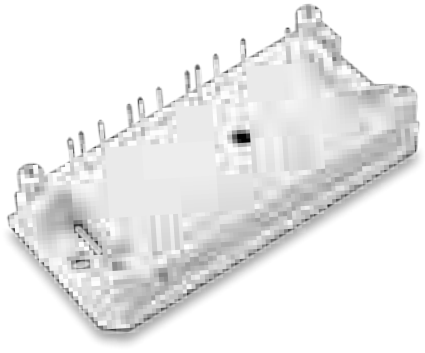


*flow*PACK 1

Facts
/ IGBT3 (600 V) or IGBT4 (1200 V) technology for low conduction losses and improved EMC behavior
/ New low-loss Mitsubishi gen 7 (IGBT M7) 1200 V chip technology
/ Optionally with AIN DCB for improved R_{th}
/ Compact design

Housing
/ *flow* 1 12 mm (F08, F108)
/ *flow* 1 17 mm (F10, F)
www.vincotech.com/*flow*PACK-1

Applications
/ INDUSTRIAL DRIVES / EMBEDDED DRIVES



*flow*PACK 1 SiC

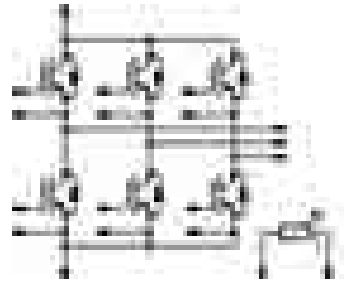
Facts
/ Flexible open source/open drain topology
/ Possible to be used in different applications´ designs
/ High efficiency at very light loads
/ High switching frequencies up to 200 kHz
/ NTC

Housing
/ *flow* 1 12 mm
www.vincotech.com/*flow*PACK-1-SiC

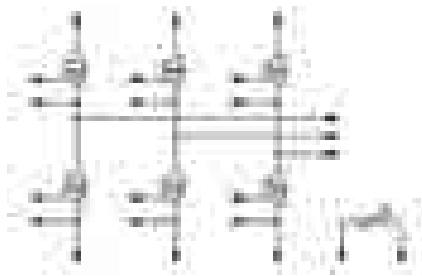
Applications
/ INDUSTRIAL DRIVES / CHARGER STATIONS
/ SOLAR INVERTERS / UPS

SIXPACK

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-P823-F10-PM	/ 600	/ 50	/ IGBT3	
V23990-P823-F-PM	/ 600	/ 50	/ IGBT3	/ improved R_{th} (AlN)
V23990-P824-F10-PM	/ 600	/ 75	/ IGBT3	
V23990-P824-F-PM	/ 600	/ 75	/ IGBT3	/ improved R_{th} (AlN)
V23990-P825-F10-PM	/ 600	/ 100	/ IGBT3	
V23990-P825-F-PM	/ 600	/ 100	/ IGBT3	/ improved R_{th} (AlN)
V23990-P828-F10-PM	/ 1200	/ 35	/ IGBT4	
V23990-P828-F-PM	/ 1200	/ 35	/ IGBT4	/ improved R_{th} (AlN)
V23990-P829-F10-PM	/ 1200	/ 50	/ IGBT4	
V23990-P829-F-PM	/ 1200	/ 50	/ IGBT4	/ improved R_{th} (AlN)
V23990-P829-F108-PM	/ 1200	/ 50	/ IGBT4	
NEW **10-F1126PA075M7-L829F09**	**/ 1200**	**/ 75**	**/ IGBT M7**	
NEW **10-F1126PA100M7-L820F09**	**/ 1200**	**/ 100**	**/ IGBT M7**	



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-PY126PA020MR-L227F28Y	/ 1200	/ 50	/ SiC MOSFET	/ SiC MOSFET from ROHM™
10-PY126PA020ME-L227F18Y	/ 1200	/ 50	/ SiC MOSFET	/ SiC MOSFET from Wolfspeed™

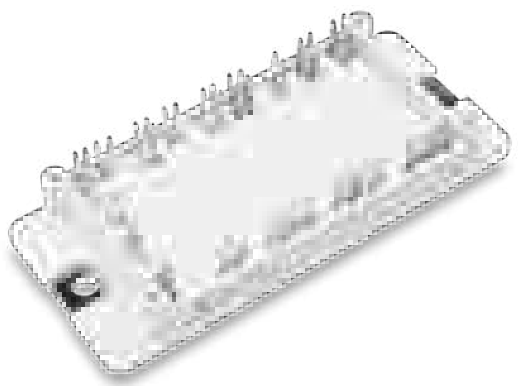


*flow*PACK 2

Facts
/ Latest chip technology for low conduction losses and improved EMC behavior
/ Available with 1200 V IGBT4 and 1200 V Mitsubishi generation M7
/ Compact and low inductive design
/ Built-in NTC

Housing
/ *flow* 2 17 mm
www.vincotech.com/*flow*PACK-2

Applications
/ INDUSTRIAL DRIVES



VINcoPACK E3

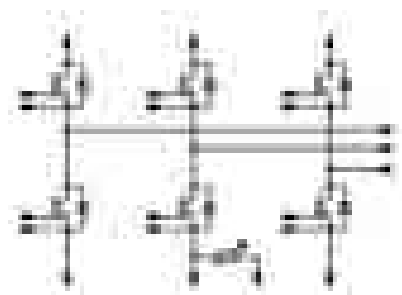
NEW

Facts
/ Low-loss, Mitsubishi gen 7 chip technology
/ SoLid Cover Technology
/ Standard mid-power industry package
/ Driver pins are avaliable in press-fit and Solder-pin
/ Built-in NTC

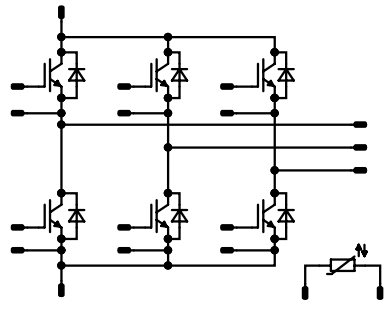
Housing
/ VINco E3
www.vincotech.com/VINco-E3

Applications
/ INDUSTRIAL / SOLAR / UPS

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
30-P2126PA050SC-L287F09Y	/ 1200	/ 50	/ IGBT4	
30-P2126PA075SC-L288F09Y	/ 1200	/ 75	/ IGBT4	
NEW **30-P2126PA100M7-L289F79Y**	**/ 1200**	**/ 75**	**/ IGBT M7**	
NEW **30-P2126PA150M7-L280F79Y**	**/ 1200**	**/ 100**	**/ IGBT M7**	
30-P2126PA100SC-L289F09Y	/ 1200	/ 100	/ IGBT4	
NEW **30-P2126PA075M7-L288F79Y**	**/ 1200**	**/ 150**	**/ IGBT M7**	
30-P2126PA150SC-L280F09Y	/ 1200	/ 150	/ IGBT4	



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
A0-VP126PA100M7-L997F70T	/ 1200	/ 100	/ IGBT M7	/ Press-fit pin
A0-VS126PA100M7-L997F70	/ 1200	/ 100	/ IGBT M7	/ Solder pin
A0-VP126PA150M7-L998F70T	/ 1200	/ 150	/ IGBT M7	/ Press-fit pin
A0-VS126PA150M7-L998F70	/ 1200	/ 150	/ IGBT M7	/ Solder pin
A0-VP126PA200M7-L990F70T	/ 1200	/ 200	/ IGBT M7	/ Press-fit pin
A0-VS126PA200M7-L990F70	/ 1200	/ 200	/ IGBT M7	/ Solder pin



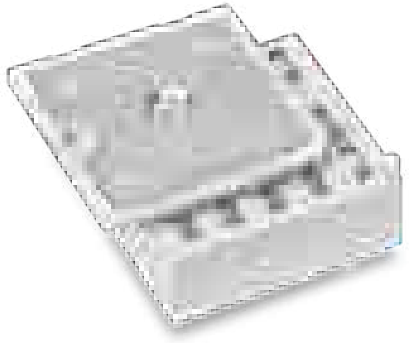
MiniSKiiP® PACK 1

Facts
/ IGBT technology for low conduction and switching losses
/ Available with IGBT3 and IGBT4
/ Solderless spring contact mounting system

Housing
/ MiniSKiiP® 1

www.vincotech.com/MiniSKiiP-PACK-1

Applications
/ INDUSTRIAL DRIVES



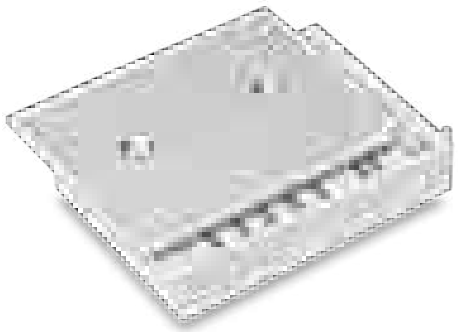
MiniSKiiP® PACK 2

Facts
/ IGBT3 und IGBT4 technology for low conduction and switching losses
/ New low-loss Mitsubishi gen 7 (IGBT M7) 1200 V chip technology
/ Solderless spring contact mounting system
/ Open emitter configuration available upon request

Housing
/ MiniSKiiP® 2

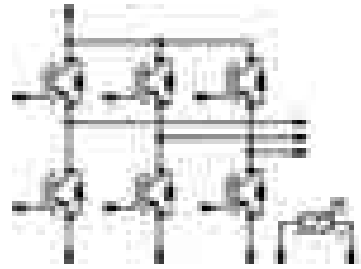
www.vincotech.com/MiniSKiiP-PACK-2

Applications
/ INDUSTRIAL DRIVES

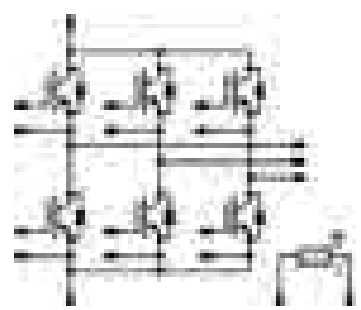


SIXPACK

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-K218-F40-PM	/ 1200	/ 8	/ IGBT4	/ equivalent: SKiiP 11AC12T4V1
V23990-K219-F-PM	/ 1200	/ 15	/ IGBT3	/ equivalent: SKiiP 12AC126V1
V23990-K219-F40-PM	/ 1200	/ 15	/ IGBT4	/ equivalent: SKiiP 12AC12T4V1
V23990-K210-F-PM	/ 1200	/ 25	/ IGBT3	/ equivalent: SKiiP 13AC126V1
V23990-K210-F40-PM	/ 1200	/ 25	/ IGBT4	/ equivalent: SKiiP 13AC12T4V1



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-K232-F-PM	/ 600	/ 50	/ IGBT3	/ equivalent: SKiiP 26AC066V1
V23990-K233-F-PM	/ 600	/ 75	/ IGBT3	/ equivalent: SKiiP 25AC126V1
V23990-K305-F-PM	/ 600	/ 100	/ IGBT3	/ equivalent: SKiiP 28AC066V1
V23990-K237-F40-PM	/ 1200	/ 25	/ IGBT4	/ equivalent: SKiiP 23AC12T4V1
V23990-K238-F40-PM	/ 1200	/ 35	/ IGBT4	/ equivalent: SKiiP 24AC12T4V1
V23990-K239-F40-PM	/ 1200	/ 50	/ IGBT4	/ equivalent: SKiiP 25AC12T4V1
V23990-K230-F40-PM	/ 1200	/ 70	/ IGBT4	/ equivalent: SKiiP 26AC12T4V1
NEW **80-M2126PA075M7-K719F70**	**/ 1200**	**/ 75**	**/ IGBT M7**	
NEW **80-M2126PA100M7-K710F70**	**/ 1200**	**/ 100**	**/ IGBT M7**	

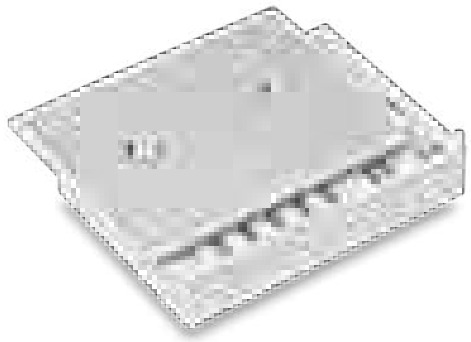


MiniSKiiP® PACK 3

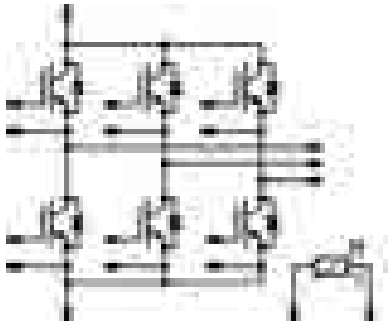
Facts
/ IGBT 3 und IGBT 4 technology for low conduction and switching losses
/ New low-loss Mitsubishi gen 7 (IGBT M7) 1200 V chip technology
/ Solderless spring contact mounting system

Housing
/ MiniSKiiP® 3
www.vincotech.com/MiniSKiiP-PACK-3

Applications
/ INDUSTRIAL DRIVES



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-K438-F40-PM	/ 1200	/ 75	/ IGBT4	/ equivalent: SKiiP 37AC12T4V1
V23990-K439-F40-PM	/ 1200	/ 100	/ IGBT4	/ equivalent: SKiiP 38AC12T4V1
NEW **80-M3126PA100M7-K828F70**	**/ 1200**	**/ 100**	**/ IGBT M7**	
V23990-K430-F40-PM	/ 1200	/ 150	/ IGBT4	/ equivalent: SKiiP 39AC12T4V1
NEW **80-M3126PA150M7-K829F70**	**/ 1200**	**/ 150**	**/ IGBT M7**	
NEW **80-M3126PB200M7-K810F70**	**/ 1200**	**/ 200**	**/ IGBT M7**	



/ RECTIFIER (+BRAKE)
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM (CIB)
/ PIM+PFC (CIP)
/ IPM (CIB)
/ IPM (CIP/PIM+PFC)
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC (SINGLE-PHASE APPLICATIONS)
/ PFC (THREE-PHASE APPLICATIONS)
/ THREE-LEVEL NPC (I-TYPE)
/ THREE-LEVEL MNPC (T-TYPE)
/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

*flow*PACK 1+R

Facts

/ Active frontend for power regeneration
/ IGBT3 (600 V) or IGBT4 (1200 V) technology for low conduction losses and improved EMC behavior
/ Integrated DC-link blocking diodes
/ Compact design

Housing

/ *flow* 1 12 mm

www.vincotech.com/*flow*PACK-1+R

Applications

/ INDUSTRIAL DRIVES

*flow*PACK 2+R

Facts

/ Active front end for power regeneration
/ IGBT3 (600 V) and IGBT4 (1200 V) technology for low saturation losses
/ Integrated blocking diodes for DC-Link
/ Compact design

Housing

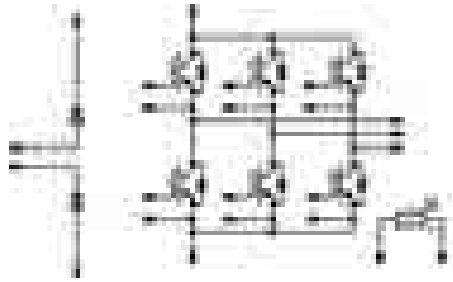
/ *flow* 2 17 mm

www.vincotech.com/*flow*PACK-2+R

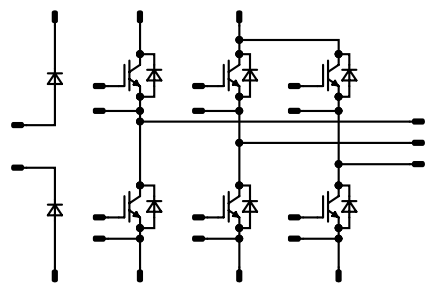
Applications

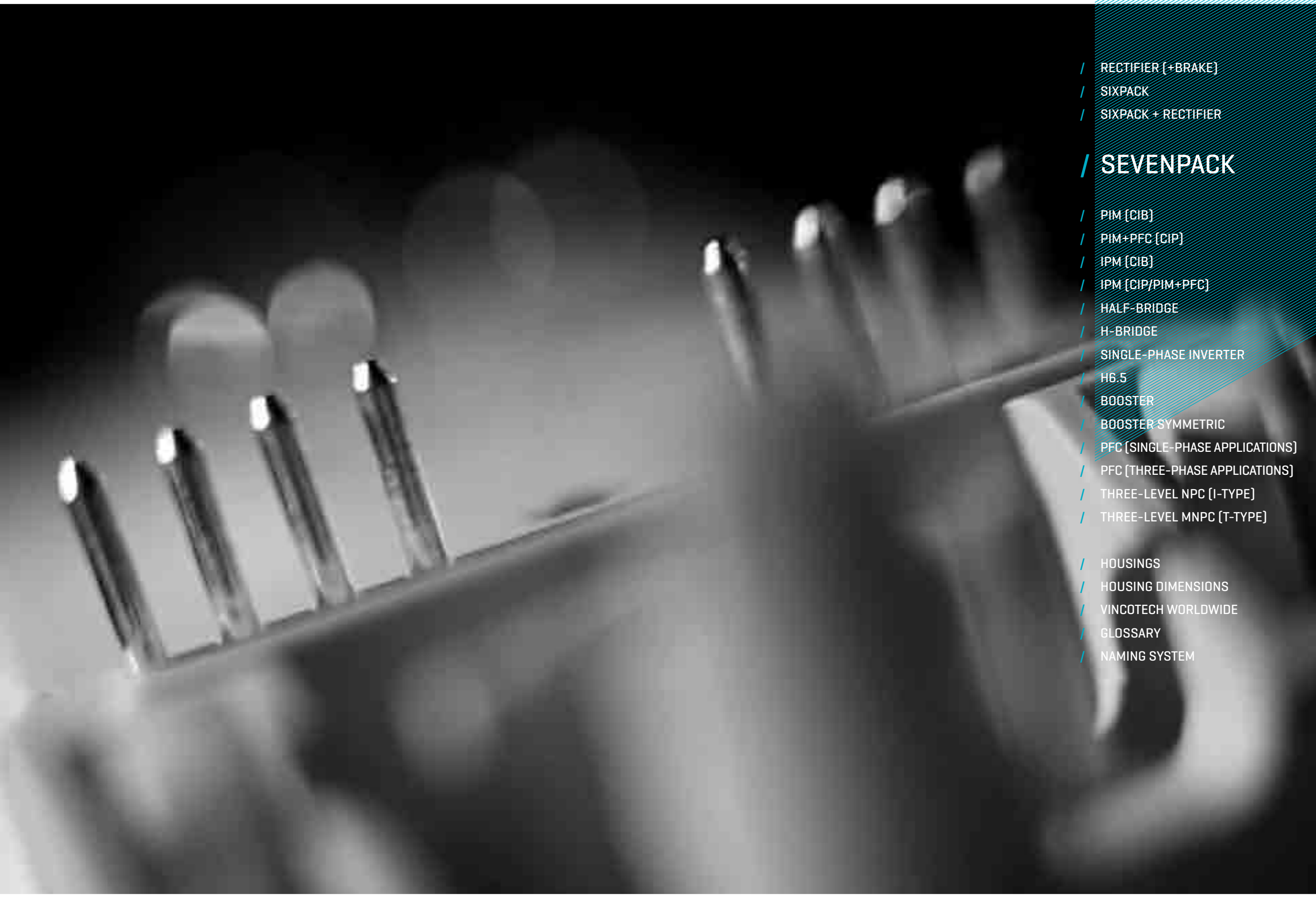
/ INDUSTRIAL DRIVES

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-F106R6A030SB-M434E08	/ 600	/ 30	/ IGBT3	
10-F106R6A030SB01-M434E18	/ 600	/ 30	/ IGBT3	/ w/o NTC
10-F106R6A050SB-M435E08	/ 600	/ 50	/ IGBT3	
10-F106R6A050SB01-M435E18	/ 600	/ 50	/ IGBT3	/ w/o NTC
10-F112R6A015SC-M438E08	/ 1200	/ 15	/ IGBT4	
10-F112R6A015SC01-M438E18	/ 1200	/ 15	/ IGBT4	/ w/o NTC
10-F112R6A035SC-M439E08	/ 1200	/ 35	/ IGBT4	
10-F112R6A035SC01-M439E18	/ 1200	/ 35	/ IGBT4	/ w/o NTC
10-F112R6A050SC-M430E08	/ 1200	/ 50	/ IGBT4	
10-F112R6A050SC01-M430E18	/ 1200	/ 50	/ IGBT4	/ w/o NTC



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
30-F206R6A050SB01-M442E10	/ 600	/ 50	/ IGBT3 LL	/ w/o NTC
30-F206R6A075SB-M443E10	/ 600	/ 75	/ IGBT3 LL	/ w/o NTC
30-F206R6A100SB01-M444E10	/ 600	/ 100	/ IGBT3 LL	/ w/o NTC
30-F206R6A150SB01-M445E10	/ 600	/ 150	/ IGBT3 LL	/ w/o NTC
30-F212R6A050SC01-M447E10	/ 1200	/ 50	/ IGBT4	/ w/o NTC
30-F212R6A075SC01-M448E10	/ 1200	/ 75	/ IGBT4	/ w/o NTC
30-F212R6A100SC01-M449E10	/ 1200	/ 100	/ IGBT4	/ w/o NTC
30-F212R6A150SC01-M440E10	/ 1200	/ 150	/ IGBT4	/ w/o NTC





/ RECTIFIER [+BRAKE]
/ SIXPACK
/ SIXPACK + RECTIFIER

/ SEVENPACK

/ PIM [CIB]
/ PIM+PFC [CIP]
/ IPM [CIB]
/ IPM [CIP/PIM+PFC]
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC [SINGLE-PHASE APPLICATIONS]
/ PFC [THREE-PHASE APPLICATIONS]
/ THREE-LEVEL NPC [I-TYPE]
/ THREE-LEVEL MNPC [T-TYPE]

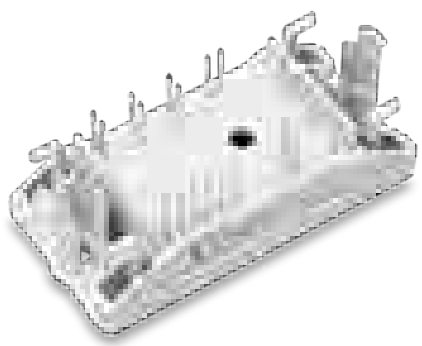
/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

*flow*7PACK 0

Facts
/ Sixpack with brake
/ IGBT4 (1200 V) technology for low conduction losses
/ Compact and low inductance design
/ Built-in NTC

Housing
/ *flow* 0 17 mm
www.vincotech.com/*flow*7PACK-0

Applications
/ INDUSTRIAL DRIVES

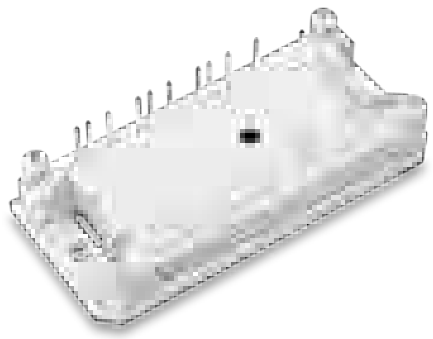


*flow*7PACK 1

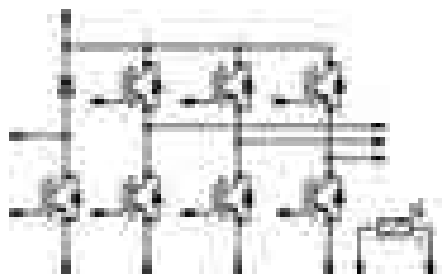
Facts
/ Sixpack with brake
/ IGBT4 (1200 V) technology for low conduction losses
/ Compact and low inductance design
/ Built-in NTC

Housing
/ *flow* 1 17 mm
www.vincotech.com/*flow*7PACK-1

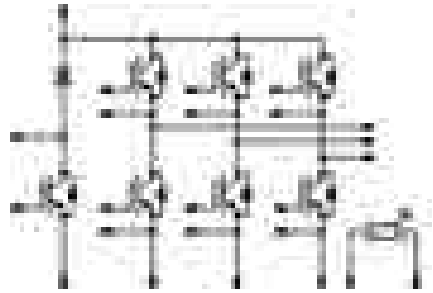
Applications
/ INDUSTRIAL DRIVES



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-F0127PA008SC-L156E09	/ 1200	/ 8	/ IGBT4	
10-F0127PA015SC-L158E09	/ 1200	/ 15	/ IGBT4	
10-F0127PA025SC-L159E09	/ 1200	/ 25	/ IGBT4	



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-F1127PA025SC-L167E09	/ 1200	/ 25	/ IGBT4	
10-F1127PA035SC-L168E09	/ 1200	/ 35	/ IGBT4	
10-F1127PA050SC-L169E09	/ 1200	/ 50	/ IGBT4	



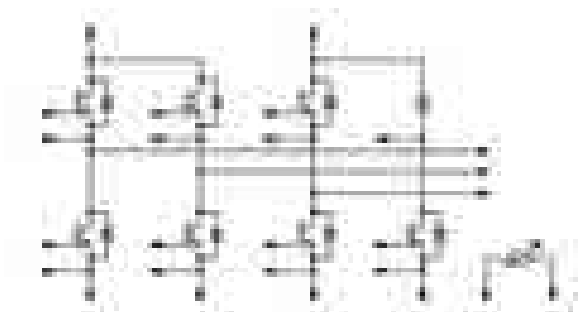
*flow*7PACK 2

Facts
/ Sixpack with brake
/ IGBT4 (1200 V) technology for low conduction losses
/ Compact and low inductance design
/ Built-in NTC

Housing
/ *flow* 2 17 mm
www.vincotech.com/*flow*7PACK-2

Applications
/ INDUSTRIAL DRIVES

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
30-F2127PA050SC-L177E09	/ 1200	/ 50	/ IGBT4	
30-F2127PA075SC-L178E09	/ 1200	/ 75	/ IGBT4	
30-F2127PA100SC-L179E09	/ 1200	/ 100	/ IGBT4	



/ RECTIFIER (+BRAKE)
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK

/ PIM (CIB)

/ PIM+PFC (CIP)
/ IPM (CIB)
/ IPM (CIP/PIM+PFC)
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC (SINGLE-PHASE APPLICATIONS)
/ PFC (THREE-PHASE APPLICATIONS)
/ THREE-LEVEL NPC (I-TYPE)
/ THREE-LEVEL MNPC (T-TYPE)

/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

*flow*PIM® 0

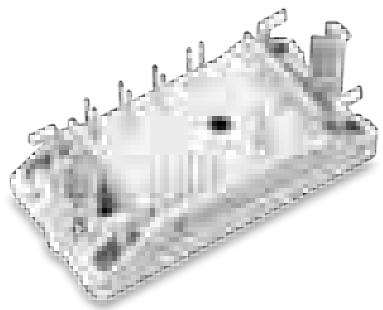
Facts
/ IGBT3 (600 V) and IGBT4 (1200 V) technology for low conduction and switching losses
/ Compact and low inductive design
/ Optionally with enhanced rectifier, w/o brake, single-phase applications

Available options
/ w/o brake (C2x for 600 V, C4x for 1200 V)
/ enhanced rectifier (A3x for 600 V, A5x for 1200 V)
/ enhanced rectifier w/o brake (C3x for 600 V, C5 for 1200 V)
/ Single-phase applications

Housing
/ *flow* 0 12 mm (xx8)
/ *flow* 0 17 mm (xx9)

www.vincotech.com/*flow*PIM-0

Applications
/ INDUSTRIAL DRIVES / EMBEDDED DRIVES



*flow*PIM® 0B

NEW

Facts
/ Reverse conductive IGBT technology for low conduction and switching losses
/ Open emitter topology
/ New ultra-compact housing
/ Single-screw heat sink mounting
/ Temperature sensor

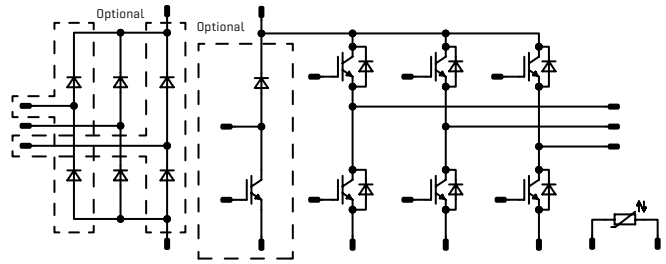
Housing
/ *flow* 0B

www.vincotech.com/flowPIM-0B

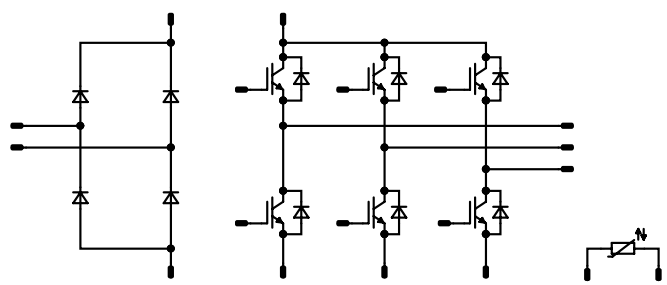
Applications
/ INDUSTRIAL DRIVES / EMBEDDED DRIVES

PIM (CIB)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-P541-A28-PM	/ 600	/ 6	/ IGBT3	/ standard configuration with brake
V23990-P543-A28-PM	/ 600	/ 10	/ IGBT3	/ standard configuration with brake
V23990-P544-A28-PM	/ 600	/ 15	/ IGBT3	/ standard configuration with brake
V23990-P545-A28-PM	/ 600	/ 20	/ IGBT3	/ standard configuration with brake
V23990-P546-A28-PM	/ 600	/ 30	/ IGBT3	/ standard configuration with brake
V23990-P848-A48-PM	/ 1200	/ 4	/ IGBT4	/ standard configuration with brake
V23990-P849-A48-PM	/ 1200	/ 8	/ IGBT4	/ standard configuration with brake
V23990-P840-A48-PM	/ 1200	/ 15	/ IGBT4	/ standard configuration with brake



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-0B06PRA004RC-L022C09	/ 600	/ 4	/ IGBT RC	
10-0B06PRA006RC-L023C09	/ 600	/ 6	/ IGBT RC	
10-0B06PRA010RC-L025C09	/ 600	/ 10	/ IGBT RC	



*flow*PIM® 1

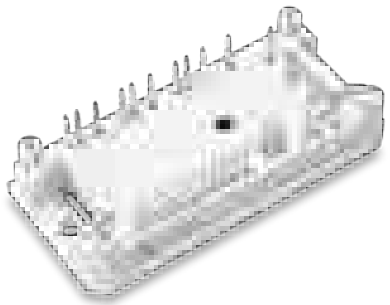
Facts
/ IGBT3 (600 V) and IGBT4 (1200 V) technology for low conduction and switching losses
/ Compact and low inductive design
/ Optionally w/o brake and with AlN DCB for improved R_{th}

Available options
/ w/o brake (Cxx)

Housing
/ *flow* 1 12 mm (x208, x418)
/ *flow* 1 17 mm (x20, x41)

www.vincotech.com/*flow*PIM-1

Applications
/ INDUSTRIAL DRIVES / EMBEDDED DRIVES



*flow*90PIM 1

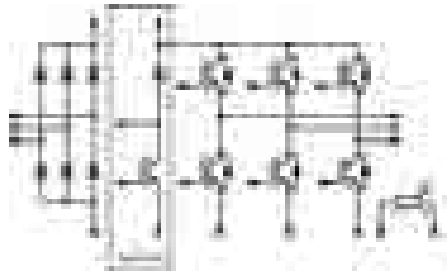
Facts
/ IGBT technology for low conduction losses and improved EMC behavior
/ Supports design with 90° angle
/ Clip-in PCB mounting
/ Clip or screw-on heat sink mounting

Housing
/ *flow*90 1

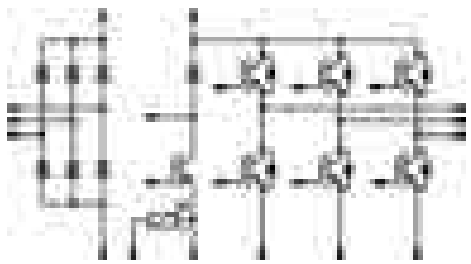
www.vincotech.com/*flow*90PIM-1

Applications
/ INDUSTRIAL DRIVES / EMBEDDED DRIVES

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-P585-A208-PM	/ 600	/ 30	/ IGBT3	/ standard configuration with brake
V23990-P586-A208-PM	/ 600	/ 50	/ IGBT3	/ standard configuration with brake
V23990-P587-A208-PM	/ 600	/ 75	/ IGBT3	/ standard configuration with brake
V23990-P588-A418-PM	/ 1200	/ 15	/ IGBT4	/ standard configuration with brake
V23990-P589-A418-PM	/ 1200	/ 25	/ IGBT4	/ standard configuration with brake
V23990-P580-A418-PM	/ 1200	/ 35	/ IGBT4	/ standard configuration with brake
V23990-P580-A46-PM	/ 1200	/ 35	/ IGBT4	/ with brake, improved R_{th} (AlN)



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-P631-A-PM	/ 600	/ 6	/ IGBT3	
V23990-P632-A-PM	/ 600	/ 10	/ IGBT3	
V23990-P633-A-PM	/ 600	/ 15	/ IGBT3	
V23990-P634-A-PM	/ 600	/ 20	/ IGBT3	
V23990-P635-A-PM	/ 600	/ 30	/ IGBT3	
V23990-P638-A40-PM	/ 1200	/ 4	/ IGBT4	
V23990-P639-A40-PM	/ 1200	/ 8	/ IGBT4	
V23990-P630-A40-PM	/ 1200	/ 15	/ IGBT4	
V23990-P630-A44-PM	/ 1200	/ 25	/ IGBT4	



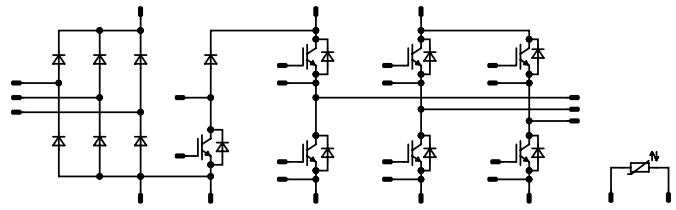
*flow*PIM® 2

Facts
/ Latest chip technology for low conduction losses and improved EMC behavior
/ Available with 600 V IGBT3, 1200 V IGBT4 and new low-losses Mitsubishi gen 7 (IGBT M7) chip technology
/ Compact and low inductive design

Housing
/ *flow* 2 17 mm
www.vincotech.com/*flow*PIM-2

Applications
/ INDUSTRIAL DRIVES

	Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
	V23990-P764-A-PM	/ 600	/ 75	/ IGBT3	/ Solder pin
	V23990-P765-A-PM	/ 600	/ 100	/ IGBT3	/ Solder pin
	V23990-P767-A-PM	/ 1200	/ 35	/ IGBT4	/ Solder pin
	V23990-P768-A-PM	/ 1200	/ 50	/ IGBT4	/ Solder pin
	V23990-P768-AY-PM	/ 1200	/ 50	/ IGBT4	/ Press-fit pin
	V23990-P769-A-PM	/ 1200	/ 75	/ IGBT4	/ Solder pin
	V23990-P769-AY-PM	/ 1200	/ 75	/ IGBT4	/ Press-fit pin
NEW	**30-F212PMA075M701-L889A70**	**/ 1200**	**/ 75**	**/ IGBT M7**	**/ Solder pin**
	V23990-P760-AY-PM	/ 1200	/ 100	/ IGBT4	/ Press-fit pin
NEW	**30-F212PMA100M701-L880A70**	**/ 1200**	**/ 100**	**/ IGBT M7**	**/ Solder pin**
	V23990-P760-A-PM	/ 1200	/ 100	/ IGBT4	/ Solder pin



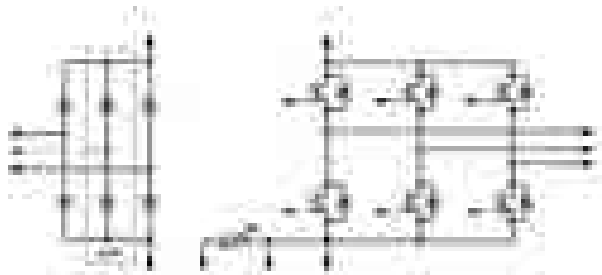
MiniSKiiP® PIM 0

Facts
/ IGBT3 (600 V) and IGBT4 (1200 V) technology for low conduction losses
/ Optinal with single-phase rectifier (600 V) K61xD
/ Solderless spring contact mounting system

Housing
/ MiniSKiiP® 0
www.vincotech.com/MiniSKiiP-PIM-0

Applications
/ INDUSTRIAL DRIVES

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
80-M006PNB006SA-K614C	/ 600	/ 6	/ IGBT3	/ equivalent: SKiiP 01NxC066V3
80-M006PNB006SA01-K614D	/ 600	/ 6	/ IGBT3	/ equivalent: SKiiP 01NxC066V3
80-M006PNB010SA-K615C	/ 600	/ 10	/ IGBT3	/ equivalent: SKiiP 02NxC066V3
80-M006PNB010SA01-K615D	/ 600	/ 10	/ IGBT3	/ equivalent: SKiiP 02NxC066V3
80-M012PNB008SC-K619C41	/ 1200	/ 8	/ IGBT4	/ equivalent: SKiiP 03NAC12T4V1



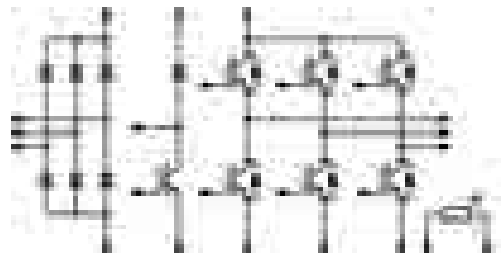
MiniSKiiP® PIM 1

Facts
/ IGBT3 (600 V) and IGBT4 (1200 V) technology for low conduction losses
/ Solderless spring contact mounting system

Housing
/ MiniSKiiP® 1
www.vincotech.com/MiniSKiiP-PIM-1

Applications
/ INDUSTRIAL DRIVES

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-K201-A-PM	/ 600	/ 6	/ IGBT3	/ equivalent: SKiiP 11NAB066V1
V23990-K202-A-PM	/ 600	/ 10	/ IGBT3	/ equivalent: SKiiP 12NAB066V1
V23990-K203-A-PM	/ 600	/ 15	/ IGBT3	/ equivalent: SKiiP 13NAB066V1
V23990-K204-A-PM	/ 600	/ 20	/ IGBT3	/ equivalent: SKiiP 14NAB066V1
V23990-K203-B-PM	/ 600	/ 15	/ IGBT3	/ Single-phase rectifier
V23990-K209-A40-PM	/ 1200	/ 8	/ IGBT4	/ equivalent: SKiiP 11NAB12T4V1
V23990-K200-A40-PM	/ 1200	/ 15	/ IGBT4	/ equivalent: SKiiP 12NAB12T4V1



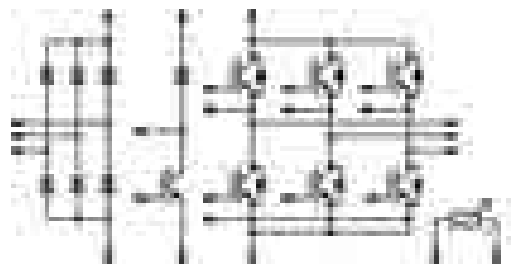
MiniSKiiP® PIM 2

Facts
/ IGBT3 (600 V) and IGBT4 (1200 V) technology for low conduction losses
/ Solder-less spring contact mounting system

Housing
/ MiniSKiiP® 2
www.vincotech.com/MiniSKiiP-PIM-2

Applications
/ INDUSTRIAL DRIVES

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-K222-A-PM	/ 600	/ 30	/ IGBT3	/ equivalent: SKiiP 25NAB066V1
V23990-K223-A-PM	/ 600	/ 50	/ IGBT3	/ equivalent: SKiiP 26NAB066V1
V23990-K229-A40-PM	/ 1200	/ 25	/ IGBT4	/ equivalent: SKiiP 23NAB12T4V1
V23990-K229-A41-PM	/ 1200	/ 25	/ IGBT4	/ equivalent: SKiiP 23NAB12T4V10 enhanced rectifier
V23990-K220-A40-PM	/ 1200	/ 35	/ IGBT4	/ equivalent: SKiiP 24NAB12T4V1
V23990-K220-A41-PM	/ 1200	/ 35	/ IGBT4	/ equivalent: SKiiP 24NAB12T4V10 enhanced rectifier



MiniSKiiP® PIM 3

Facts

/ Latest chip technology for low conduction losses and improved EMC behavior
/ Available with 600 V IGBT3, 1200 V IGBT4 and new low-losses Mitsubishi gen 7 (IGBT M7) chip technology
/ Solder-less spring contact mounting system

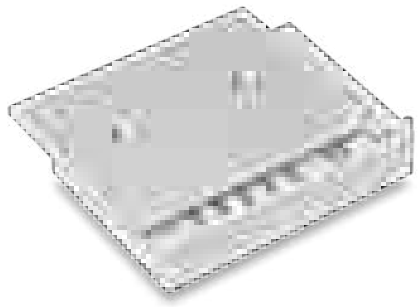
Housing

/ MiniSKiiP® 3

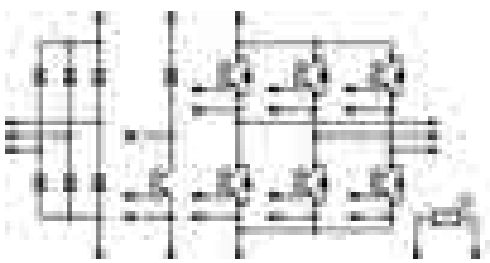
www.vincotech.com/MiniSKiiP-PIM-3

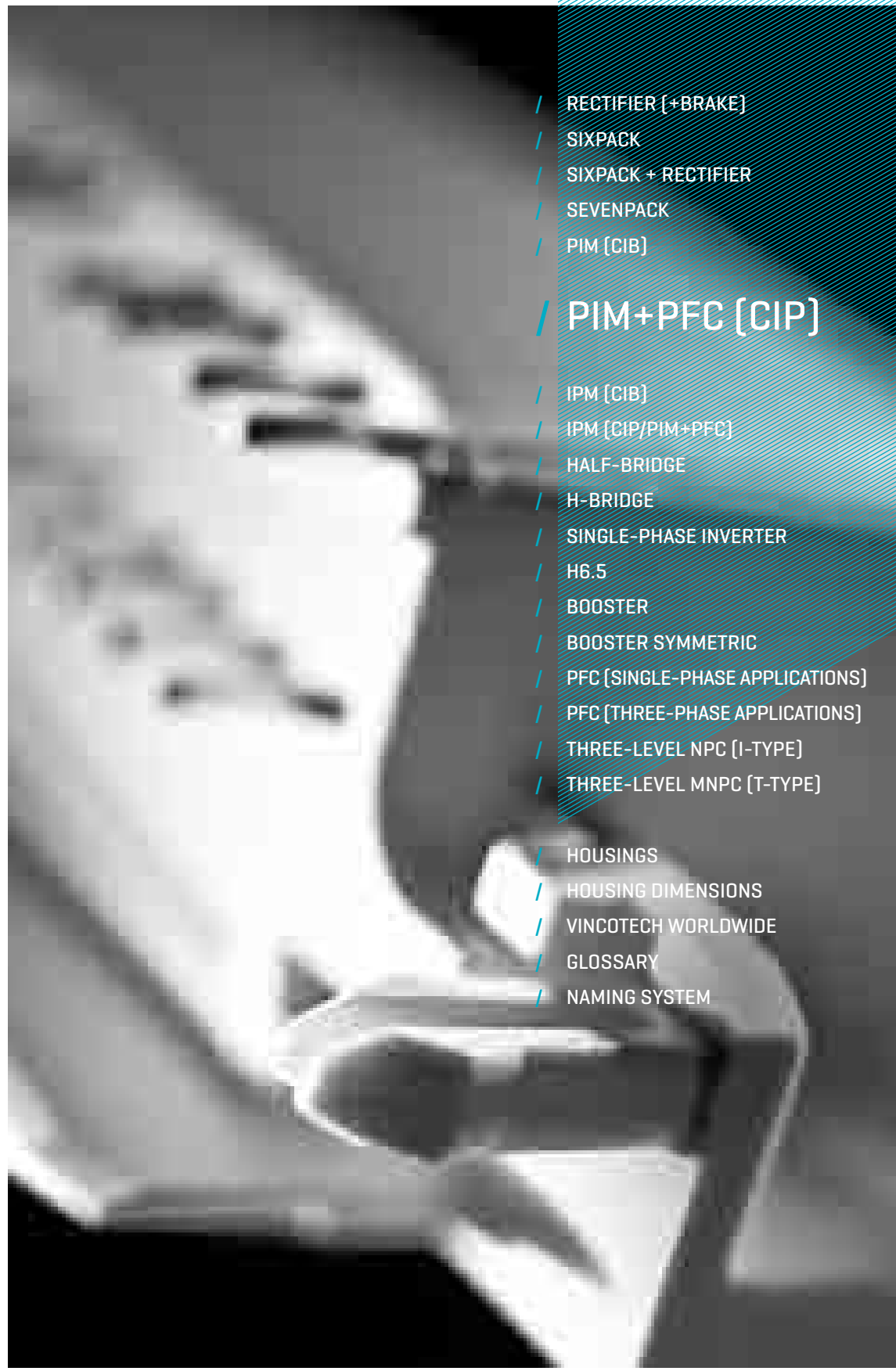
Applications

/ INDUSTRIAL DRIVES



Part-No	/ Voltage [V]	/ Current [A]	/ Technology	/ Comments
V23990-K242-A-PM	/ 600	/ 75	/ IGBT3	/ equivalent: SKiiP 37NAB066V1
V23990-K243-A-PM	/ 600	/ 100	/ IGBT3	/ equivalent: SKiiP 38NAB066V1
V23990-K427-A40-PM	/ 1200	/ 35	/ IGBT4	/ equivalent: SKiiP 34NAB12T4V1
V23990-K428-A40-PM	/ 1200	/ 50	/ IGBT4	/ equivalent: SKiiP 35NAB12T4V1
V23990-K429-A40-PM	/ 1200	/ 75	/ IGBT4	/ equivalent: SKiiP 37NAB12T4V1
NEW **80-M312PMA075M7-K429A70**	**/ 1200**	**/ 75**	**/ IGBT M7**	
V23990-K420-A40-PM	/ 1200	/ 100	/ IGBT4	/ equivalent: SKiiP 38NAB12T4V1
NEW **80-M312PMA100M7-K420A70**	**/ 1200**	**/ 100**	**/ IGBT M7**	





/ RECTIFIER (+BRAKE)
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM (CIB)

/ PIM+PFC (CIP)

/ IPM (CIB)
/ IPM (CIP/PIM+PFC)
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC (SINGLE-PHASE APPLICATIONS)
/ PFC (THREE-PHASE APPLICATIONS)
/ THREE-LEVEL NPC (I-TYPE)
/ THREE-LEVEL MNPC (T-TYPE)

/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

*flow*PIM® 0B + PFC

Facts
/ High-speed IGBT PFC boost circuit
/ PFC switching frequencies up to 150 kHz
/ Open emitter topology
/ New ultra-compact housing
/ Single-screw heat sink mounting
/ Temperature sensor

Housing
/ *flow* 0B

www.vincotech.com/*flow*PIM-0B+PFC

Applications
/ INDUSTRIAL DRIVES / EMBEDDED DRIVES

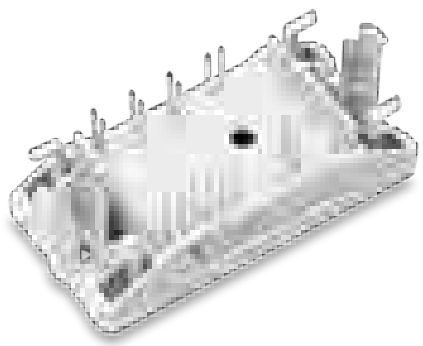
*flow*PIM® 0 + PFC

Facts
/ PIM modules with PFC
/ PFC boost circuit with MOSFET
/ PFC switching frequency up to 200 kHz
/ Integrated shunt resistor
/ Inverter part with IGBT3 technology
/ Open emitter configuration
/ Clip-in PCB mounting
/ Temperature sensor

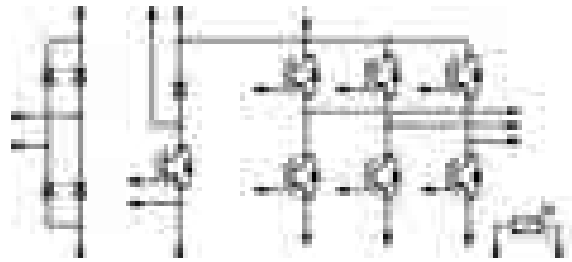
Housing
/ *flow* 0 17 mm
/ *flow* 0 12 mm

www.vincotech.com/*flow*PIM-0+PFC

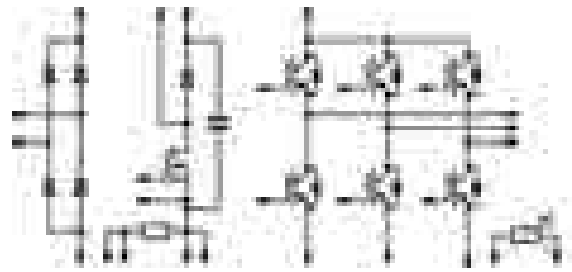
Applications
/ INDUSTRIAL DRIVES / EMBEDDED DRIVES



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-0B06PPA004RC-L022A09	/ 600	/ 4	/ IGBT RC	/ PFC: H5 IGBT+ Si diode (up to 100 kHz)
10-0B06PPA006RC-L023A09	/ 600	/ 6	/ IGBT RC	/ PFC: H5 IGBT+ Si diode (up to 100 kHz)
10-0B06PPA010RC-L025A09	/ 600	/ 10	/ IGBT RC	/ PFC: H5 IGBT+ Si diode (up to 100 kHz)
10-0B06PPA010RC01-L025A19	/ 600	/ 10	/ IGBT RC	/ PFC: F5 IGBT+ SiC diode (up to 150 kHz)



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-F006PPA006SB-M682B	/ 600	/ 6	/ IGBT3 LL	
NEW **10-PC06PPA006SB-M682B06Y**	**/ 600**	**/ 6**	**/ IGBT3 LL**	
10-F006PPA010SB-M683B	/ 600	/ 10	/ IGBT3 LL	
10-F006PPA015SB-M684B	/ 600	/ 15	/ IGBT3 LL	
10-F006PPA020SB-M685B	/ 600	/ 20	/ IGBT3 LL	
10-F006PPA020SB01-M685B10	/ 600	/ 20	/ IGBT3 LL	/ SiC PFC diode

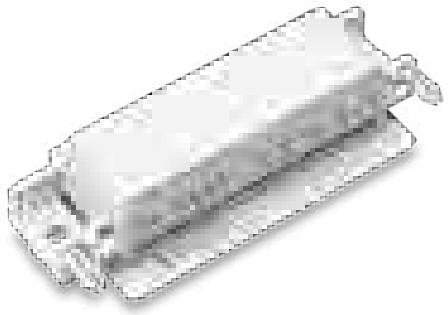


*flow*90PIM 1 + PFC

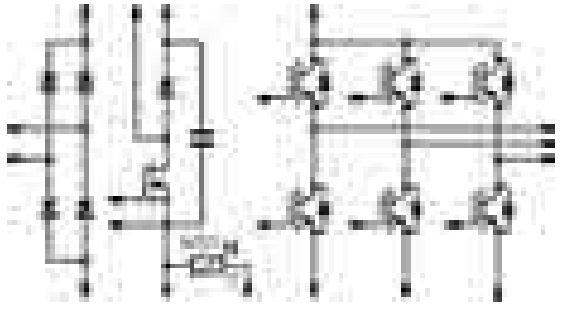
Facts
/ PIM modules with MOSFET (Infineon CoolMOS™)
/ PFC boost circuit
/ PFC switching frequency up to 200 kHz
/ Inverter part with IGBT3 technology
/ Open emitter configuration
/ Clip-in PCB mounting
/ Supports design with 90° angle

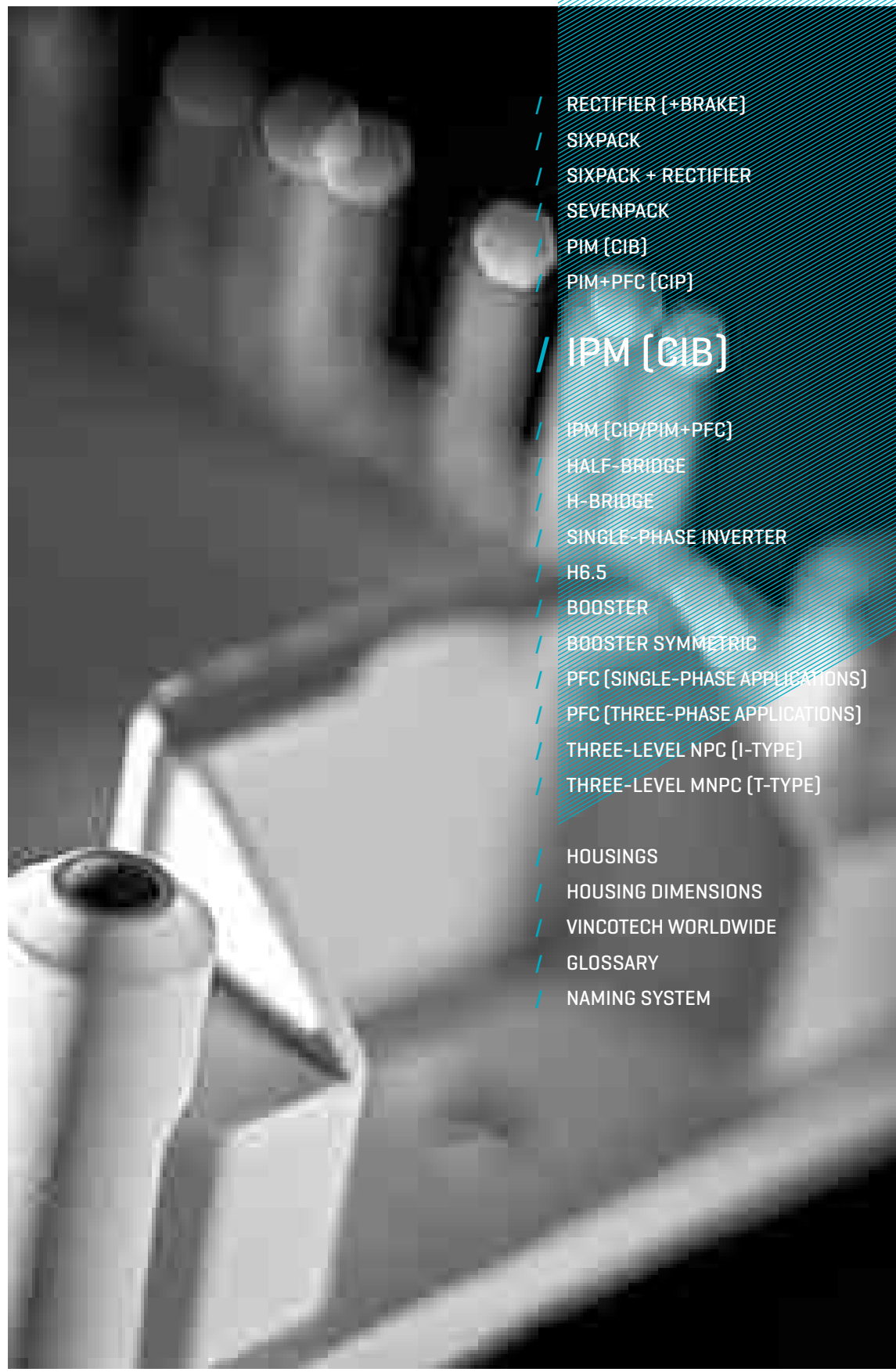
Housing
/ *flow*90 1
www.vincotech.com/*flow*90PIM-1+PFC

Applications
/ INDUSTRIAL DRIVES / EMBEDDED DRIVES



Part-No	/ Voltage [V]	/ Current [A]	/ Technology	/ Comments
10-R106PPA020SB01-M934A	/ 600	/ 20	/ IGBT3 LL	

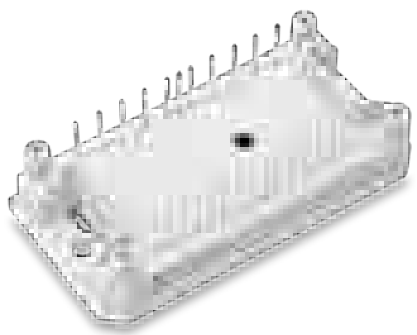




/ RECTIFIER (+BRAKE)
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM (CIB)
/ PIM+PFC (CIP)
/ IPM (CIB)
/ IPM (CIP/PIM+PFC)
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC (SINGLE-PHASE APPLICATIONS)
/ PFC (THREE-PHASE APPLICATIONS)
/ THREE-LEVEL NPC (I-TYPE)
/ THREE-LEVEL MNPC (T-TYPE)
/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

*flow*IPM 1B (CIB)

Facts
/ Rectifier, PFC, three-phase inverter
/ Integrated DC capacitor
/ Laser trimmed shunts for current measurement
/ Complete gate drive circuit (incl. bootstrap)
/ Optional integrated PFC controller
/ Temperature sensor



Housing
/ *flow* 1B

www.vincotech.com/*flow*IPM-1B-CIP

Applications
/ INDUSTRIAL DRIVES / EMBEDDED DRIVES

*flow*IPM 1C (CIB)

NEW

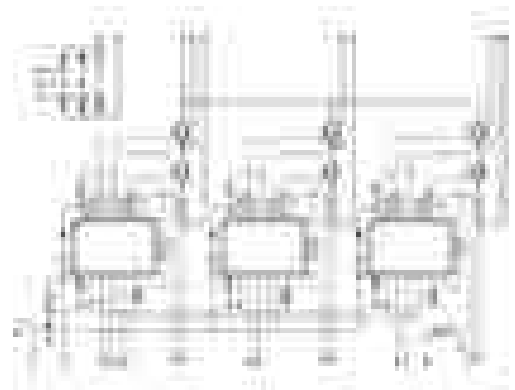
Facts
/ CIB topology (converter + inverter + brake)
/ Three-phase converter and three-phase inverter
/ Brake chopper with gate drive integrated
/ Three inverter gate drives including bootstrap circuit for high side power supply
/ Current limit feature in each leg of the inverter
/ Emitter shunts (30 mΩ) for vastly improved motor control
/ Temperature sensor
/ Optionally without brake

Housing
/ *flow* 1C

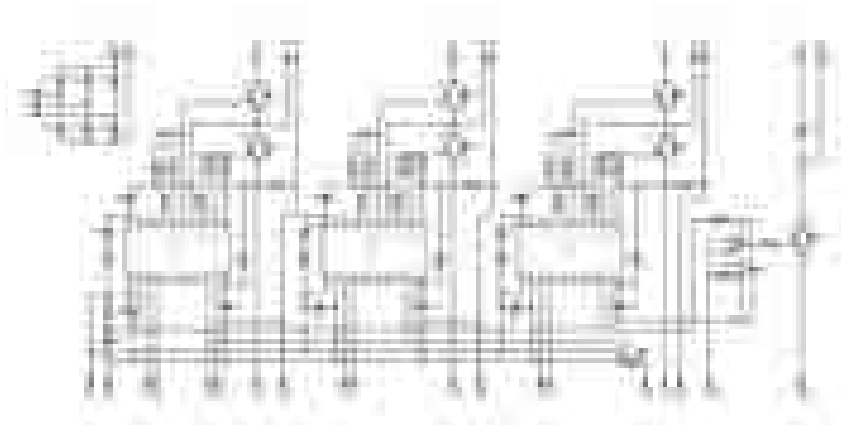
www.vincotech.com/*flow*IPM-1B-CIP

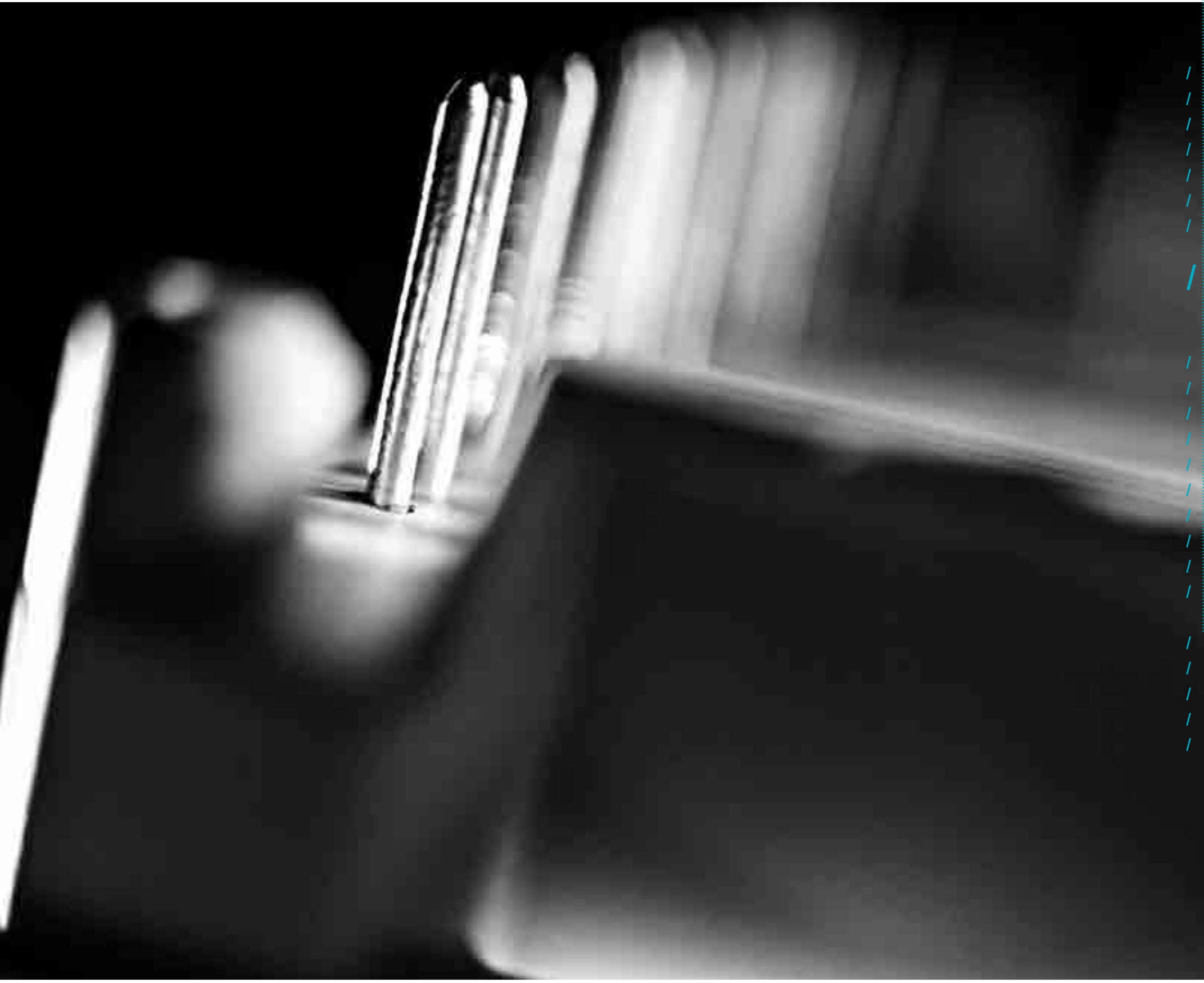
Applications
/ INDUSTRIAL DRIVES / EMBEDDED DRIVES

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
20-1B12IPA008SC-L239C09	/ 1200	/ 8	/ IGBT4	
20-FB12IPA008SC-L239C08Y	/ 1200	/ 8	/ IGBT4	/ Press-fit
20-1B12IPA015SC-L579F09	/ 1200	/ 15	/ IGBT4	/ w/o rectifier



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
20-1C12IBA015SH-LB18A08	/ 1200	/ 15	/ IGBT4	/ *flow* 1C





/ RECTIFIER (+BRAKE)
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM (CIB)
/ PIM+PFC (CIP)
/ IPM (CIB)

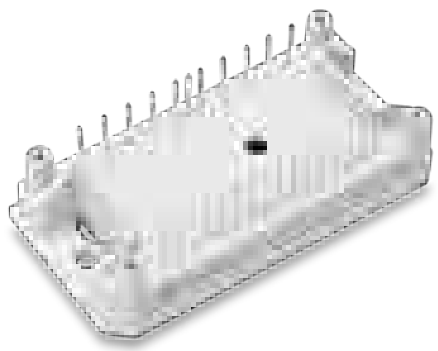
/ IPM (CIP/PIM+PFC)

/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC (SINGLE-PHASE APPLICATIONS)
/ PFC (THREE-PHASE APPLICATIONS)
/ THREE-LEVEL NPC (I-TYPE)
/ THREE-LEVEL MNPC (T-TYPE)

/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

*flow*IPM 1B (CIP)

Facts
/ Rectifier, PFC, three-phase inverter
/ Integrated DC capacitor
/ Laser trimmed shunts for current measurement
/ Complete gate drive circuit (incl. bootstrap)
/ Optional integrated PFC controller
/ Temperature sensor

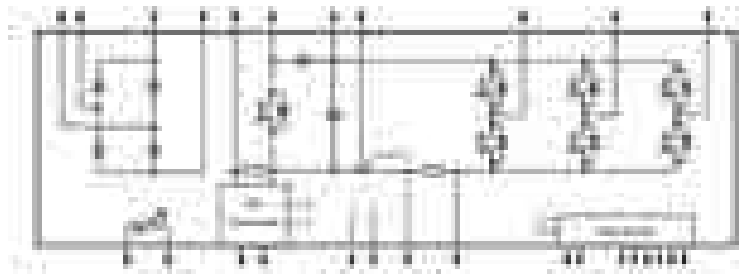


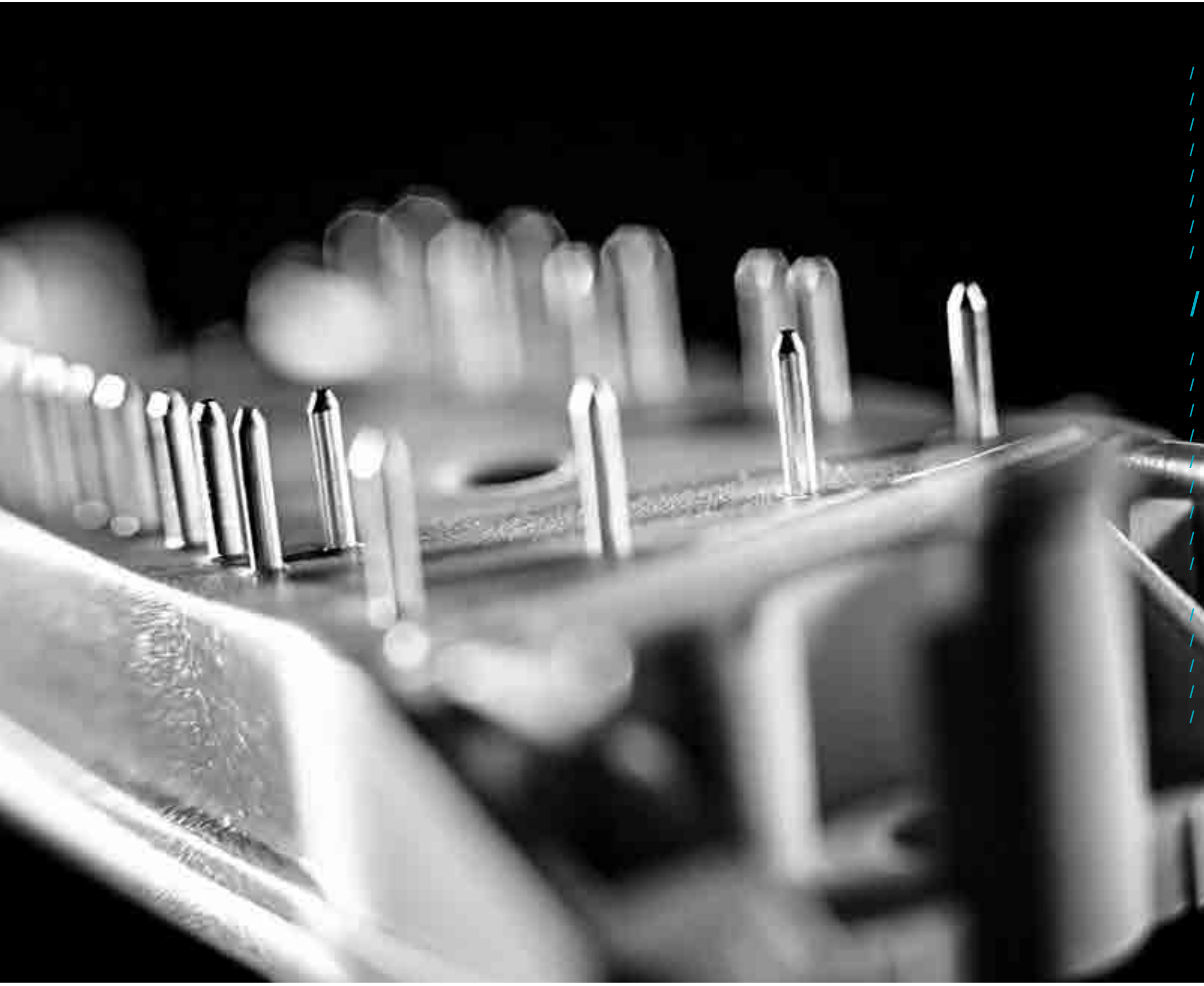
Housing
/ *flow* 1B
www.vincotech.com/*flow*IPM-1B-CIP

Applications
/ INDUSTRIAL DRIVES / EMBEDDED DRIVES

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
20-1B06IPB004RC-P952A40	/ 600	/ 4	/ IGBT RC	/ Integrated PFC controller
20-1B06IPB004RC01-P952A45	/ 600	/ 4	/ IGBT RC	
20-1B06IPB006RC01-P953A45	/ 600	/ 6	/ IGBT RC	
20-1B06IPB010RC-P955A40	/ 600	/ 10	/ IGBT RC	/ Integrated PFC controller
20-1B06IPB010RC01-P955A45	/ 600	/ 10	/ IGBT RC	
NEW 20-1B06IPB010RC02-L815A49	/ 600	/ 10	/ IGBT RC	

/ P95x / Gate Driver





/ RECTIFIER [+BRAKE]
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM [CIB]
/ PIM+PFC [CIP]
/ IPM [CIB]
/ IPM [CIP/PIM+PFC]

/ HALF-BRIDGE

/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC [SINGLE-PHASE APPLICATIONS]
/ PFC [THREE-PHASE APPLICATIONS]
/ THREE-LEVEL NPC [I-TYPE]
/ THREE-LEVEL MNPC [T-TYPE]

/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

*flow*PHASE 0

Facts

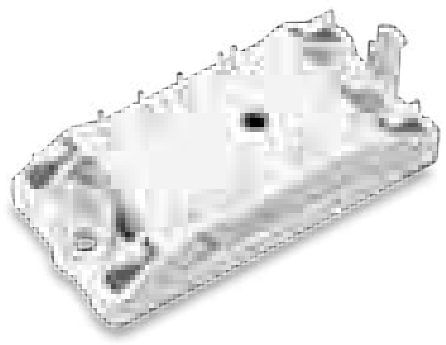
/ IGBT4 (1200 V) technology for low conduction losses and improved EMC behavior
/ IGBT3 (600 V) technology for low conduction losses
/ Clip-in PCB mounting

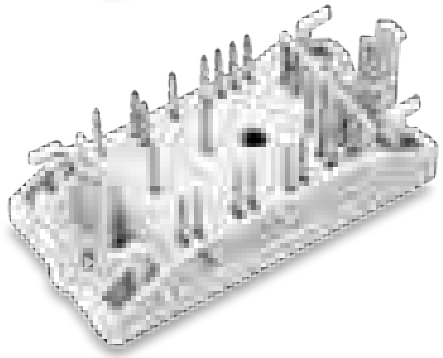
Housing

/ flow 0 17 mm (xx9)
/ flow 0 12 mm (xx8)
www.vincotech.com/flowPHASE-0

Applications

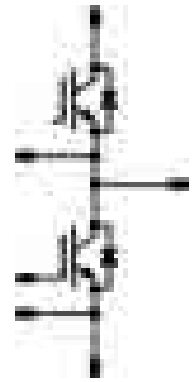
/ INDUSTRIAL DRIVES / CHARGER STATIONS / SOLAR INVERTERS / UPS / WELDING





HALF-BRIDGE

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ062PA075SA-P993F08	/ 600	/ 75	/ IGBT3	
10-F0062PA075SA-P993F09	/ 600	/ 75	/ IGBT3	
10-FZ062PA100SA-P994F08	/ 600	/ 100	/ IGBT3	
10-FZ062PA150SA01-P995F18	/ 600	/ 150	/ IGBT3	/ improved R_{th} (AlN)
10-F0062PA150SA01-P995F19	/ 600	/ 150	/ IGBT3	/ improved R_{th} (AlN)
10-FZ062PA200SA01-P996F18	/ 600	/ 200	/ IGBT3	/ improved R_{th} (AlN)
10-F0062PA200SA01-P996F19	/ 600	/ 200	/ IGBT3	/ improved R_{th} (AlN)
10-FZ122PA150SC-P990F08	/ 1200	/ 150	/ IGBT4	
10-FZ122PA150SC01-P990F18	/ 1200	/ 150	/ IGBT4	/ improved R_{th} (AlN)
10-F0122PA150SC01-P990F19	/ 1200	/ 150	/ IGBT4	/ improved R_{th} (AlN)

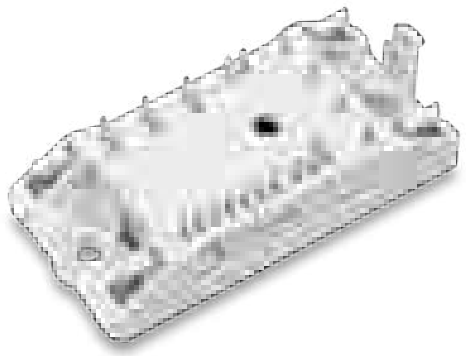


*flow*PHASE 0 + NTC

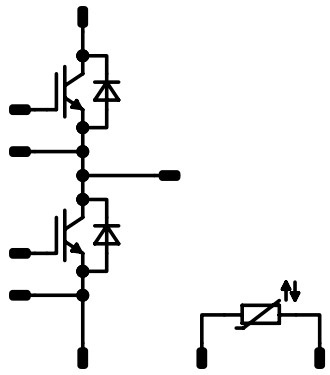
Facts
/ High-voltage, half-bridge topology
/ High-speed switching up to 50 kHz
/ High power density
/ Ultra-low conduction and switching losses
/ Best-in-class R_{th} with AlN DCB
/ Integrated NTC temperature sensor

Housing
/ *flow* 0 12 mm
www.vincotech.com/*flow*PHASE-0

Applications
/ INDUSTRIAL DRIVES / CHARGER STATIONS / SOLAR INVERTERS / UPS / WELDING



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ122PB040FV-M817F88	/ 1200	/ 40	/ IGBTF HS	/ Solder pins
10-FZ122PB050SC02-M817F08	/ 1200	/ 50	/ IGBT4	/ Solder pins
10-FZ122PB075SC-M818F08	/ 1200	/ 75	/ IGBT4	/ Solder pins
10-FZ122PB080FV-M818F88	/ 1200	/ 80	/ IGBTF HS	/ Solder pins
10-PZ122PB080FV-M818F88Y	/ 1200	/ 80	/ IGBTF HS	/ Press-fit
10-FZ122PB080FV01-M818F98	/ 1200	/ 80	/ IGBTF HS	/ Solder pin; AlN DCB
10-PZ122PB080FV01-M818F98Y	/ 1200	/ 80	/ IGBTF HS	/ Press-fit; AlN DCB
10-F0122PB100SC02-M819F09	/ 1200	/ 100	/ IGBT4	/ Solder pins
10-FZ122PB100SC02-M819F08	/ 1200	/ 100	/ IGBT4	/ Solder pins
10-P0122PB100SC02-M819F09Y	/ 1200	/ 100	/ IGBT4	/ Press-fit
10-PZ122PB100SC02-M819F08Y	/ 1200	/ 100	/ IGBT4	/ Press-fit
10-F0122PB100SC03-M819F19	/ 1200	/ 100	/ IGBT4	/ Solder pins; AlN DCB
10-FZ122PB100SC03-M819F18	/ 1200	/ 100	/ IGBT4	/ Solder pins; AlN DCB
10-P0122PB100SC03-M819F19Y	/ 1200	/ 100	/ IGBT4	/ Press-fit; AlN DCB
10-PZ122PB100SC03-M819F18Y	/ 1200	/ 100	/ IGBT4	/ Press-fit; AlN DCB
10-FZ122PB100SH01-M819F38	/ 1200	/ 100	/ IGBT4 HS	/ Solder pins; AlN DCB
10-PZ122PB100SH01-M819F38Y	/ 1200	/ 100	/ IGBT4 HS	/ Press-fit; AlN DCB
10-FZ122PB100SH-M819F28	/ 1200	/ 100	/ IGBT4 HS	/ Solder pins
10-PZ122PB100SH-M819F28Y	/ 1200	/ 100	/ IGBT4 HS	/ Press-fit



MiniSkiiP® DUAL 2

Facts
/ 1200 V Trench IGBT4, 650 V Trench with anti-parallel CAL-diodes
/ Solder-less spring contact mounting system
/ Integrated NTC temperature sensor

Housing
/ MiniSKiiP® 2
www.vincotech.com/MiniSKiiPDUAL-2

Applications
/ INDUSTRIAL DRIVES / CHARGER STATIONS / SOLAR INVERTERS / UPS / WELDING

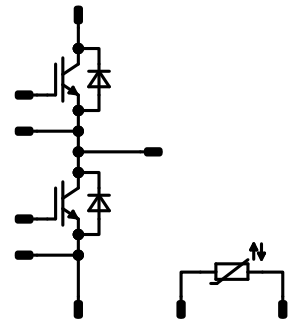
MiniSkiiP® DUAL 3

Facts
/ 1200 V Trench IGBT4, 650 V Trench IGBTs with anti-parallel CAL-diodes
/ Standard MiniSKiiP® package sizes for modern inverter designs up to 90 kW motor power
/ Solder-less spring contact mounting system
/ Integrated NTC temperature sensor

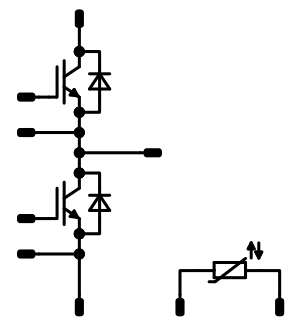
Housing
/ MiniSKiiP® 3
www.vincotech.com/MiniSKiiPDUAL-3

Applications
/ INDUSTRIAL DRIVES / CHARGER STATIONS / SOLAR INVERTERS / UPS / WELDING

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
80-M2072PA150SC-K704F40	/ 650	/ 150	/ IGBT3	/ equivalent: SKiiP 24GB07E3V1
80-M2072PA200SC-K705F40	/ 650	/ 200	/ IGBT3	/ equivalent: SKiiP 26GB07E3V1
80-M2122PA150SC-K708F40	/ 1200	/ 150	/ IGBT4	/ equivalent: SKiiP 24GB12T4V1
80-M2122PA200SC-K709F40	/ 1200	/ 200	/ IGBT4	/ equivalent: SKiiP 26GB12T4V1



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
80-M3072PA300SC-K836F30	/ 650	/ 300	/ IGBT3	/ equivalent: SKiiP 38GB07E3V1
80-M3122PA300SC-K839F42	/ 1200	/ 300	/ IGBT4	/ equivalent: SKiiP 38GB12E4V1
NEW **80-M3122PA400SC-K830F40**	**/ 1200**	**/ 400**	**/ IGBT4**	**/ equivalent: SKiiP 39GB12E4V1**



VINcoDUAL E3

NEW

Facts

/ Low-loss, Mitsubishi gen 7 chip technology
/ SoLid Cover Technology
/ Standard mid-power industry package
/ Driver pins are avaliable in press-fit and Solder-pin
/ Built-in NTC

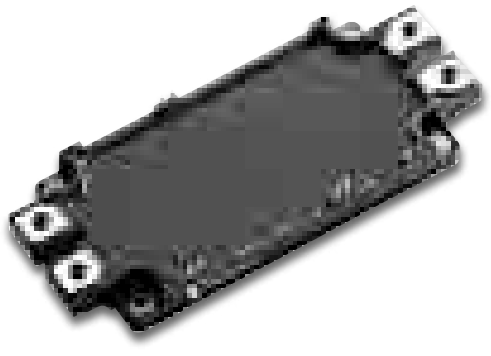
Housing

/ VINco E3

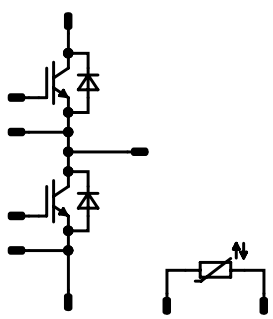
www.vincotech.com/VINcoDUAL-E3

Applications

/ INDUSTRIAL DRIVES / CHARGER STATIONS / SOLAR INVERTERS / UPS / WELDING



Part-No	/ Voltage [V]	/ Current [A]	/ Technology	/ Comments
A0-VP122PA300M7-L757F70T	/ 1200	/ 300	/ IGBT M7	/ Press-fit pin
A0-VS122PA300M7-L757F70	/ 1200	/ 300	/ IGBT M7	/ Solder pin
A0-VP122PA450M7-L758F70T	/ 1200	/ 450	/ IGBT M7	/ Press-fit pin
A0-VS122PA450M7-L758F70	/ 1200	/ 450	/ IGBT M7	/ Solder pin
A0-VS122PA600M7-L759F70	/ 1200	/ 600	/ IGBT M7	/ Solder pin
A0-VP122PA600M7-L759F70T	/ 1200	/ 600	/ IGBT M7	/ Press-fit pin
A0-VP122PA690M7-L750F70T	/ 1200	/ 690	/ IGBT M7	/ Press-fit pin
A0-VS122PA690M7-L750F70	/ 1200	/ 690	/ IGBT M7	/ Solder pin



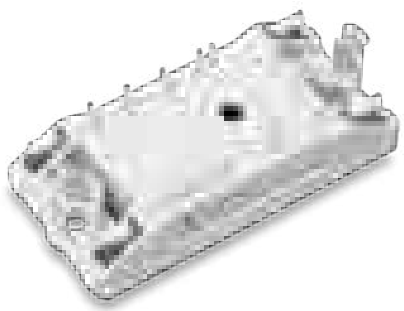
/ RECTIFIER [+BRAKE]
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM [CIB]
/ PIM+PFC [CIP]
/ IPM [CIB]
/ IPM [CIP/PIM+PFC]
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC [SINGLE-PHASE APPLICATIONS]
/ PFC [THREE-PHASE APPLICATIONS]
/ THREE-LEVEL NPC [I-TYPE]
/ THREE-LEVEL MNPC [T-TYPE]
/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

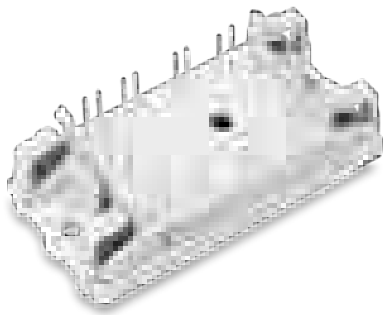
*fast*PACK 0 H

Facts
/ High efficient H-bridge
/ Kelvin Emitter for improved switching performance
/ Temperature sensor
/ Low inductive design

Housing
/ *flow* 0 12 mm
/ *flow* 0 17 mm 4-clip
www.vincotech.com/*fast*PACK-0-H

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS / WELDING





*fast*PACK 0 SiC

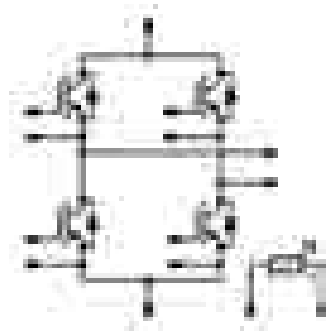
NEW

Facts
/ High efficient H-bridge with SiC MOSFET
/ Increased power density
/ Suitable for hard and soft switching
/ Kelvin Emitter for improved switching performance
/ Open Emitter configuration
/ Temperature sensor

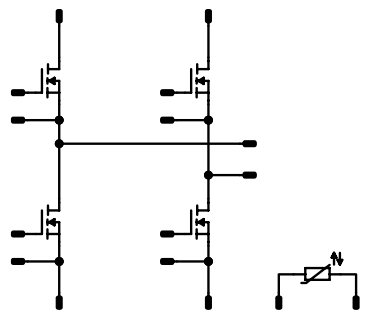
Housing
/ *flow* 0 12 mm
www.vincotech.com/*fast*PACK-0-SiC

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS / WELDING

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-P623-F24-PM	/ 600	/ 50	/ IGBT3	/ fsw < 30 kHz
V23990-P623-F04-PM	/ 600	/ 60	/ IGBT2 HS	/ fsw < 100 kHz
V23990-P623-F14-PM	/ 600	/ 60	/ IGBT2 HS	/ fsw < 100 kHz improved R_{th} (AlN)
V23990-P624-F24-PM	/ 600	/ 75	/ IGBT3	/ fsw < 30 kHz
V23990-P625-F24-PM	/ 600	/ 100	/ IGBT3	/ fsw < 30 kHz
V23990-P623-F59-PM	/ 650	/ 50	/ IGBT H5	/ fsw < 100 kHz
V23990-P627-F88-PM	/ 1200	/ 15	/ IGBT4 HS	/ fsw < 100 kHz
V23990-P627-F89-PM	/ 1200	/ 15	/ IGBT4 HS	
V23990-P629-F48-PM	/ 1200	/ 40	/ IGBT4 HS	/ fsw < 100 kHz



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-PC094PB065ME01-L637F06Y	/ 900	/ 33	/ SiC MOSFET	/ 65 mΩ
10-PC094PB035ME02-L629F36Y	/ 900	/ 70	/ SiC MOSFET	/ 35 mΩ + Integrated capacitors
10-PC094PB017ME02-L620F36Y	/ 900	/ 140	/ SiC MOSFET	/ 17 mΩ + Integrated capacitor
10-PC124PA040MR-L638F18Y	/ 1200	/ 33		



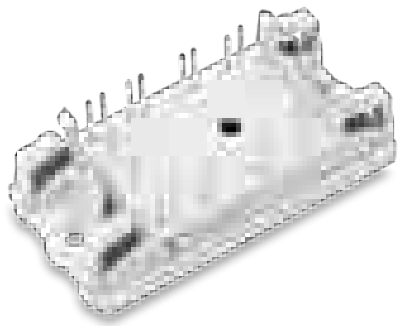
*fast*PACK 0 HC

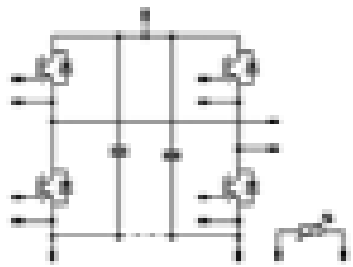
Facts
/ High efficient H-Bridge
/ Kelvin Emitter for improved switching performance
/ Open Emitter configuration
/ Integrated DC capacitor
/ Temperature sensor

Housing
/ *flow* 0 12 mm 2-clip
/ *flow* 0 17 mm 4-clip

www.vincotech.com/*fast*PACK-0-HC

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS / WELDING





Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-P723-F04-PM	/ 600	/ 60	/ IGBT2 HS	/ fsw < 100 kHz
10-FZ074PA030SM-L623F08	/ 650	/ 30	/ IGBT H5	/ fsw > 30kHz
10-PZ074PA030SM-L623F08Y	/ 650	/ 30	/ IGBT H5	/ fsw > 30kHz
10-FZ074PA050SM-L624F08	/ 650	/ 50	/ IGBT H5	/ fsw > 30kHz
10-PZ074PA050SM-L624F08Y	/ 650	/ 50	/ IGBT H5	/ fsw > 30kHz
10-FZ074PA075SM-L625F08	/ 650	/ 75	/ IGBT H5	/ fsw > 30kHz
10-PZ074PA075SM-L625F08Y	/ 650	/ 75	/ IGBT H5	/ fsw > 30kHz
V23990-P729-F56-PM	/ 1200	/ 25	/ IGBT2	/ fsw < 50 kHz improved R_{th} (AlN) hyperfast diodes
V23990-P729-F54-PM	/ 1200	/ 25	/ IGBT2	/ fsw < 50 kHz improved R_{th} (AlN)
V23990-P729-F46-PM	/ 1200	/ 25	/ IGBT2	/ fsw < 50 kHz hyperfast diodes
V23990-P729-F44-PM	/ 1200	/ 25	/ IGBT2	/ fsw < 50 kHz
V23990-P729-F48-PM	/ 1200	/ 40	/ IGBT4 HS	/ fsw < 100 kHz

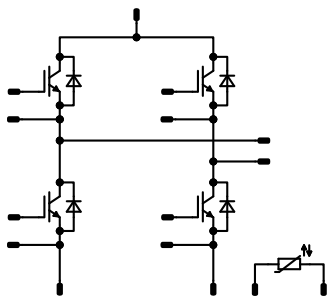
*flow*PACK 1 H

Facts
/ High efficient H-bridge
/ Kelvin Emitter for improved switching performance
/ Open Emitter configuration
/ Temperature sensor
/ Low inductive design

Housing
/ *flow* 1 12 mm

www.vincotech.com/*flow*PACK-1-H

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS / WELDING



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FY064PA050SG10-M582F08	/ 600	/ 50	/ IGBT3 HS	
10-FY074PA050SM-M582F38	/ 650	/ 50	/ IGBT H5	
10-FY064PA075SG-M583F08	/ 650	/ 75	/ IGBT3 HS	
10-FY124PA040SH-L588F48	/ 1200	/ 40	/ IGBT4 HS	
10-PY124PA040SH-L588F48Y	/ 1200	/ 40	/ IGBT4 HS	
10-FY124PA040FV-L588F88	/ 1200	/ 40	/ IGBTF HS	
10-PY124PA040FV-L588F88Y	/ 1200	/ 40	/ IGBTF HS	
10-FY124PA080SH-L589F48	/ 1200	/ 80	/ IGBT4 HS	
10-PY124PA080SH-L589F48Y	/ 1200	/ 80	/ IGBT4 HS	
10-FY124PA080FV-L589F88	/ 1200	/ 80	/ IGBTF HS	
10-PY124PA080FV-L589F88Y	/ 1200	/ 80	/ IGBTF HS	

*fast*PACK 1 HC

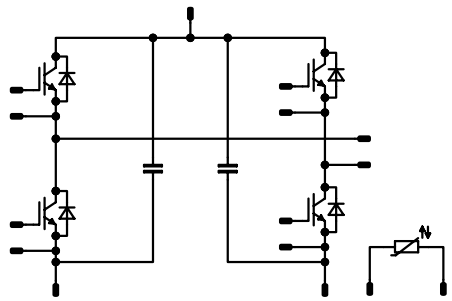
Facts
/ High efficient H-bridge
/ Integrated DC capacitor
/ Kelvin Emitter for improved & switching performance
/ Open Emitter configuration
/ Temperature sensor

Housing
/ *flow* 1 12 mm
www.vincotech.com/*fast*PACK-1-HC

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS / WELDING

H-BRIDGE

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FY074PA100SM01-L583F18	/ 650	/ 100	/ IGBT H5	/ f_{SW} > 30 kHz, full current FWD
10-PY074PA100SM01-L583F18Y	/ 650	/ 100	/ IGBT H5	/ f_{SW} > 30 kHz, full current FWD
10-FY074PA100SM-L583F08	/ 650	/ 100	/ IGBT H5	/ f_{SW} > 30 kHz

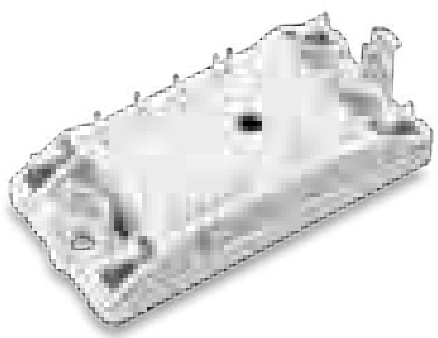


*fast*PACK 0 MOS

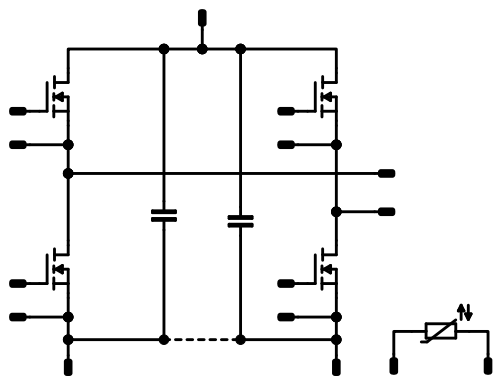
Facts
/ High efficient H-bridge with MOSFEET
/ Integrated fast body diode, best for ZVS
/ Kelvin Emitter for improved switching performance
/ Integrated DC capacitor
/ Open Emitter configuration
/ Temperature sensor

Housing
/ *flow* 0 12 mm
www.vincotech.com/*fast*PACK-0-MOS

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS / WELDING



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ074PA080CR-L622F68	/ 650	/ 20	/ MOSFET	/ Infineon CoolMOS™ CFD2
10-PZ074PA080CR-L622F68Y	/ 650	/ 20	/ MOSFET	/ Infineon CoolMOS™ CFD2



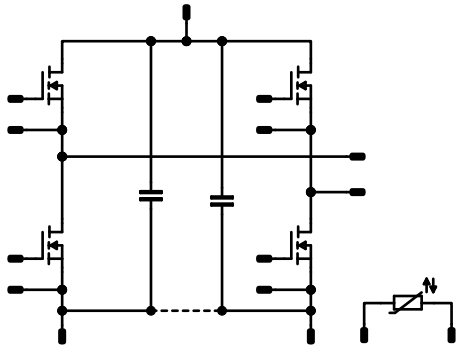
*fast*PACK 1 MOS

Facts
/ High efficient H-bridge with MOSFET
/ Integrated fast body diode, best for ZVS
/ Kelvin Emitter for improved switching performance
/ Integrated DC capacitor
/ Open Emitter configuration
/ Temperature sensor

Housing
/ *flow* 1 12 mm
www.vincotech.com/*fast*PACK-1-MOS

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS / WELDING

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FY074PA040CR-L581F78	/ 650	/ 40	/ MOSFET	/ Infineon CoolMOS™ CFD2
10-PY074PA040CR-L581F78Y	/ 650	/ 40	/ MOSFET	/ Infineon CoolMOS™ CFD2
10-FY074PA020CR-L582F78	/ 650	/ 80	/ MOSFET	/ Infineon CoolMOS™ CFD2
10-PY074PA020CR-L582F78Y	/ 650	/ 80	/ MOSFET	/ Infineon CoolMOS™ CFD2



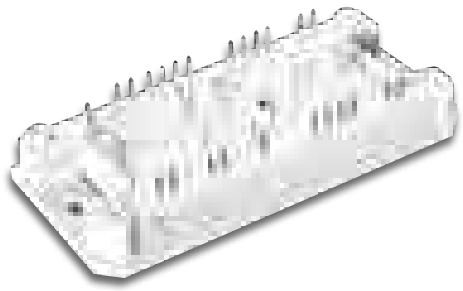
/ RECTIFIER (+BRAKE)
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM (CIB)
/ PIM+PFC (CIP)
/ IPM (CIB)
/ IPM (CIP/PIM+PFC)
/ HALF-BRIDGE
/ H-BRIDGE

/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC (SINGLE-PHASE APPLICATIONS)
/ PFC (THREE-PHASE APPLICATIONS)
/ THREE-LEVEL NPC (I-TYPE)
/ THREE-LEVEL MNPC (T-TYPE)

/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

*flow*RPI 1

Facts
/ 3-in-1 solution for compact application design
/ Rectifier, dual PFC and inverter integrated
/ Latest chip technologies
/ Ultra-fast switching
/ Ultra-low conduction and switching losses
/ Enhanced layout to reduce EMI

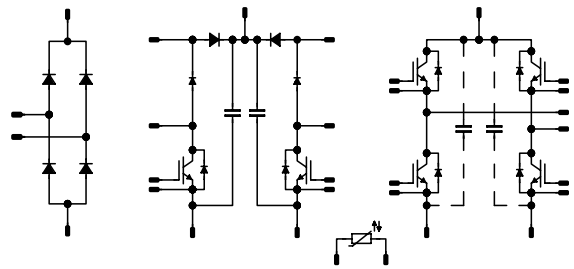


Housing
/ *flow* 1 12 mm
/ *flow* 1 17 mm

www.vincotech.com/*flow*RPI-1

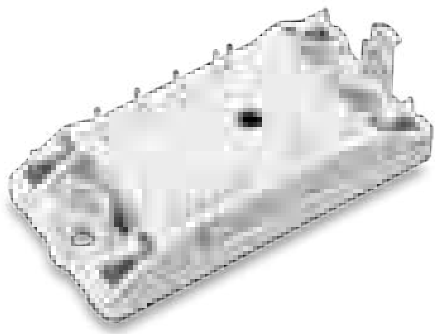
Applications
/ CHARGER STATIONS / SOLAR INVERTERS / WELDING

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FY07ZAA015SM-L512B28	/ 650	/ 15	/ IGBT H5	
10-FY07ZAA030SM-L513B28	/ 650	/ 30	/ IGBT H5	
10-F107ZAA045SM-L514B19	/ 650	/ 45	/ IGBT H5	
10-FY07ZAA050SM-L514B28	/ 650	/ 50	/ IGBT H5	
10-FY07ZAB050SM-L514B08	/ 650	/ 50	/ IGBT H5	/ Wide input voltage range rated PFC
10-F107ZAA060SM-L515B19	/ 650	/ 60	/ IGBT H5	
10-FY07ZAB075SM-L515B08	/ 650	/ 75	/ IGBT H5	/ Wide input voltage range rated PFC



*flow*SOL 0 BI (TL)

Facts
/ Booster + H-Bridge Configuration
/ Kelvin Emitter for improved switching performance
/ Dedicated designs for transformer-based and transformer-less topologies
/ Temperature sensor



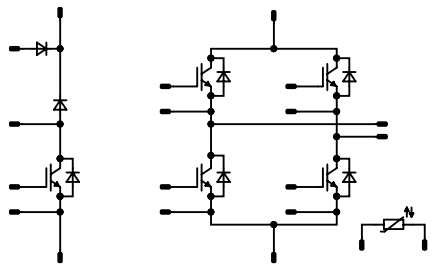
Housing
/ *flow* 0 12 mm

www.vincotech.com/*flow*SOL-0-BI-TL

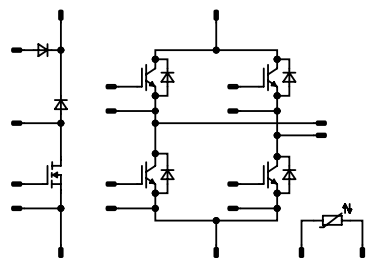
Applications
/ CHARGER STATIONS / SOLAR INVERTERS

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ07BIA030SM01-P894E68	/ 650	/ 30	/ IGBT H5	/ 70 mΩ MOSFET + SiC Diode in Booster part
10-PZ07BIA030SM01-P894E68Y	/ 650	/ 30	/ IGBT H5	/ 70 mΩ MOSFET + SiC Diode in Booster part
10-FZ07BIA030SM02-P894E58	/ 650	/ 30	/ IGBT H5	
10-PZ07BIA030SM02-P894E58Y	/ 650	/ 30	/ IGBT H5	
10-FZ07BIA030S5Y-P894E78	/ 650	/ 30	/ IGBT S5	
NEW **10-PZ07BIA030S5Y-P894E78Y**	**/ 650**	**/ 30**	**/ IGBT S5**	

/ P984E58

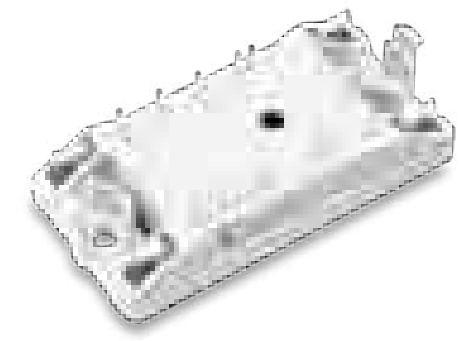


/ P984E68



*flow*SOL 0 BI (T) primary

Facts
/ Booster + H-Bridge configuration with MOSFET
/ MOSFET + SiC Diode in booster part
/ Kelvin Emitter for improved switching performance
/ Dedicated designs for transformer-based and transformer-less topologies
/ Temperature sensor



Housing
/ *flow* 0 12 mm
www.vincotech.com/*flow*SOL-0-BI-T-primary

Applications
/ CHARGER STATIONS / SOLAR INVERTERS

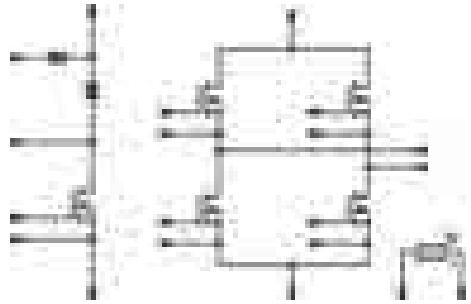
*flow*SOL 1 BI (TL)

Facts
/ Booster + H-Bridge configuration
/ Dual input booster with bypass diode
/ Integrated capacitor
/ Dedicated designs for transformer-based and transformer-less topologies
/ Temperature sensor

Housing
/ *flow* 1 12 mm
www.vincotech.com/*flow*SOL-1-BI-TL

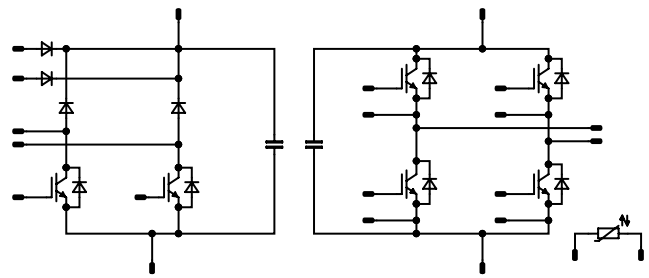
Applications
/ CHARGER STATIONS / SOLAR INVERTERS

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ06BIA083FI-P896E	/ 600	/ 30	/ MOSFET	/ Infineon CoolMOS™ CFD2

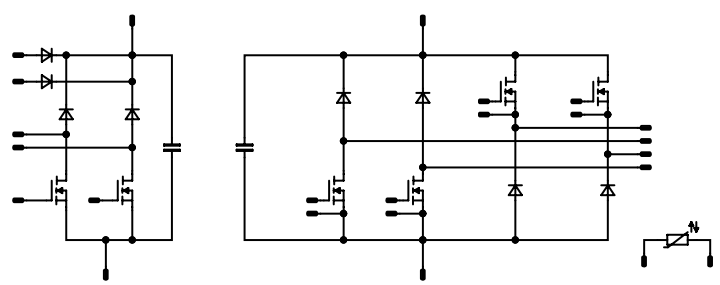


Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FY06BIA050SG-M523E18	/ 600	/ 50	/ IGBT3 HS	
10-FY07BIA041MC-M528E58	/ 650	/ 33	/ MOSFET	/ Infineon CoolMOS™ CFD2 + SiC Diode
10-FY07BIA041MF-M528E68	/ 650	/ 33	/ MOSFET	/ Infineon CoolMOS™ CFD2
10-FY07BIA050SM-M523E38	/ 650	/ 50	/ IGBT H5	
10-PY07BIA050SM-M523E38Y	/ 650	/ 50	/ IGBT H5	

/ M523



/ M528



*flow*SOL 1 BI (T) primary

Facts
/ Dual input booster with bypass diode
/ Dedicated designs for transformer-based and transformer-less topologies
/ Temperature sensor
/ Integrated capacitor

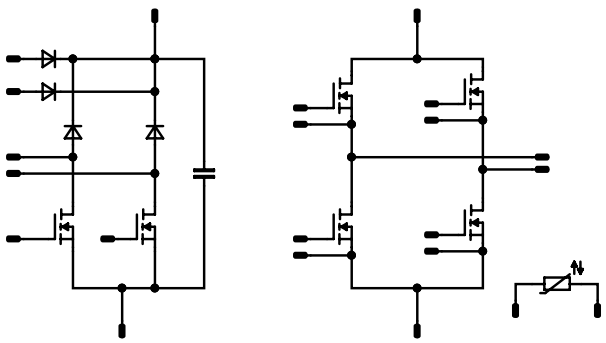
Housing
/ *flow* 1 12 mm

www.vincotech.com/*flow*SOL-1-BI-T-primary

Applications
/ CHARGER STATIONS / SOLAR INVERTERS

Part-No	/ Voltage [V]	/ Current [A]	/ Technology	/ Comments
10-FY06BIA080MF-M527E58	/ 650	/ 20	/ MOSFET	/ Infineon CoolMOS™ CFD2

/ M527



/ RECTIFIER [+BRAKE]
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM [CIB]
/ PIM+PFC [CIP]
/ IPM [CIB]
/ IPM [CIP/PIM+PFC]
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER

/ H6.5

/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC [SINGLE-PHASE APPLICATIONS]
/ PFC [THREE-PHASE APPLICATIONS]
/ THREE-LEVEL NPC [I-TYPE]
/ THREE-LEVEL MNPC [T-TYPE]

/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

*flow*SOL 0 BI (TL)

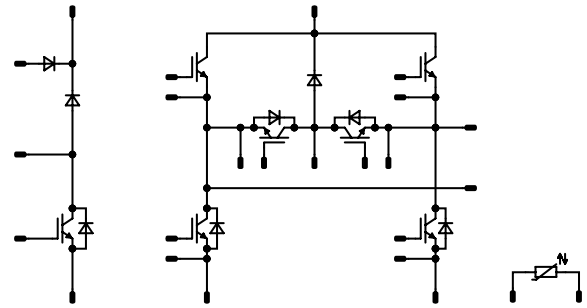
NEW

Facts
/ Booster + H6.5 configuration
/ Kelvin Emitter for improved switching performance
/ Temperature sensor

Housing
/ *flow* 0 12 mm 2-clip
www.vincotech.com/flowSOL-0-BI-TL

Applications
/ CHARGER STATIONS / SOLAR INVERTER

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ07BVA030S5-LD45E08	/ 650	/ 30	/ IGBT S5	
10-FZ07BVA020SM-LD44E08	/ 650	/ 20	/ IGBT S5	
10-PZ07BVA020SM-LD44E08Y	/ 650	/ 20	/ IGBT S5	



*flow*PACK 1 H6.5

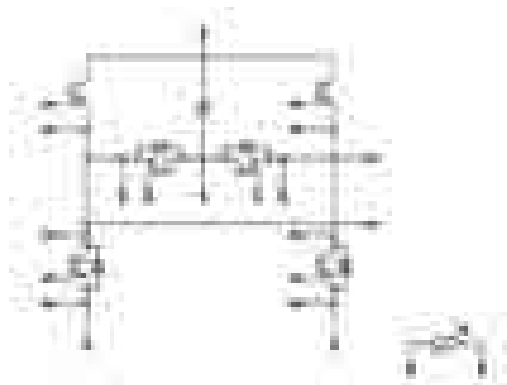
NEW

Facts
/ Innovative three-level topology for single-phase solar application
/ Kelvin Emitter for improved switching performance
/ Temperature sensor

Housing
/ *flow* 1 12 mm 4-towers
www.vincotech.com/flowPACK-1-H6-5

Applications
/ CHARGER STATIONS / SOLAR INVERTER

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FY07HVA050S5-L984F08	/ 650	/ 50	/ IGBT S5	
10-PY07HVA050S5-L984F08Y	/ 650	/ 50	/ IGBT S5	
10-FY07HVA075S5-L985F08	/ 650	/ 75	/ IGBT S5	
10-PY07HVA075S5-L985F08Y	/ 650	/ 75	/ IGBT S5	
10-FY07HVA100S5-L986F08	/ 650	/ 100	/ IGBT S5	
10-PY07HVA100S5-L986F08Y	/ 650	/ 100	/ IGBT S5	



/ RECTIFIER (+BRAKE)
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM (CIB)
/ PIM+PFC (CIP)
/ IPM (CIB)
/ IPM (CIP/PIM+PFC)
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5

/ BOOSTER

/ BOOSTER SYMMETRIC
/ PFC (SINGLE-PHASE APPLICATIONS)
/ PFC (THREE-PHASE APPLICATIONS)
/ THREE-LEVEL NPC (I-TYPE)
/ THREE-LEVEL MNPC (T-TYPE)

/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

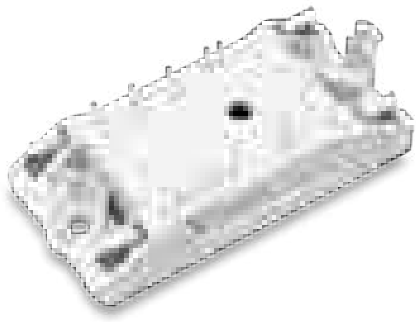
*flow*BOOST 0 dual

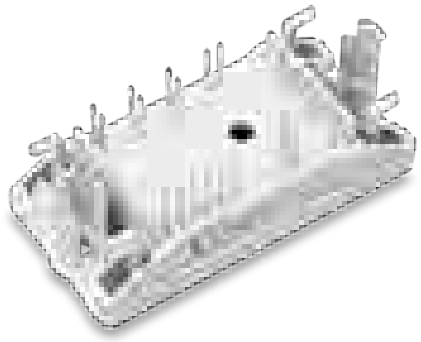
Facts
/ High efficient booster high-speed IGBT
/ Bypass diode
/ Dedicated for solar applications
/ Rated current is for each leg

Housing
/ *flow* 0 12 mm
/ *flow* 0 17 mm

www.vincotech.com/*flow*BOOST-0-dual

Applications
/ CHARGER STATIONS / SOLAR INVERTERS

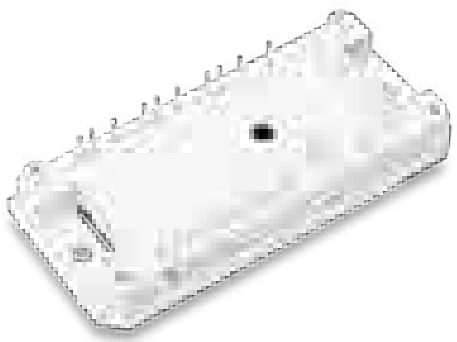




*flow*BOOST 1 dual SiC

NEW

Facts
/ High speed SiC-MOSFET technology
/ Kelvin Emitter for improved switching performance
/ Dual Booster
/ Bypass Diode
/ Integrated DC capacitor
/ Temperature sensor



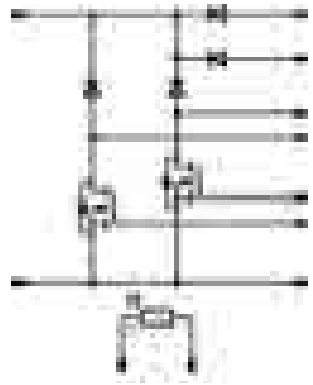
Housing
/ *flow* 1 12 mm

www.vincotech.com/flowBOOST-1-dual-SiC

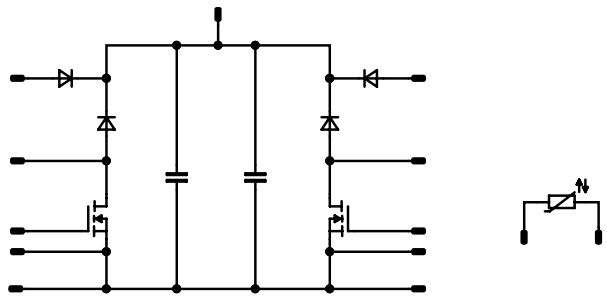
Applications
/ SOLAR / UPS

BOOSTER

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
V23990-P623-L82-PM	/ 650	/ 50	/ IGBT H5	/ IGBT H5 with 50 A Si diodes, for 110 V grid
V23990-P621-F68-PM	/ 900	/ 19	/ MOSFET	
V23990-P629-L48-PM	/ 1200	/ 40	/ IGBT4 HS	/ SiC diode (optimized current rating)
V23990-P629-L49-PM	/ 1200	/ 40	/ IGBT4 HS	/ SiC diode (optimized current rating)
V23990-P629-L59-PM	/ 1200	/ 40	/ IGBT4 HS	/ 50 A Si diodes
V23990-P629-L63-PM	/ 1200	/ 40	/ IGBT Ufast	/ SiC diodes
V23990-P629-F72-PM	/ 1200	/ 40	/ IGBT Ufast	/ 30 A STEALTH™ II diode, improved reverse protection
V23990-P629-F73-PM	/ 1200	/ 40	/ IGBT Ufast	/ 50 A Si diode, improved reverse protection
V23990-P629-L99-PM	/ 1200	/ 40	/ IGBT Ufast	/ higher rated current SiC diodes, improved R_{th} (AlN)
V23990-P629-L43-PM	/ 1200	/ 50	/ IGBT4 HS	/ SiC diodes



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FY12B2A040MR-L387L68	/ 1200	/ 30	/ SiC MOSFET	
10-FY12B2A040MR02-L387L63	/ 1200	/ 30	/ SiC MOSFET	

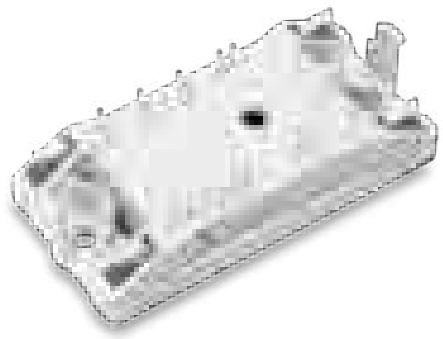


*flow*2xBOOST 0

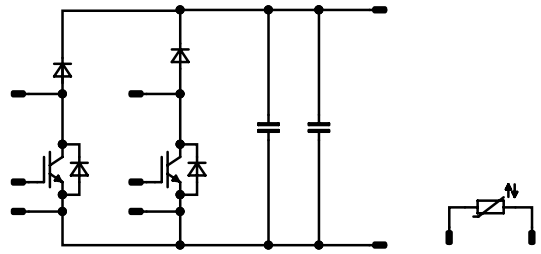
Facts
/ Two channel BOOST topology
/ SiC-Power MOSFET´s and Schottky diodes
/ IGBT H5 and Stealth™ diode
/ Very high switching frequency
/ Very low inductance with integrated DC-capacitors
/ Temperature sensor
/ Rated current is for each leg

Housing
/ *flow* 0 12 mm
www.vincotech.com/*flow*2xBOOST-0

Applications
/ CHARGER STATIONS / SOLAR INVERTERS



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ06B2A040MF01-M575L28PM	/ 600	/ 40	/ MOSFET	
10-FZ07B2A030SM02-M575L48	/ 650	/ 30	/ IGBT H5	

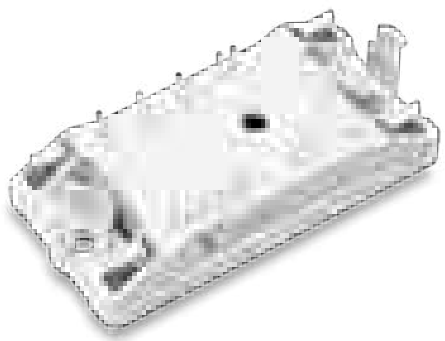


*flow*3xBOOST 0

Facts
/ Three channel BOOST topology
/ SiC-Power MOSFET´s and Schottky diodes
/ IGBT H5 and Stealth™ diode
/ Very high switching frequency
/ Very low inductance with integrated DC-capacitors
/ Temperature sensor
/ Rated current is for each leg

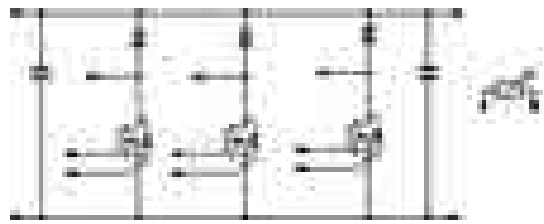
Housing
/ *flow* 0 12 mm
www.vincotech.com/*flow*3xBOOST-0

Applications
/ CHARGER STATIONS / SOLAR INVERTERS

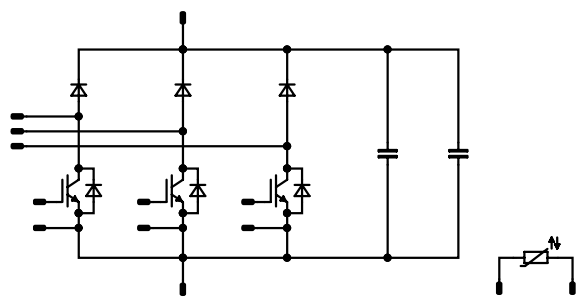


Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ063BA040MF-M575L08	/ 600	/ 44	/ MOSFET	
10-FZ073BA030SM02-M575L38	/ 650	/ 30	/ IGBT H5	

/ MOSFET



/ IGBT



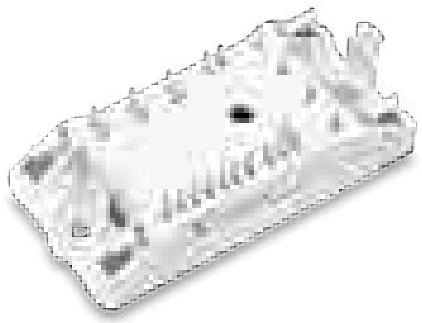
*flow*BOOST 0 SiC

Facts
/ High efficient BOOSTER
/ SiC power MOSFET 2nd gen
/ Extremely fast switching without „tail" current
/ Rated current is for each leg

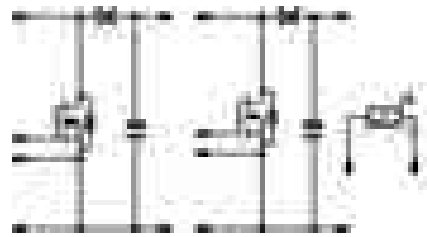
Housing
/ *flow* 0 12 mm

www.vincotech.com/*flow*BOOST-0-SiC

Applications
/ CHARGER STATIONS / SOLAR INVERTERS



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-PZ12B2A040ME01-M330L63Y	/ 1200	/ 35	/ SiC MOSFET	/ 40 mΩ SiC MOSFET 2nd gen and SiC diode from Wolfspeed™
10-PZ12B2A040MR01-M330L68Y	/ 1200	/ 35	/ SiC MOSFET	/ 40 mΩ SiC MOSFET 2nd gen and SiC diode from ROHM™
V23990-P629-L81-PM	/ 1200	/ 24	/ SiC MOSFET	/ 80 mΩ SiC MOSFET (Rohm) + SiC diode (Rohm), Bypass Diode, Open Emitter
V23990-P629-L83-PM	/ 1200	/ 24	/ SiC MOSFET	/ 80 mΩ SiC MOSFET + SiC diode, Bypass Diode, Open Emitter



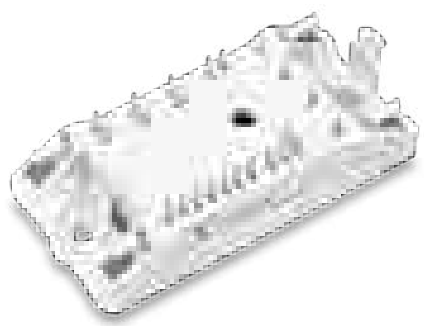
flow3xBOOST 0 SiC

Facts
/ Three channel BOOST topology SiC-Power MOSFET´s and Schottky diodes
/ Switching frequency > 100 kHz
/ Very low inductance with integrated DC-capacitors
/ Temperature sensor
/ Rated current is for each leg

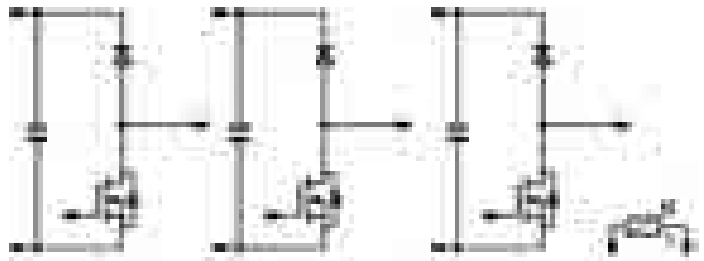
Housing
/ *flow* 0 12 mm

www.vincotech.com/*flow*3xBOOST-0-SiC

Applications
/ CHARGER STATIONS / SOLAR INVERTERS



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-PZ123BA040MR01-M909L68Y	/ 1200	/ 31	/ SiC MOSFET	/ 40 mΩ SiC MOSFET
10-PZ123BA080ME-M909L18Y	/ 1200	/ 21	/ SiC MOSFET	/ 40 mΩ SiC MOSFET; diode from Wolfspeed™
10-PZ123BA080MR-M909L28Y	/ 1200	/ 19	/ SiC MOSFET	/ 80 mΩ SiC MOSFET; SiC diode from ROHM™



*flow*3xBOOST 2 SiC

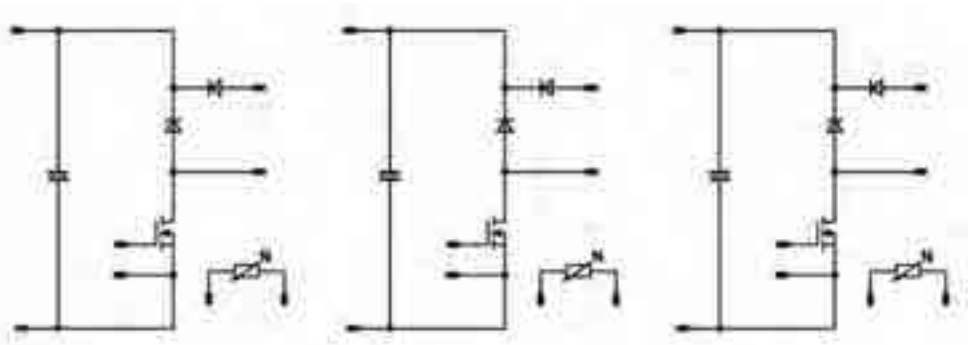
NEW

Facts
/ High speed SiC-MOSFET technology
/ Kelvin Emitter for improved switching performance
/ Triple Booster
/ Bypass Diode
/ Integrated DC capacitor
/ Temperature sensor

Housing
/ *flow* 2 13 mm
www.vincotech.com/flow3xBoost-2-SiC

Applications
/ CHARGER STATIONS / SOLAR / UPS

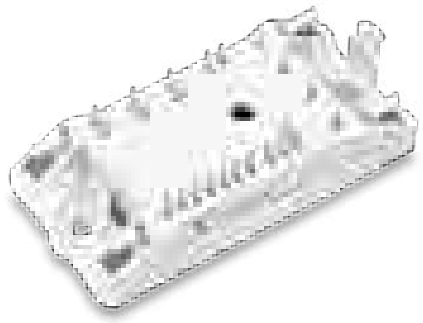
Part-No	/ Voltage [V]	/ Current [A]	/ Technology	/ Comments
30-FT123BA040MR-L878L08	/ 1200	/ 20	/ SiC MOSFET	40 mΩ SiC MOSFET



/ RECTIFIER [+BRAKE]
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM [CIB]
/ PIM+PFC [CIP]
/ IPM [CIB]
/ IPM [CIP/PIM+PFC]
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC [SINGLE-PHASE APPLICATIONS]
/ PFC [THREE-PHASE APPLICATIONS]
/ THREE-LEVEL NPC [I-TYPE]
/ THREE-LEVEL MNPC [T-TYPE]
/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

*flow*BOOST 0 symmetric

Facts
/ High efficiency symmetric boost
/ Dedicated designs for solar and UPS applications
/ Ultra high switching frequency
/ Use together with *flow* NPC 0
/ Rated current is for each leg

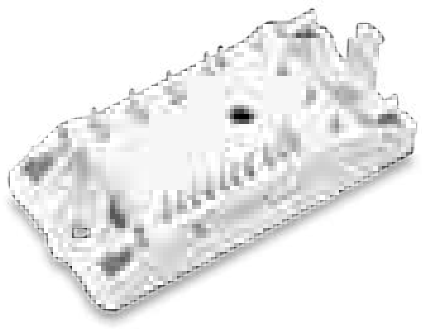


Housing
/ *flow* 0 12 mm
www.vincotech.com/*flow*BOOST-0-symmetric

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS

*flow*BOOST 0 s+b

Facts
/ High efficiency symmetric boost: Infineon CoolMOS™ C6 MOSFET
/ Dedicated designs for solar and UPS applications
/ Ultra-high switching frequency
/ Use together with *flow* NPC 0
/ Rated current is for each leg

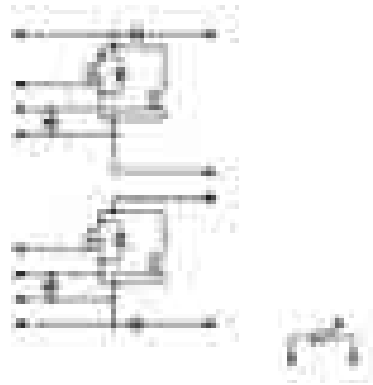


Housing
/ *flow* 0 12 mm
www.vincotech.com/*flow*BOOST-0-sym-w-bp-d

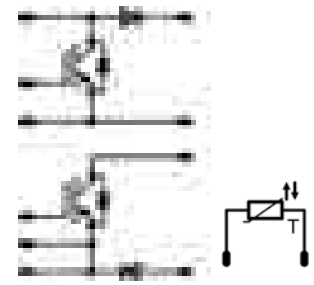
Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ06NBA084FP-M306L48	/ 600	/ 84	/ Parallel	/ parallel switch + SiC diode
10-FZ06NBA110FP-M306L28	/ 600	/ 110	/ Parallel	/ parallel switch + SiC diode
10-FZ07NBA030SM01-P914L53	/ 650	/ 30	/ IGBT H5	
NEW **10-FZ07NBA050SM-P915L58**	**/ 650**	**/ 50**	**/ IGBT H5**	
10-FZ07NBA075SM-P916L58	/ 650	/ 75	/ IGBT H5	
10-FZ07NBA100SM10-M305L68	/ 650	/ 100	/ IGBT H5	

/ M306

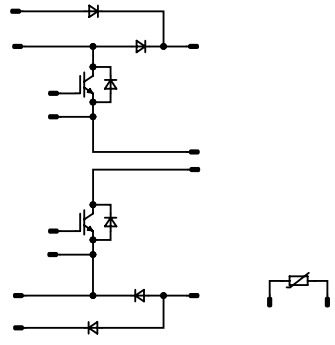


/ P91x / M30xL58

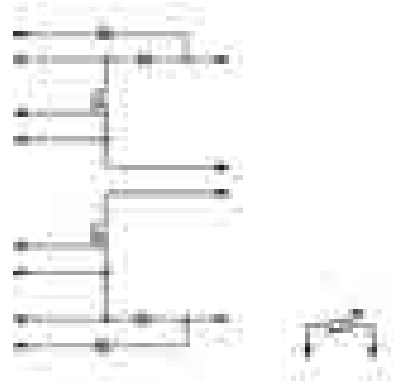


Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ06NBA030SA-P914L33	/ 600	/ 30	/ IGBT3	
10-PZ06NBA041FS-P915L68Y	/ 600	/ 40	/ MOSFET	/ MOSFET + SiC diode
10-FZ06NBA041FS01-P915L78	/ 600	/ 40	/ MOSFET	
10-FZ06NBA050SA-P915L33	/ 600	/ 50	/ IGBT3	
10-FZ06NBA075SA-P916L33	/ 600	/ 75	/ IGBT3	

/ IGBT:



/ MOSFET:

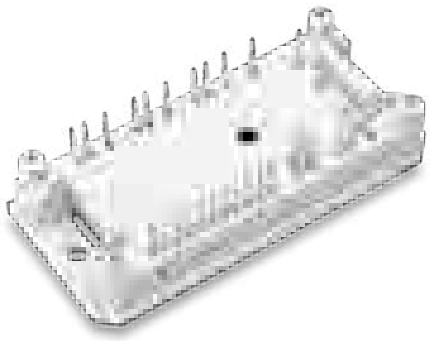


*flow*BOOST 1 symmetric

Facts
/ High efficiency symmetric boost
/ Dedicated designs for solar and UPS applications
/ Ultra-high switching frequency
/ Rated current is for each leg

Housing
/ *flow* 1 17 mm
www.vincotech.com/*flow*BOOST-1-symmetric

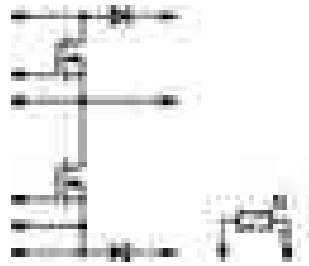
Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS



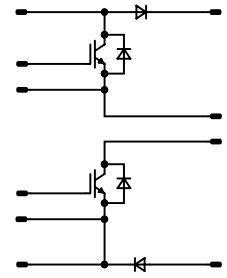
BOOSTER SYMMETRIC

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-F106BIB020FK-M285L	/ 600	/ 80	/ MOSFET	
NEW **10-FY07NBA100S5-M506L58**	**/ 650**	**/ 100**	**/ IGBT S5**	
NEW **10-FY07NBA100SM-M506L48**	**/ 650**	**/ 100**	**/ IGBT H5**	
NEW **10-FY07NBA150S5-M506L98**	**/ 650**	**/ 150**	**/ IGBT S5**	

/ MOSFET



/ IGBT

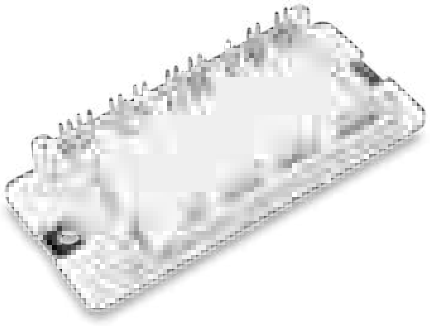


*flow*BOOST 2 symmetric

Facts
/ High efficiency symmetric boost
/ Dedicated designs for solar and UPS applications
/ High switching frequency
/ Use together with *flow* NPC 2
/ Rated current is for each leg

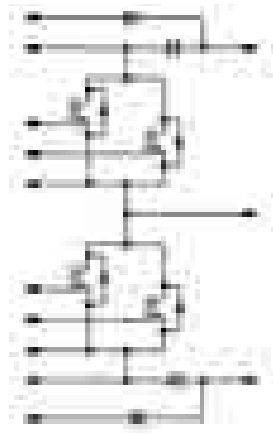
Housing
/ *flow* 2 17 mm
www.vincotech.com/*flow*BOOST-2-symmetric

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
30-F206NBA200SG-M235L25	/ 600	/ 200	/ IGBT3 HS	/ bypass diode

/ M235



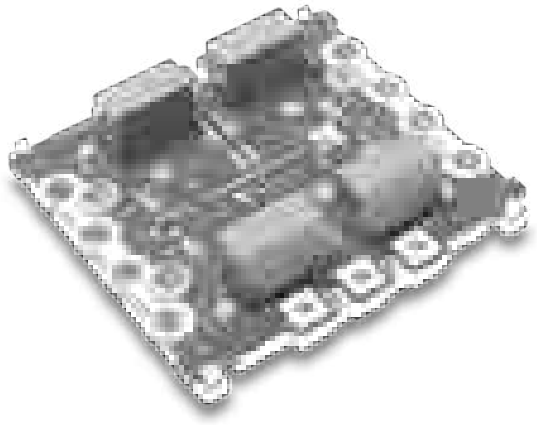
VINcoBOOST X4 symmetric

Facts
/ High efficiency symmetric boost
/ Dedicated designs for solar and UPS applications
/ Integrated DC-link capacitor
/ Low DC inductance (< 5 nH)
/ Temperature sensor

Housing
/ VINco X4

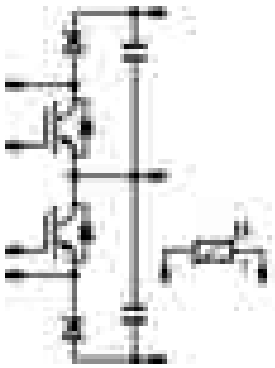
www.vincotech.com/VINcoBOOST-X4-symc

Applications
/ UPS



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
70-W206NBA400SA-M786L	/ 600	/ 400	/ IGBT3	
70-W206NBA600SA-M788L	/ 600	/ 600	/ IGBT3	

/ M78xL



/ RECTIFIER (+BRAKE)
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM (CIB)
/ PIM+PFC (CIP)
/ IPM (CIB)
/ IPM (CIP/PIM+PFC)
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC (SINGLE-PHASE APPLICATIONS)
/ PFC (THREE-PHASE APPLICATIONS)
/ THREE-LEVEL NPC (I-TYPE)
/ THREE-LEVEL MNPC (T-TYPE)
/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

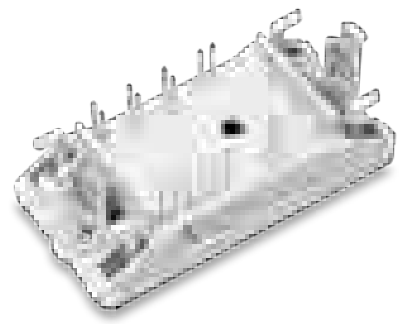
*flow*PFC 0

Facts
/ Si MOSFET and SiC boost diode
/ Compact and low inductance design
/ Suitable for Interleaved topology
/ Suitable for current sensing in source
/ Vincotech clip-in housing

Information
D18: w/o SCR, current sense in drain
D28: with SCR, curretn sense in drain

Housing
/ *flow* 0 17 mm
www.vincotech.com/*flow*PFC-0

Applications
/ EMBEDDED DRIVES / CHARGER STATIONS / WELDING



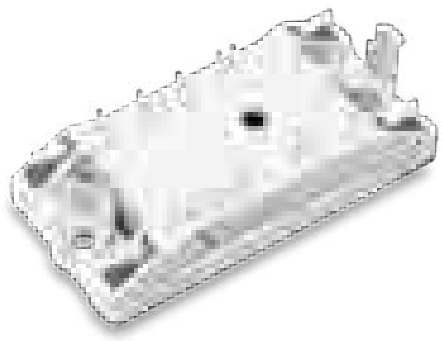
*flow*PFC 0 CD

Facts
/ Current sense in collector / drain
/ Compact and low inductance design
/ Suitable for interleaved switching PFC for welding, SMPS, motor drives, chargers
/ Available with Press-fit pins

Information
D18: w/o SCR, current sense in drain
D28: with SCR, curretn sense in drain

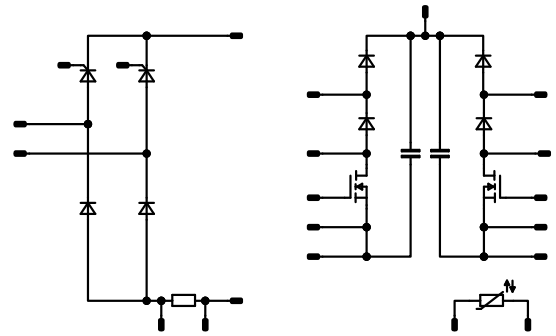
Housing
/ *flow* 0 12 mm
www.vincotech.com/*flow*PFC-0-CD

Applications
/ EMBEDDED DRIVES / CHARGER STATIONS / WELDING



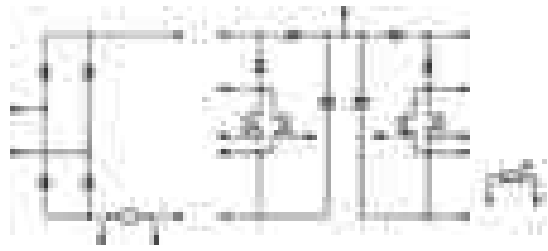
PFC (SINGLE-PHASE APPLICATION)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-F0062TA099FS-P980D59	/ 600	/ 18	/ MOSFET	/ Infineon CoolMOS™ C6

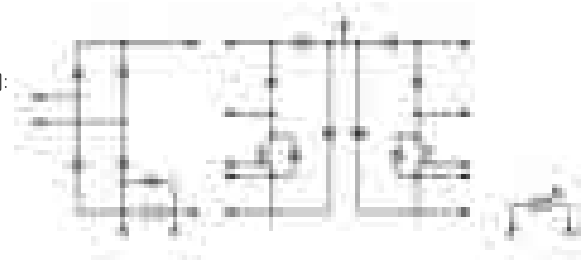


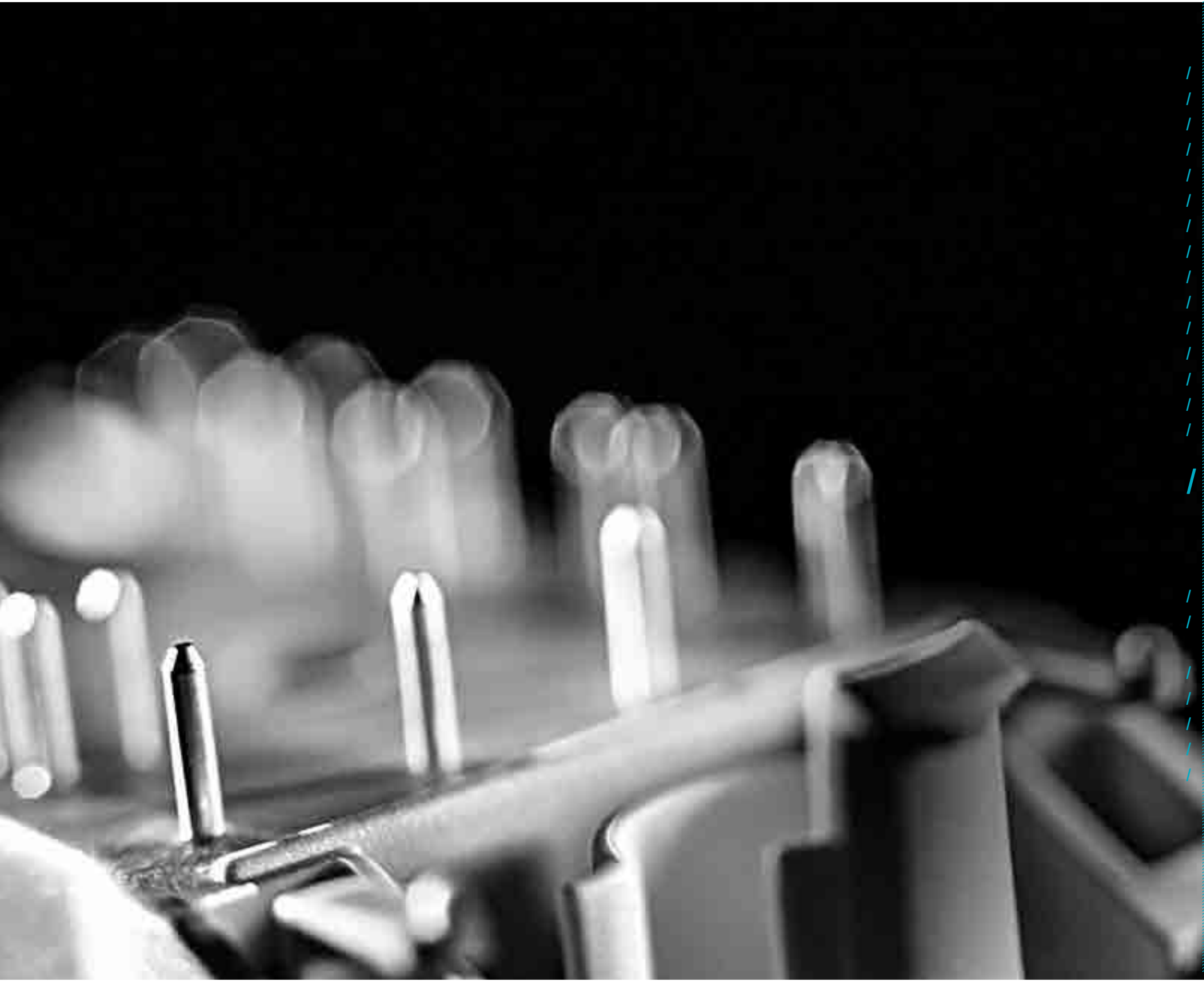
Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ062TA099FH-P980D18	/ 600	/ 30	/ MOSFET	/ f_{sw} < 400 kHz
10-FZ062TA099FH01-P980D28	/ 600	/ 30	/ MOSFET	/ f_{sw} < 400 kHz
10-FZ062TA040FB-P984D18	/ 600	/ 50	/ IGBT HS	/ f_{sw} < 40 kHz
NEW **10-FZ062TA015SM-P985D13**	**/ 650**	**/ 15**	**/ IGBT H5**	
NEW **10-FZ062TA030SM-P986D13**	**/ 650**	**/ 30**	**/ IGBT H5**	
NEW **10-FZ062TA050SM-P987D13**	**/ 650**	**/ 50**	**/ IGBT H5**	

/ MOSFET



/ IGBT
(P985, P986, P987):





/ RECTIFIER (+BRAKE)
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM (CIB)
/ PIM+PFC (CIP)
/ IPM (CIB)
/ IPM (CIP/PIM+PFC)
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC (SINGLE-PHASE APPLICATIONS)

/ PFC (THREE-PHASE APPLICATIONS)

/ THREE-LEVEL NPC (I-TYPE)
/ THREE-LEVEL MNPC (T-TYPE)

/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

*flow*ANPFC 0

NEW

Facts

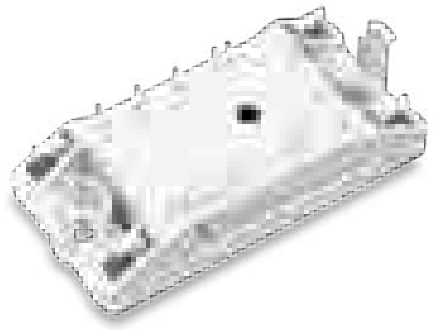
/ Advanced Neutral Boost PFC
/ Kelvin Emitter for improved switching performance
/ Integrated DC capacitor
/ Temperature sensor

Housing

/ *flow* 0 12 mm 2-clip
www.vincotech.com/flowANPFC-0

Applications

/ CHARGER STATIONS / UPS / WELDING



*flow*NPFC 0

NEW

Facts

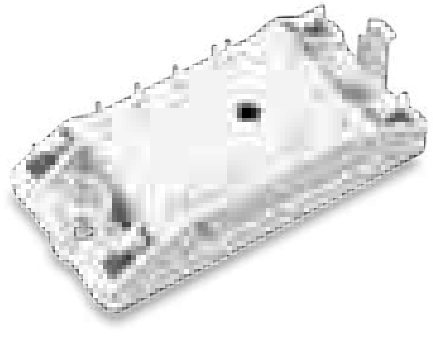
/ Neutral Boost PFC
/ Integrated DC capacitor
/ Temperature sensor

Housing

/ *flow* 0 12 mm
www.vincotech.com/flowNPFC-0

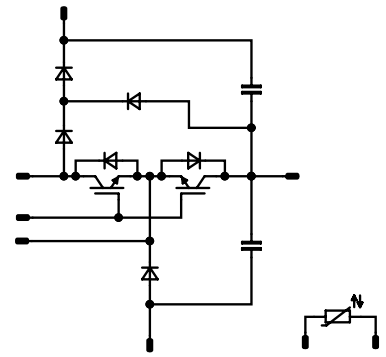
Applications

/ CHARGER STATIONS / UPS / WELDING

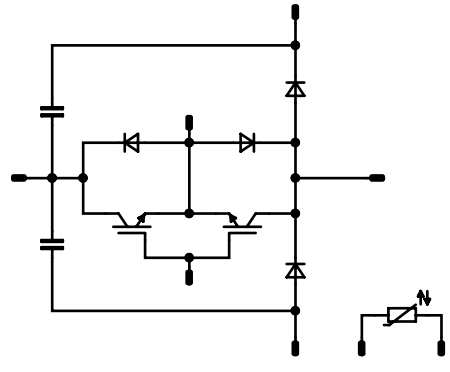


PFC (THREE-PHASE APPLICATIONS)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ07ANA75SM-LE28L08	/ 650	/ 75	/ IGBT H5	
10-FZ07ANA100SM-LE29L08	/ 650	/ 100	/ IGBT H5	
10-FZ07ANA150SM-LE20L08	/ 650	/ 150	/ IGBT H5	



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ07LBA100SM01-L705L18	/ 650	/ 100	/ IGBT H5	
10-FZ07LBA100SM03-L705L08	/ 650	/ 100	/ IGBT H5	/ Improved efficiency

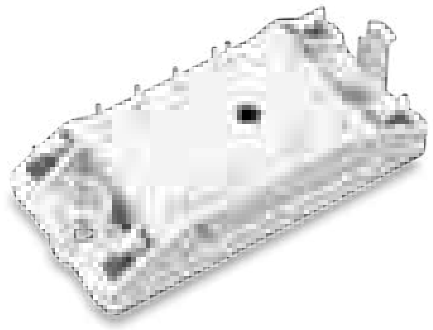


*flow*SPFC 0

Facts
/ Symmetric Boost PFC
/ Kelvin Emitter for improved switching performance
/ Integrated DC capacitor
/ Temperature sensor

Housing
/ *flow* 0 12 mm
www.vincotech.com/*flow*SPFC-0

Applications
/ UPS



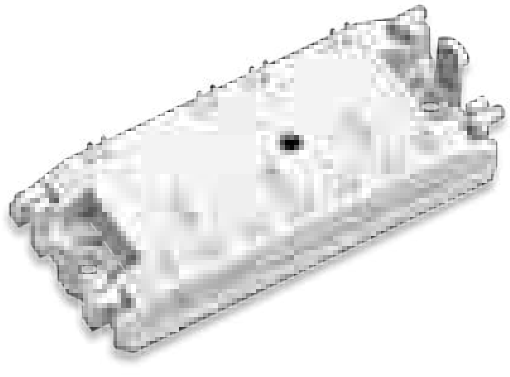
3x*flow*NPFC 1

NEW

Facts
/ Triple Neutral Boost PFC in one housing
/ Equipped with SiC booster diode
/ Integrated DC capacitor
/ Temperature sensor

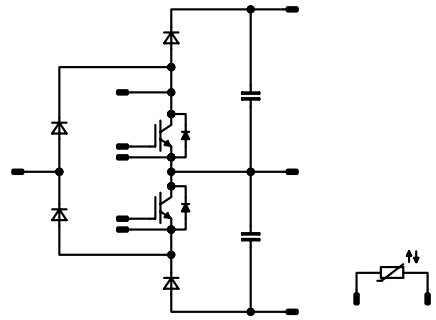
Housing
/ *flow* 1 12 mm 2-clip
www.vincotech.com/3xflowNPFC-1

Applications
/ CHARGER STATIONS / UPS / WELDING

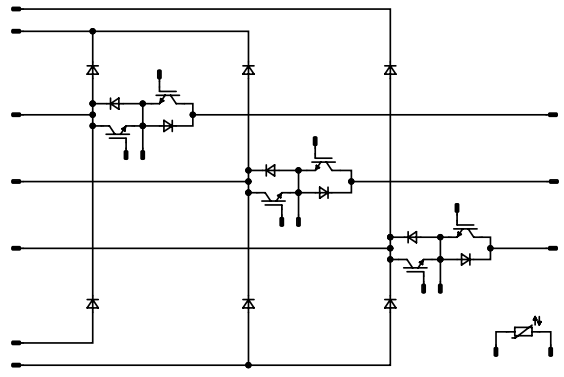


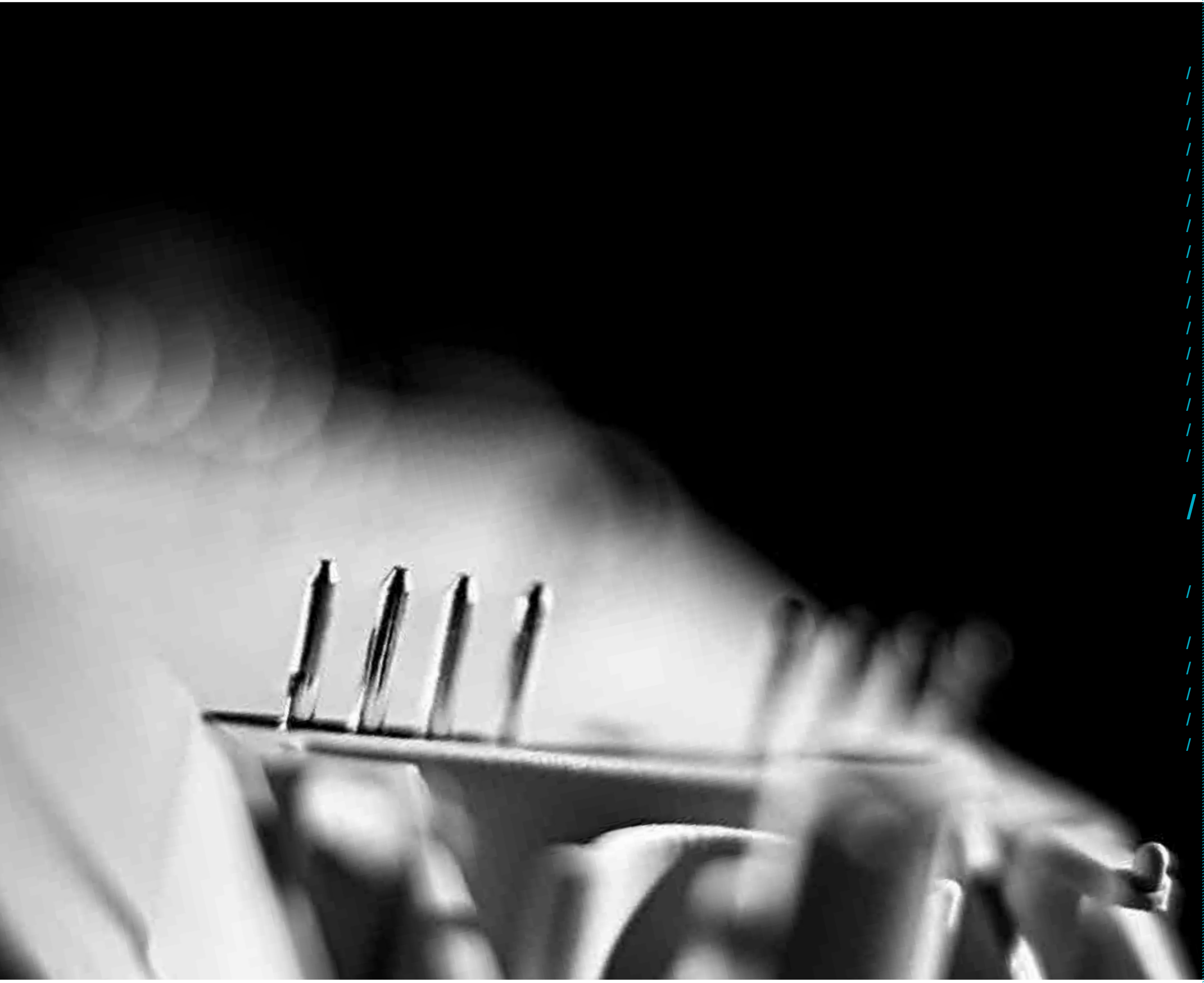
PFC (THREE-PHASE APPLICATIONS)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ071SA050SM02-L524L18	/ 650	/ 50	/ IGBT H5	
10-FZ071SA075SM02-L525L18	/ 650	/ 75	/ IGBT H5	
10-FZ071SA075S501-L525L58	/ 650	/ 75	/ IGBT S5	
10-FZ071SA100SM02-L526L18	/ 650	/ 100	/ IGBT H5	



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-TY12NMB030SM-L394L08	/ 650	/ 30	/ IGBT H5	





/ RECTIFIER [+BRAKE]
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM [CIB]
/ PIM+PFC [CIP]
/ IPM [CIB]
/ IPM [CIP/PIM+PFC]
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC [SINGLE-PHASE APPLICATIONS]
/ PFC [THREE-PHASE APPLICATIONS]

/ THREE-LEVEL NPC [I-TYPE]

/ THREE-LEVEL MNPC [T-TYPE]

/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

*flow*NPC 0 IGBT

Facts

/ IGBT3 High efficiency three-level topology
/ Dedicated designs for solar and UPS applications
/ LVRT capability

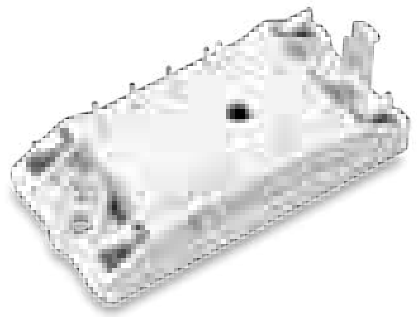
Housing

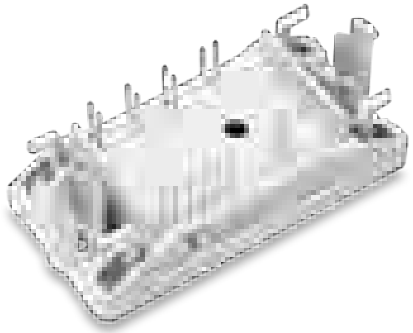
/ *flow* 0 12 mm
/ *flow* 0 17 mm

www.vincotech.com/*flow*NPC-0-IGBT

Applications

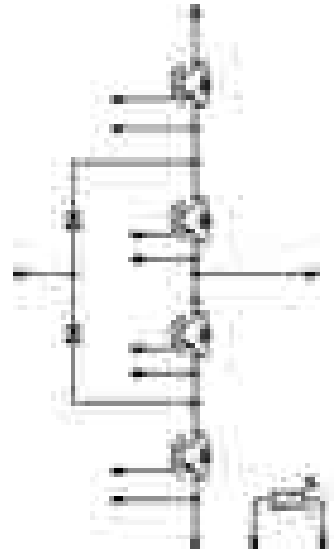
/ CHARGER STATIONS / SOLAR INVERTERS / UPS





THREE-LEVEL NPC (I-TYPE)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ06NIA030SA-P924F33	/ 1200	/ 30	/ IGBT3	
10-F007NIA030SM-P965F39	/ 1200	/ 30	/ IGBT H5	/ high switching frequency, IGBT H5 + Stealth™ diode
10-F007NIA030SM01-P965F49	/ 1200	/ 30	/ IGBT H5	/ high switching frequency, IGBT H5 + SiC diode
10-FZ06NIA050SA-P925F33	/ 1200	/ 50	/ IGBT3	
10-F007NRA050SG-P966F09	/ 1200	/ 50	/ IGBT3	/ high-speedIGBT3 high-speed + 1200 V IGBT, in neutral path + SiC diode
10-FZ07NIA060SM-P926F43	/ 1200	/ 60	/ IGBT H5	/ all switches IGBT H5 outer switch with ufast diode
10-FZ06NIA075SA-P926F33	/ 1200	/ 75	/ IGBT3	
10-FZ06NRA075FU-P969F08	/ 1200	/ 75	/ IGBT	/ IGBT Ufast + IGBT3, Stealth™
10-FZ07NIA075SM-P926F58	/ 1200	/ 75	/ IGBT H5	
10-PZ06NRA060FU-P967F08Y	/ 1200	/ 75	/ IGBT UltraFast	
NEW **10-PZ07NIA075S5-P926F53Y**	**/ 1200**	**/ 75**	**/ IGBT S5**	
NEW **10-FZ07NIA100S502-P927F58**	**/ 1200**	**/ 100**	**/ IGBT S5**	

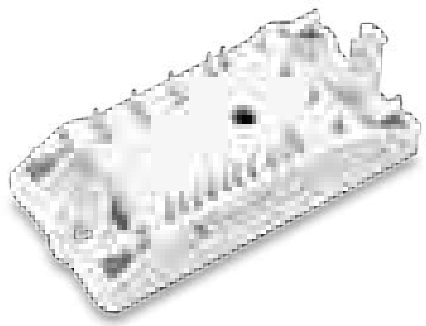


*flow*NPC 0 MOS

Facts
/ High efficiency three-level topology
/ Dedicated designs for solar and UPS applications
/ Ultra-high switching frequency
/ Reactive power

Housing
/ *flow* 0 12 mm
www.vincotech.com/*flow*NPC-0-MOS

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS

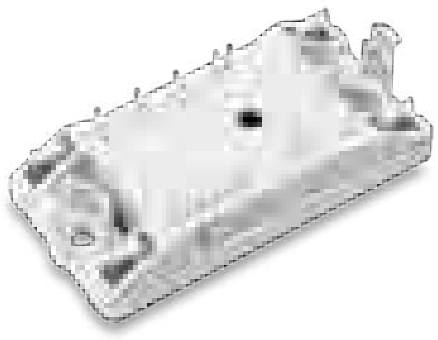


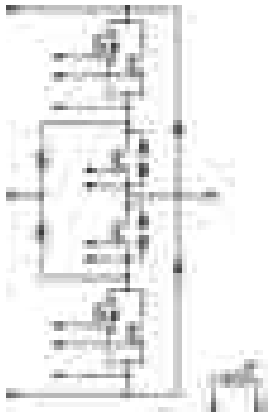
*flow*NPC 0 parallel

Facts
/ High efficiency three-level topology
/ Dedicated designs for solar and UPS applications
/ Ultra-high switching frequency

Housing
/ *flow* 0 12 mm
www.vincotech.com/*flow*NPC-0-parallel

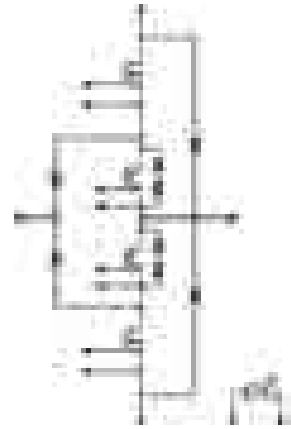
Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS





THREE-LEVEL NPC (I-TYPE)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ06NRA045FH01-P965F10	/ 1200	/ 30	/ MOSFET	/ Infineon CoolMOS™ + IGBT3, STEALTH™ II diodes
10-FZ06NRA045FH-P965F	/ 1200	/ 30	/ MOSFET	/ Infineon CoolMOS™ + IGBT3, SiC diodes
10-PZ06NRA041FS02-P965F68Y	/ 1200	/ 30	/ MOSFET	/ Infineon CoolMOS™
10-PZ06NRA041FS03-P965F78Y	/ 1200	/ 30	/ MOSFET	/ Infineon CoolMOS™



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ06NPA045FP-P967F	/ 1200	/ 50	/ Parallel switch	/ Infineon CoolMOS™ + IGBT, IGBT3, SiC diodes
10-FZ06NPA045FP01-P967F10	/ 1200	/ 50	/ Parallel switch	/ Infineon CoolMOS™ + IGBT, IGBT3, Stealth
10-FZ06NRA069FP02-P967F68	/ 1200	/ 75	/ Parallel switch	/ Infineon CoolMOS™ + IGBT, IGBT3, SiC diodes
10-FZ06NRA069FP03-P967F78	/ 1200	/ 75	/ Parallel switch	/ Infineon CoolMOS™ + IGBT, IGBT3, Stealth™ II
10-FZ06NPA070FP-P969F	/ 1200	/ 75	/ Parallel switch	
10-FZ06NPA070FP01-P969F10	/ 1200	/ 75	/ Parallel switch	
10-FZ06NRA084FP03-P969F78	/ 1200	/ 100	/ Parallel switch	/ Infineon CoolMOS™ + IGBT, IGBT3, Stealth™ & trade II
10-FZ06NRA084FP02-P969F68	/ 1200	/ 100	/ Parallel switch	/ Infineon CoolMOS™ + IGBT, IGBT3, SiC diodes

*flow*NPC 1

Facts
/ High efficient three-level topology
/ IGBT (600 V/650 V) technology for low conduction losses

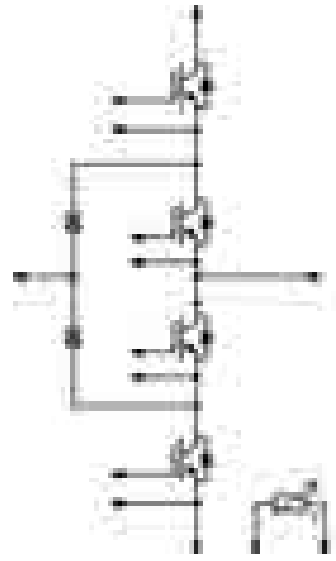
Housing
/ *flow* 1 12 mm
/ *flow* 1 17 mm

www.vincotech.com/*flow*NPC-1

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS

THREE-LEVEL NPC (I-TYPE)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-PY07NIB080SM03-L095F03Y	/ 1200	/ 80	/ IGBT H5	/ 4 quadrant operation, very high speed
10-F106NIA100SA-M135F	/ 1200	/ 100	/ IGBT3	
10-F106NIA150SA-M136F	/ 1200	/ 150	/ IGBT3	
10-F107NIB150SG06-M136F39	/ 1200	/ 150	/ IGBT3 HS	/ IGBT3 high-speed + fast Si diodes, improved R_{th} (AlN)
10-FY07NPA150SM01-L364F08	/ 1200	/ 150	/ IGBT H5	/ IGBT H5 and IGBT L5 and Stealth™ + capacitors; for solar
10-FY07NPA150SM02-L365F08	/ 1200	/ 150	/ IGBT H5	/ 4 quadrant operation, very high speed + capacitors; for ESS
NEW **10-FY07NIA150S5-M516F58**	**/ 1200**	**/ 150**	**/ IGBT S5**	**/ Also 4 quadrant operation**
NEW **10-FY07NIA150S502-L365F58**	**/ 1200**	**/ 150**	**/ IGBT S5**	**/ Also 4 quadrant operation**
10-FY07NPA200SM02-L366F08	/ 1200	/ 200	/ IGBT H5	/ 4 quadrant operation, very high speed + capacitors; for ESS



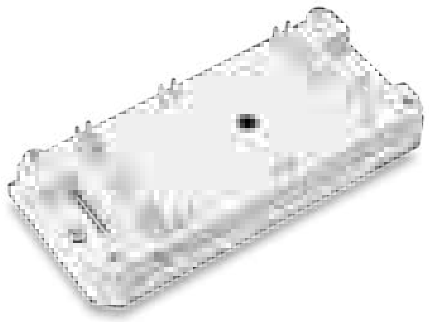
*flow*3xNPC 1

Facts
/ High efficient three-phase
/ Three-phase application in a single housing
/ Dedicated designs for solar and UPS application

Housing
/ *flow* 1 12 mm

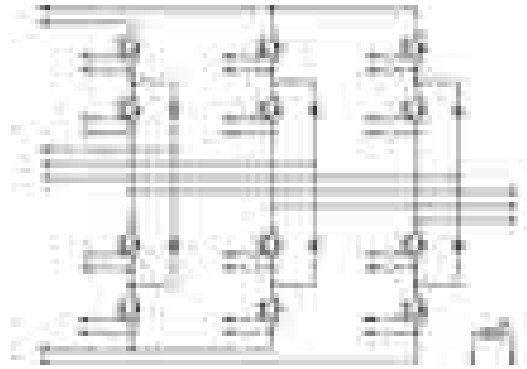
www.vincotech.com/*flow*3xNPC-1

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS



THREE-LEVEL NPC (I-TYPE)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-PY07N3A015SM-M892F08Y	/ 1200	/ 15	/ IGBT H5	/ 3xNPC, IGBT H5 + Rapid™ diode
10-PY07N3A030SM-M894F08Y	/ 1200	/ 30	/ IGBT H5	/ 3xNPC, IGBT H5 + Rapid™ diode
10-PY07N3A050SM-M896F04Y	/ 1200	/ 50	/ IGBT H5	/ 3xNPC, IGBT H5 + IGBT L5 + Rapid™ diode



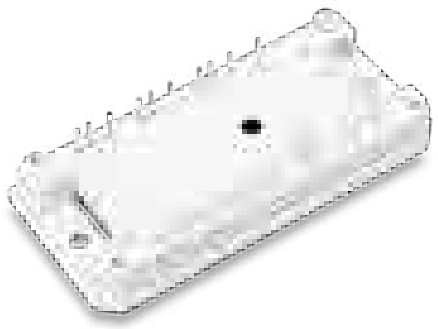
*flow*NPC 1 split

Facts
/ High DC-Link voltages
/ High efficiency with high speed IGBT
/ 4 quadrant operation
/ Fast switching frequencies
/ Integrated temperature sensor

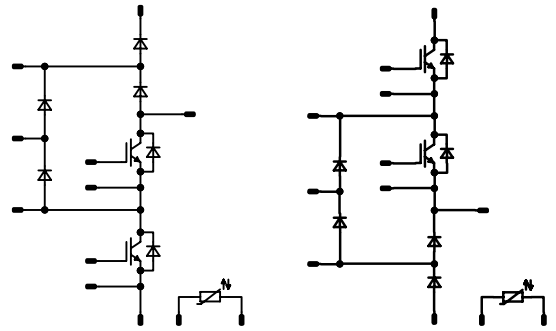
Housing
/ *flow* 1 12 mm

www.vincotech.com/*flow*NPC-1-split

Applications
/ CHARGER STATIONS / SOLAR INVERTERS



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FY24NIB150SH01-L728F08	/ 2400	/ 150	/ IGBT4 HS	
10-FY24NIC150SH01-L738F08	/ 2400	/ 150	/ IGBT4 HS	



*flow*NPC 1 MOS

Facts
/ Ultra-high efficient NPC with pure MOSFET switches SiC diodes
/ Split output eliminates x-conduction and enables reactive power
/ Ultra fast switching
/ Low inductance layout

Housing
/ *flow* 1 12 mm
www.vincotech.com/*flow*NPC-1-MOS

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS

*flow*NPC 2

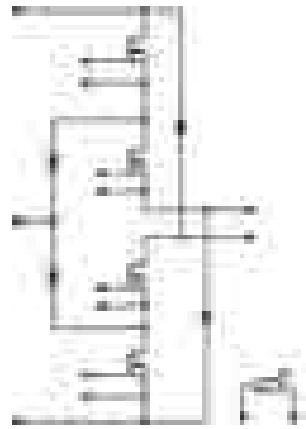
Facts
/ High efficient three-level topology
/ IGBT3 (600 V) technology for low saturation losses
/ Low inductance layout
/ For solar, UPS and motor drives
/ High power flow 2 housing

Housing
/ *flow* 2 17 mm
www.vincotech.com/*flow*NPC-2

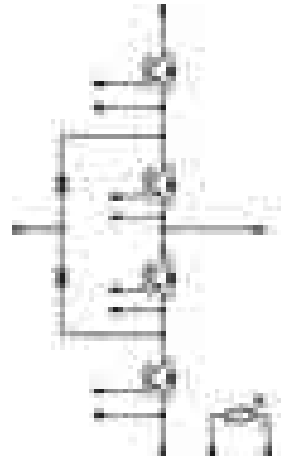
Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS

THREE-LEVEL NPC (I-TYPE)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-PY06NRA041FS-M413FY	/ 1200	/ 30	/ MOSFET	/ C6 + SiC diode
10-PY06NRA021FS-M410FY	/ 1200	/ 60	/ MOSFET	/ C6 + SiC diode



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
30-F206NIA200SA-M105F	/ 1200	/ 200	/ IGBT3	
30-F206NIA200SG-M105F25	/ 1200	/ 200	/ IGBT3 HS	/ IGBT3 high-speed
30-F206NIA300SA-M106F	/ 1200	/ 300	/ IGBT3	
NEW **30-FT07NIB300S502-LE06F58**	**/ 1200**	**/ 300**	**/ IGBT5 S5**	**/ 4 quadrant operation, very high speed**

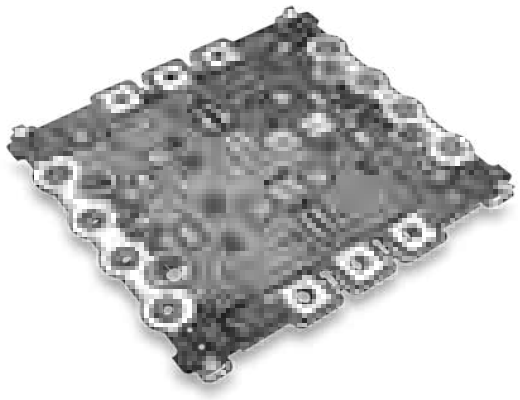


VINcoNPC X4

Facts
/ 2400 V NPC-topology
/ Low commutation inductance
/ High power screw interface
/ Optional assymetrical inductance technology

Housing
/ VINco X4 (w/o capacitors)
www.vincotech.com/VINcoNPC X4

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS

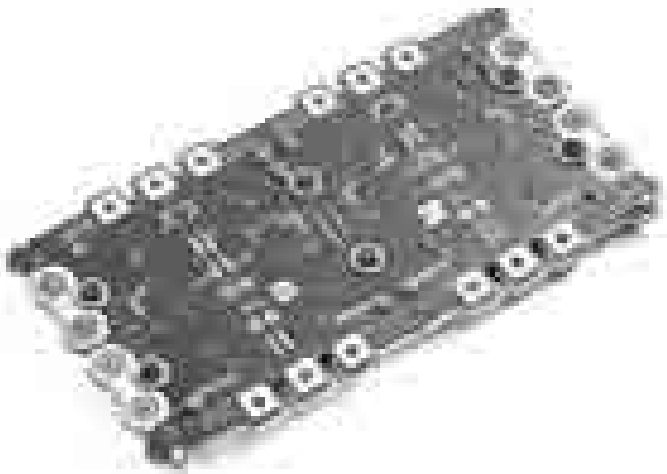


VINcoNPC X8

Facts
/ 2400 V NPC-topology
/ Low commutation inductance
/ High power screw interface
/ Optional asymmetrical inductance technology

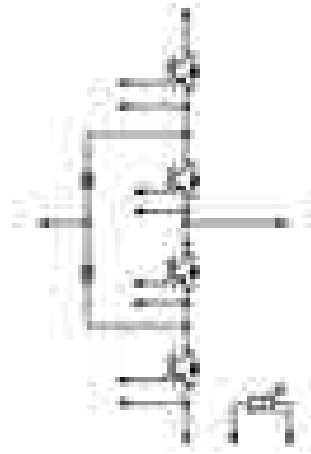
Housing
/ VINco X8 (w/o capacitors)
www.vincotech.com/VINcoNPC X8

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS

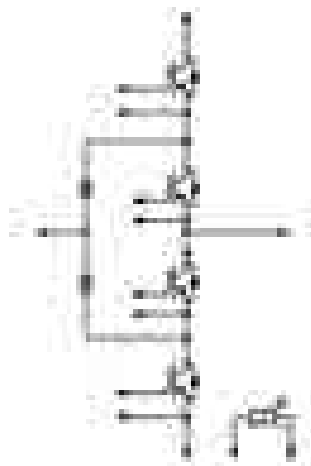


THREE-LEVEL NPC (I-TYPE)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
70-W224NIA400SH-M400P	/ 2400	/ 400	/ IGBT4 HS	



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
70-W424NIA800SH-M800F	/ 2400	/ 800	/ IGBT4 HS	

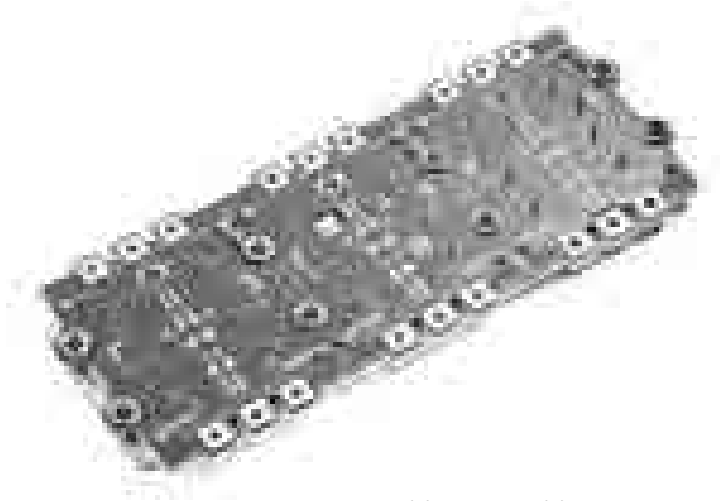


VINcoNPC X12

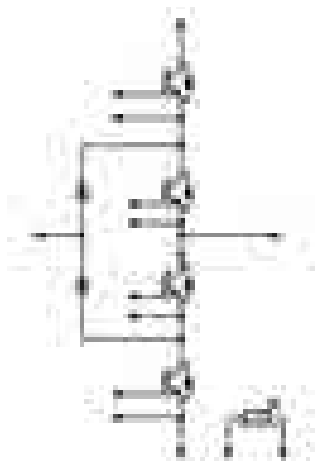
Facts
/ 2400 V NPC-topology
/ Low commutation inductance
/ High power screw interface
/ Optional assymetrical inductance technology

Housing
/ VINco X12 (w/o capacitors)
www.vincotech.com/VINcoNPC X12

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS



Part-No	/ Voltage [V]	/ Current [A]	/ Technology	/ Comments
70-W624N34A1K2SC-L400FP	/ 2400	/ 1200	/ IGBT4 HS	/ IGBT4 + IGBT4 HS
70-W624N3A1K2SC01-L400FP10	/ 2400	/ 1200	/ IGBT4	
NEW **70-W624NIA1K8M701-LD00FP70**	**/ 2400**	**/ 1800**	**/ IGBT M7**	



/ RECTIFIER [+BRAKE]
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM [CIB]
/ PIM+PFC [CIP]
/ IPM [CIB]
/ IPM [CIP/PIM+PFC]
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC [SINGLE-PHASE APPLICATIONS]
/ PFC [THREE-PHASE APPLICATIONS]
/ THREE-LEVEL NPC [I-TYPE]
/ THREE-LEVEL MNPC [T-TYPE]
/ HOUSINGS
/ HOUSING DIMENSIONS
/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

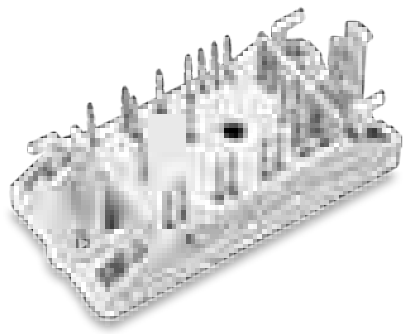
*flow*MNPC 0

Facts
/ High efficiency three-level
/ Dedicated designs for solar and UPS applications
/ Compatible with flow BOOST 0

Housing
/ *flow* 0 12 mm
/ *flow* 0 17 mm

www.vincotech.com/*flow*MNPC-0

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS



*flow*MNPC 0 SiC

Facts
/ Ultra high efficient SiC power
/ MOSFET 2nd gen, SiC Power and Schottky diode latest gen
/ Split output eliminates x-conduction
/ Extremely fast switching

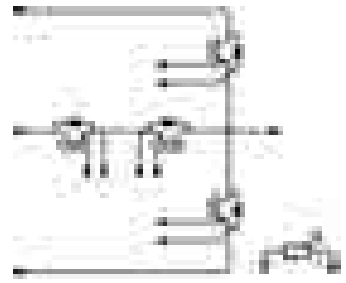
Housing
/ *flow* 0 12 mm

www.vincotech.com/*flow*MNPC-0-SIC

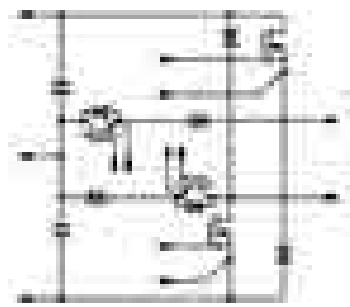
Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS

THREE-LEVEL MNPC (T-TYPE)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FZ07NMA100SM-M265F58	/ 650	/ 100	/ IGBT H5	/ for 110 V grid
10-FZ12NMA040SH-M267F	/ 1200	/ 40	/ IGBT4 HS	
10-PZ12NMA040SH-M267FY	/ 1200	/ 40	/ IGBT4 HS	
10-FZ12NMA080NS03-M260F38	/ 1200	/ 80	/ IGBT TFS II	
10-PZ12NMA080NS03-M260F38Y	/ 1200	/ 80	/ IGBT TFS II	
10-PZ12NMA080SH23-M260F03Y	/ 1200	/ 80	/ IGBT4 HS	/ Ultra fast diodes
10-F012NME080SH-M910F09	/ 1200	/ 80	/ IGBT4 HS	/ Similar to M260F03 but with P96x NPC pinout
10-P012NME080SH-M910F09Y	/ 1200	/ 80	/ IGBT4 HS	
10-PZ12NMA080NS07-M260F78Y	/ 1200	/ 80	/ IGBT TFS II	



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-PZ12NMA027ME-M340F63Y	/ 1200	/ 100	/ SiC MOSFET	/ 2nd gen SiC MOSFET and SiC diode from Wolfspeed™
10-PZ12NMA027MR-M340F68Y	/ 1200	/ 100	/ SiC MOSFET	/ 2nd gen SiC MOSFET and SiC diode from ROHM™

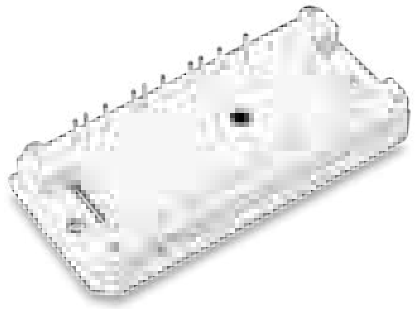


*flow*MNPC 1

Facts
/ High efficient three-level
/ Split output eliminates x-conduction
/ Dedicated designs for solar and UPS applications
/ High switching frequency
/ Reactive power capability + LVRT

Housing
/ *flow* 1 12 mm
www.vincotech.com/*flow*MNPC-1

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS

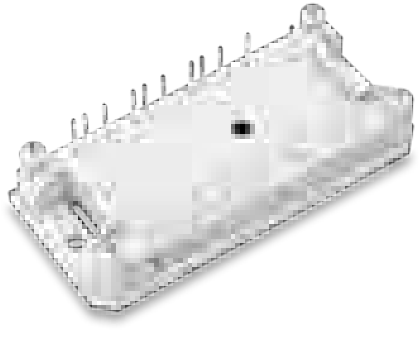


*flow*3xMNPC 1

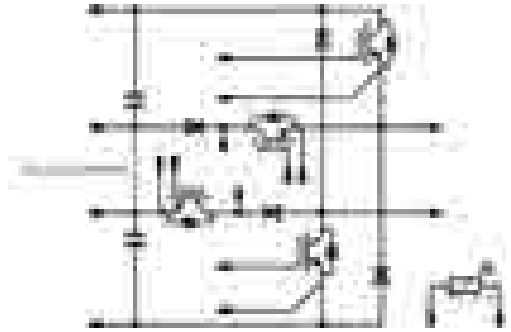
Facts
/ High efficient three-phase mixed voltage NPC topology
/ Three-phase application in a single housing
/ Dedicated designs for solar and UPS applications

Housing
/ *flow* 1 12 mm (xx8)
/ *flow* 1 17 mm (xx9)
www.vincotech.com/*flow*3xMNPC-1

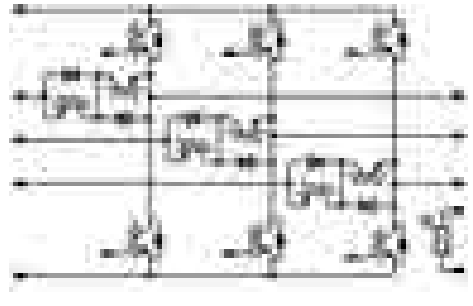
Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FY12NMA080SH-M427F	/ 1200	/ 80	/ IGBT4 HS	
10-FY12NMA160SH-M420F	/ 1200	/ 160	/ IGBT4 HS	
10-FY12NMA160SH01-M820F18	/ 1200	/ 160	/ IGBT4 HS	/ improved LVRT



Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
10-FY12M3A025SH-M746F08	/ 1200	/ 25	/ IGBT4 HS	/ 3x MNPC
10-F112M3A025SH-M746F09	/ 1200	/ 25	/ IGBT4 HS	/ 3x MNPC
10-FY12M3A040SH-M749F08	/ 1200	/ 40	/ IGBT4 HS	/ 3x MNPC
10-F112M3A040SH-M749F09	/ 1200	/ 40	/ IGBT4 HS	/ 3x MNPC



*flow*MNPC 2

Facts
/ High efficient three-level
/ Split output eliminates x-conduction
/ Dedicated designs for solar and UPS applications
/ High switching frequency

Housing
/ *flow* 2 13 mm
www.vincotech.com/*flow*MNPC-2

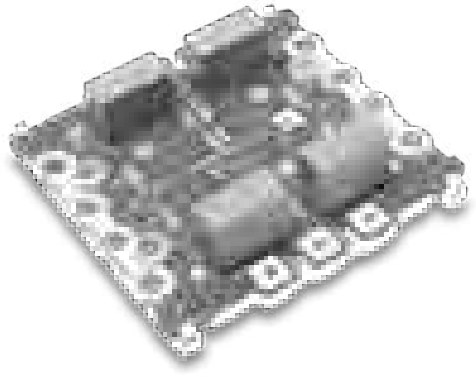
Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS

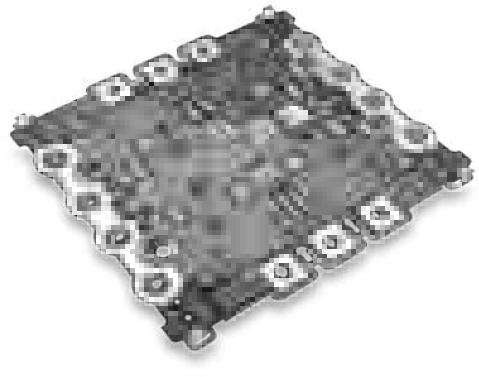
VINcoMNPC X4

Facts
/ High efficient mixed voltage NPC topology
/ Low stray inductance with integrated DC snubber capacitors
/ Screw terminals
/ Dedicated for high efficient solar and UPS applications
/ Low inductive interface

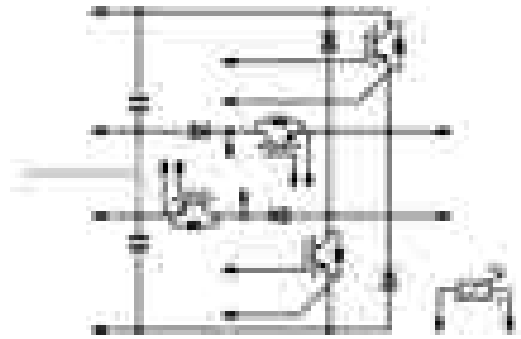
Housing
/ VINcoMNPC X4
www.vincotech.com/VINcoMNPC-X4

Applications
/ CHARGER STATIONS / SOLAR INVERTERS / UPS



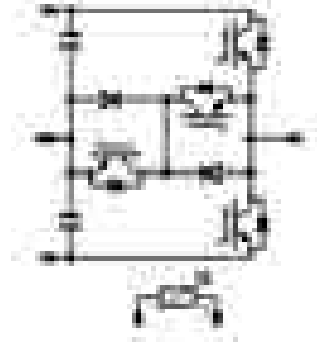


Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
30-FT12NMA160SH-M669F08	/ 1200	/ 160	/ IGBT4 HS	IGBT4
30-FT12NMA160SH02-M669F28	/ 1200	/ 160	/ IGBT4 HS	IGBT4, improved neutral path
30-FT12NMA200SH-M660F08	/ 1200	/ 200	/ IGBT4 HS	IGBT4

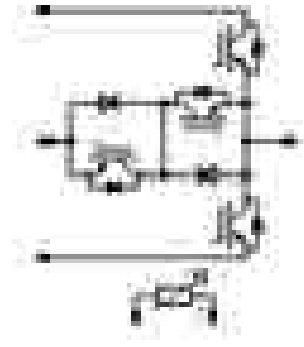


Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
70-W212NMA300SC-M208P	/ 1200	/ 300	/ IGBT4	
70-W212NMA400SC-M209P	/ 1200	/ 400	/ IGBT4	
70-W212NMC400SH01-M709P	/ 1200	/ 400	/ IGBT4 HS	
70-W212NMA400NB02-M209P62	/ 1200	/ 400	/ M6.1	
70-W212NMA600SC-M200P	/ 1200	/ 600	/ IGBT4	
70-W212NMC600SH01-M700P	/ 1200	/ 600	/ IGBT4 HS	
70-W212NMA600NB04-M200P60	/ 1200	/ 600	/ M6.1	
70-W212NMA600NB02-M200P62	/ 1200	/ 600	/ M6.1	

/ M20xP / M70xP



/ M20xP62



VINcoMNPC X12

Facts

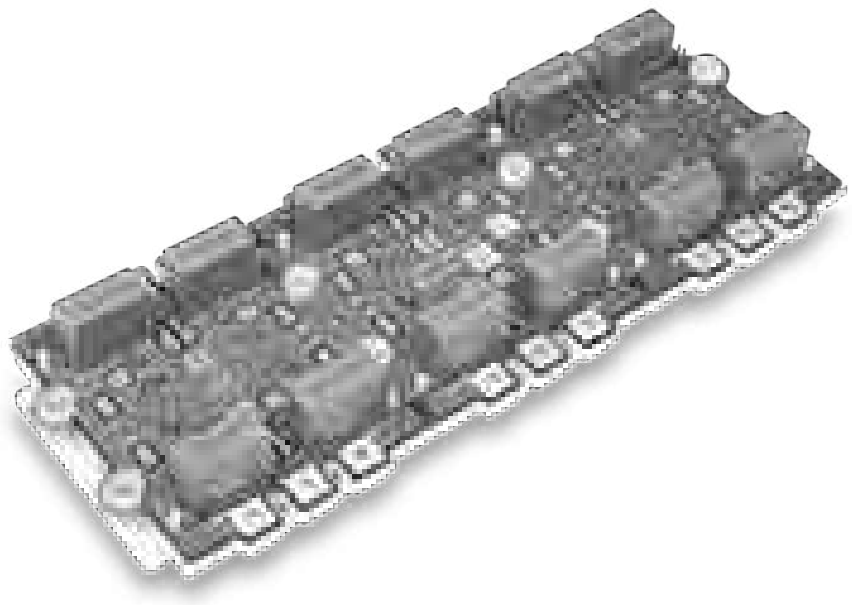
/ High efficient mixed voltage NPC topology
/ Low stray inductance with integrated DC snubber capacitors
/ Screw terminals
/ Dedicated for high efficient solar and UPS applications

Housing

/ VINcoMNPC X12
www.vincotech.com/VINcoMNPC-x12

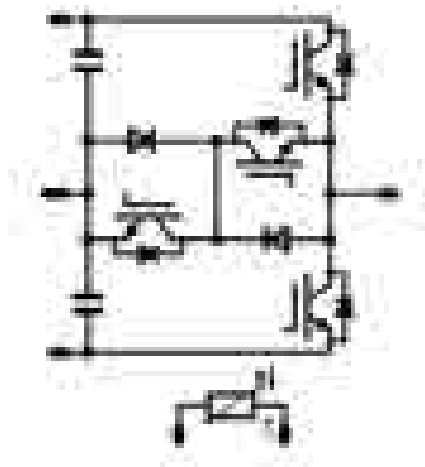
Applications

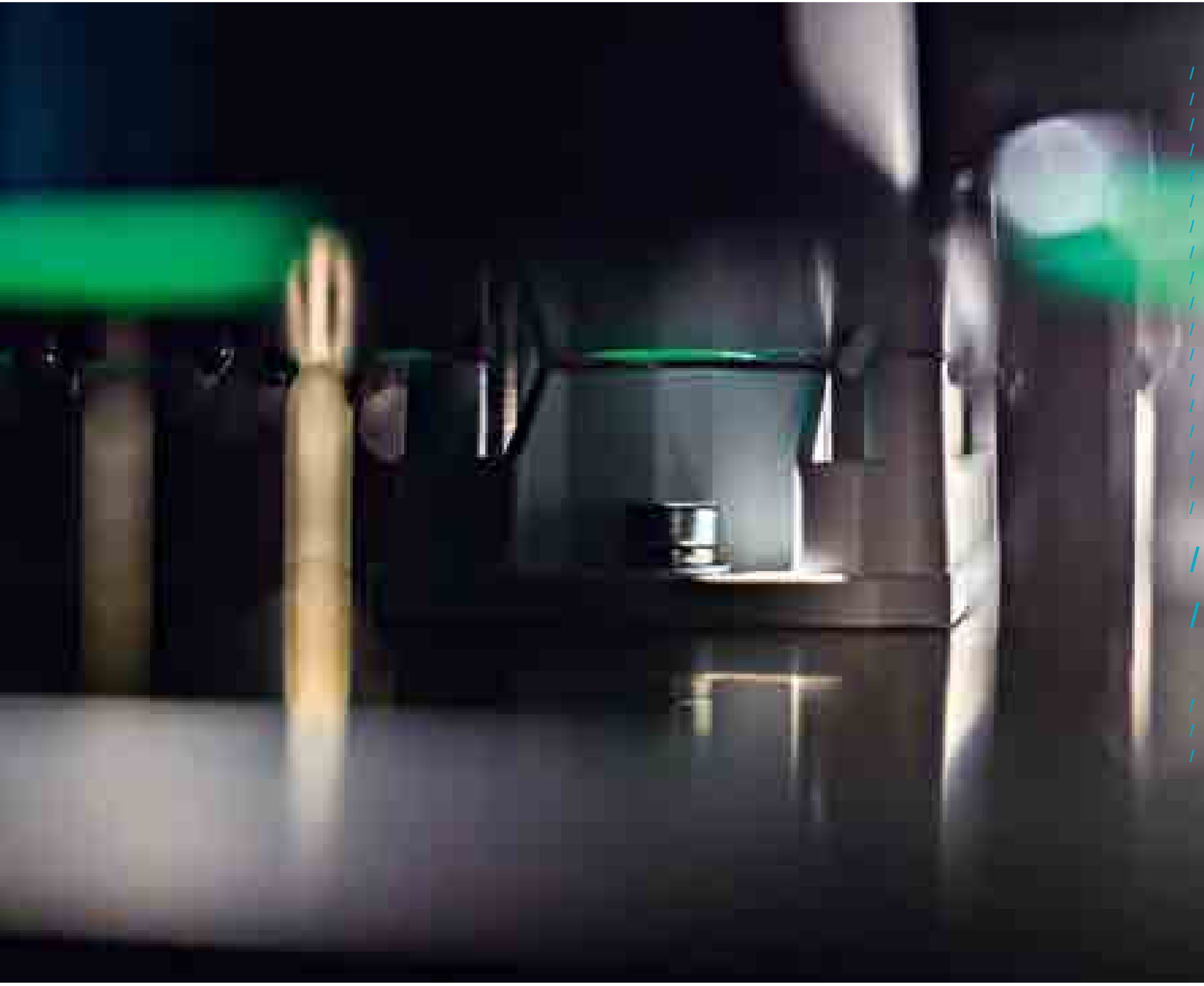
/ CHARGER STATIONS / SOLAR INVERTERS / UPS



THREE-LEVEL MNPC (T-TYPE)

Part-No	/ Voltage (V)	/ Current (A)	/ Technology	/ Comments
70-W612M3A1K8SC02-L300FP70	/ 1200	/ 1800	/ IGBT4	/ improved NTC accuracy





/ RECTIFIER (+BRAKE)
/ SIXPACK
/ SIXPACK + RECTIFIER
/ SEVENPACK
/ PIM (CIB)
/ PIM+PFC (CIP)
/ IPM (CIB)
/ IPM (CIP/PIM+PFC)
/ HALF-BRIDGE
/ H-BRIDGE
/ SINGLE-PHASE INVERTER
/ H6.5
/ BOOSTER
/ BOOSTER SYMMETRIC
/ PFC (SINGLE-PHASE APPLICATIONS)
/ PFC (THREE-PHASE APPLICATIONS)
/ THREE-LEVEL NPC (I-TYPE)
/ THREE-LEVEL MNPC (T-TYPE)

/ HOUSINGS

/ HOUSING DIMENSIONS

/ VINCOTECH WORLDWIDE
/ GLOSSARY
/ NAMING SYSTEM

Housing Items

Housing	*flow* 0B	*flow* 0	*flow* 1	*flow* 1B	*flow* 1C	*flow* 2	*flow*90 0	*flow*90 1	VINco E3	VINco X
Electrical connection to PCB	Solder	Solder Press-fit	Solder Press-fit	Solder Press-fit	Solder Press-fit	Solder Press-fit	Solder	Solder	screw	screw* Press-fit*
Mechanical connection to PCB	screw	screw 2-clip 4-clip	screw 2-clip	screw	screw	screw 2-clip	optional	2-clip	screw	screw
Baseplate	▫	▫	▫	▫	▪	▪	▫	▫	▪	▪
Height (mm)	17	12 / 17	12 / 17	17	12	13 / 17	38	35	17	16

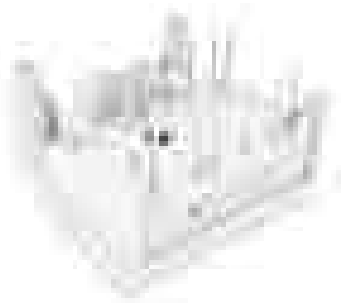
Housing	MiniSKiiP® 0	MiniSKiiP® 1	MiniSKiiP® 2	MiniSKiiP® 3
Contacts	spring	spring	spring	spring
Baseplate	▫	▫	▫	▫
Height (mm)	16	16	16	16

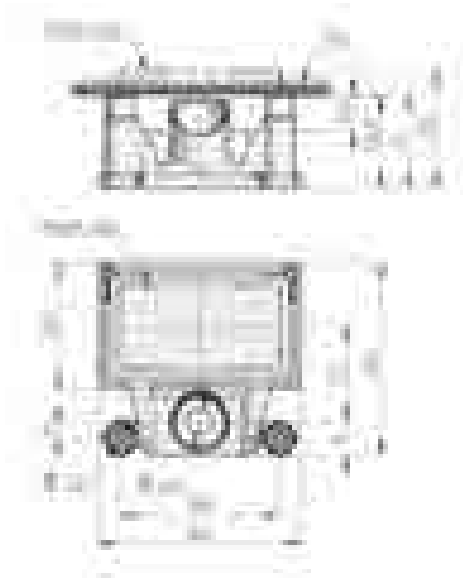
* Depending on the power
▪ Yes ▫ No

www.vincotech.com/housings

flow ØB 17 mm

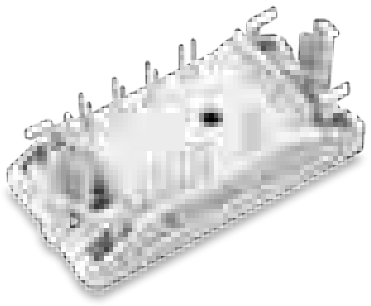
Housing dimensions:
Height: 17 mm
Lenght: 35 mm
Width: 37 mm

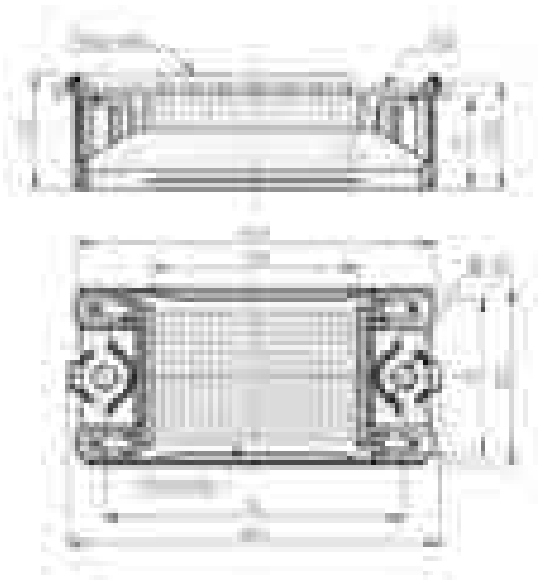


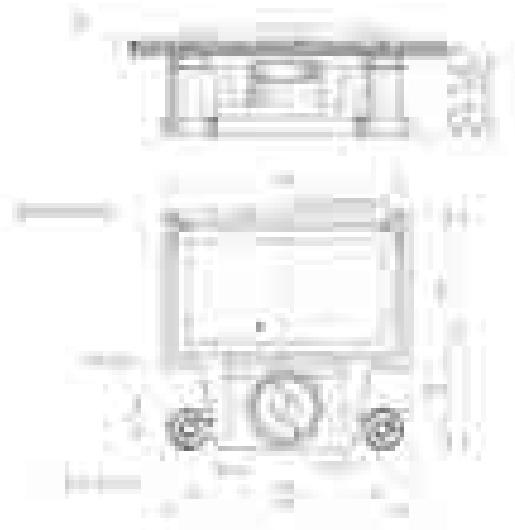


flow Ø 17 mm

Housing dimensions:
Height: 17 mm
Lenght: 66 mm
Width: 33 mm

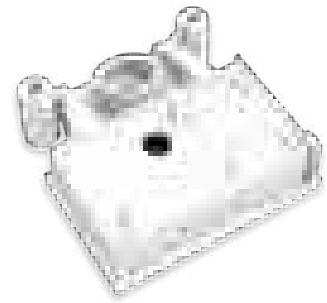






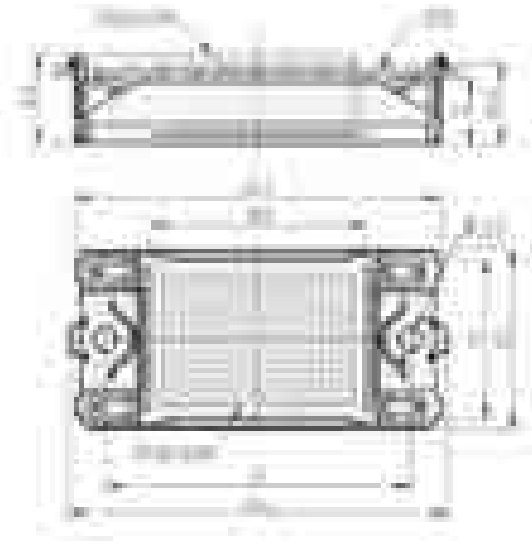
flow ØB 12 mm

Housing dimensions:
Height: 12 mm
Lenght: 35 mm
Width: 37 mm



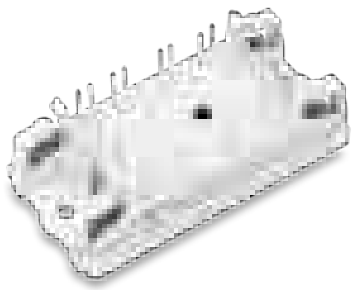
flow Ø 12 mm

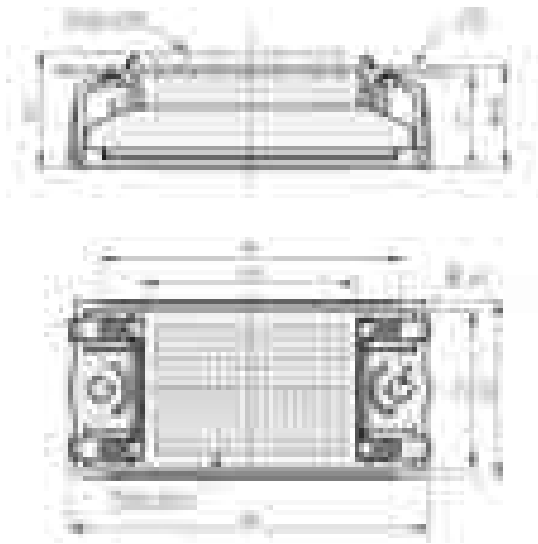
Housing dimensions:
Height: 12 mm
Lenght: 66 mm
Width: 33 mm



flow 0 17 mm 4-clip

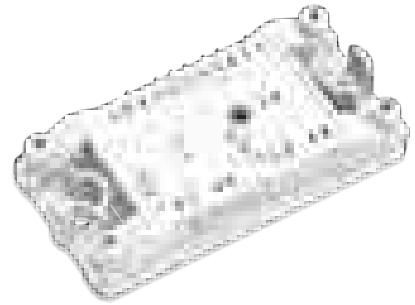
Housing dimensions:
Height: 17 mm
Lenght: 66 mm
Width: 33 mm

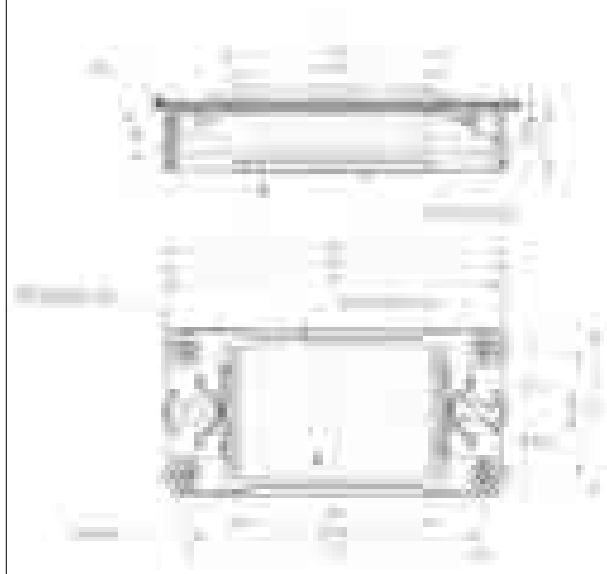




flow 0 12 mm 4-tower

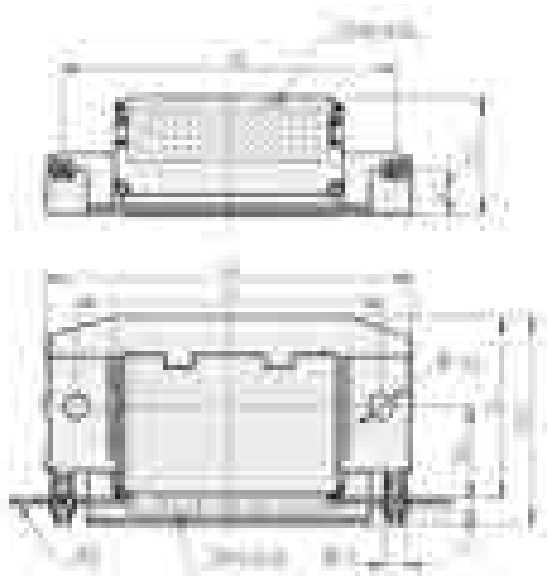
Housing dimensions:
Height: 12 mm
Lenght: 66 mm
Width: 33 mm





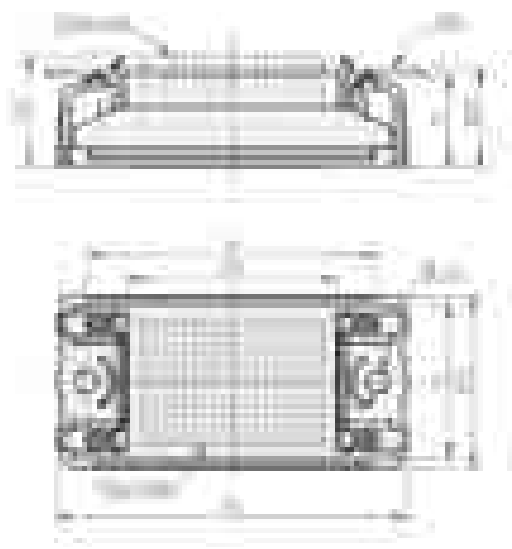
*flow*90 0

Housing dimensions:
Height: 38 mm
Width: 66 mm
Depth: 21 mm



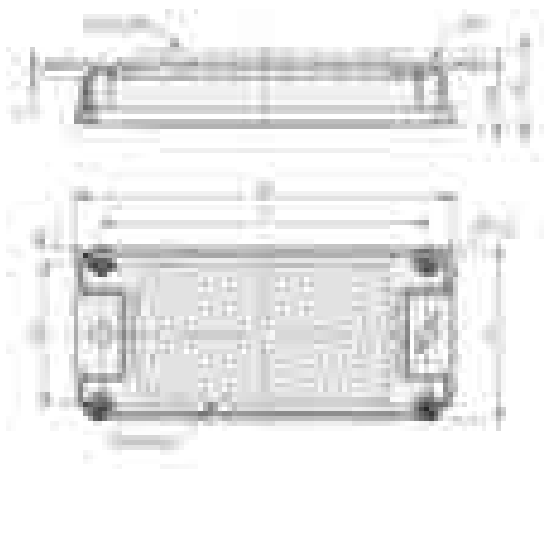
flow 1 17 mm 4-tower

Housing dimensions:
Height: 12 mm
Lenght: 66 mm
Width: 33 mm



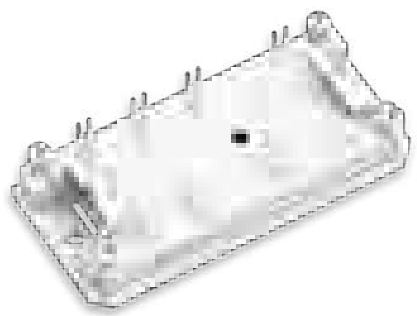
flow 1 12 mm 4-tower

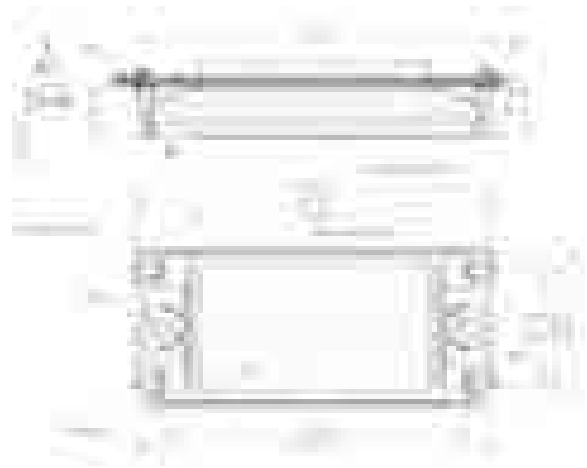
Housing dimensions:
Height: 12 mm
Lenght: 82 mm
Width: 38 mm



flow 1B 12 mm

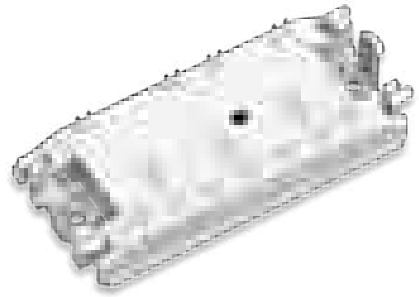
Housing dimensions:
Height: 12 mm
Lenght: 72 mm
Width: 36 mm

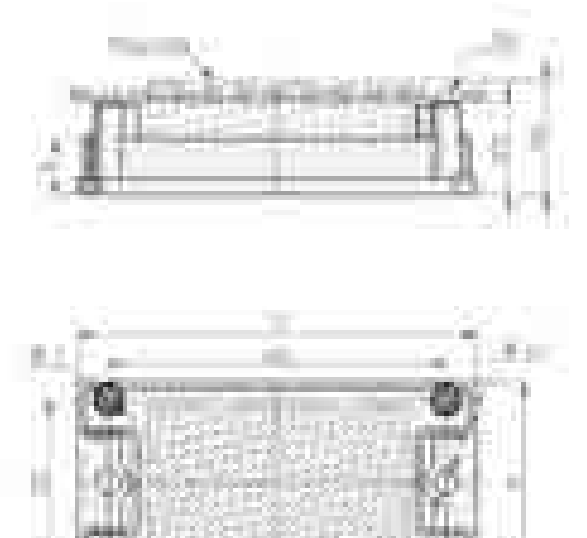




flow 1 12 mm 2-clip

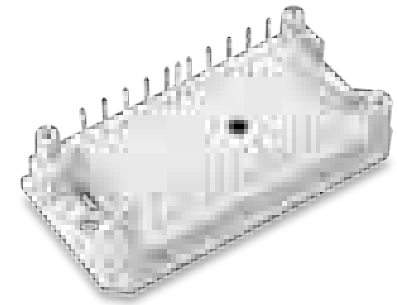
Housing dimensions:
Height: 12 mm
Lenght: 72 mm
Width: 36 mm





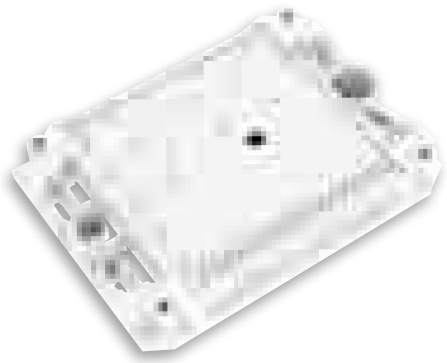
flow 1B 17 mm

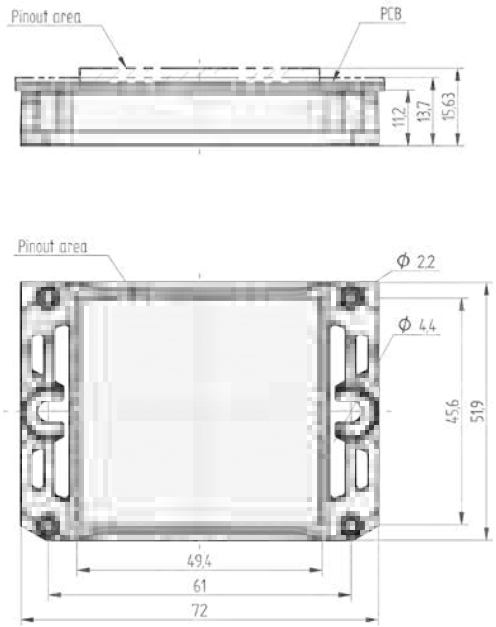
Housing dimensions:
Height: 17 mm
Lenght: 72 mm
Width: 36 mm

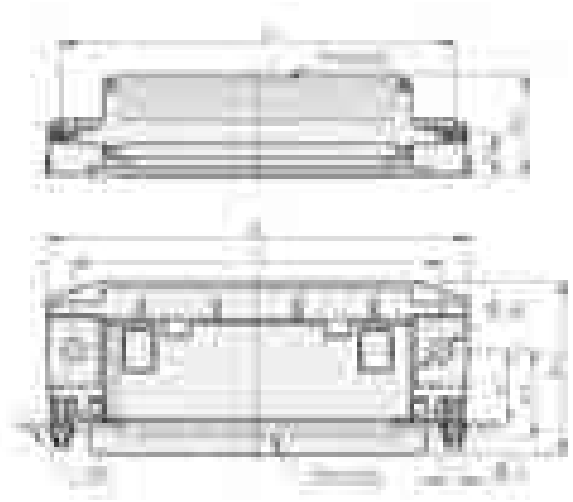


flow 1C

Housing dimensions:
Height: 12 mm
Width: 72 mm
Depth: 52 mm





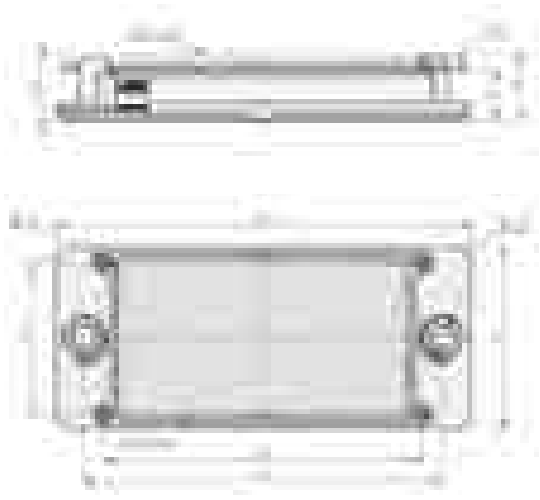


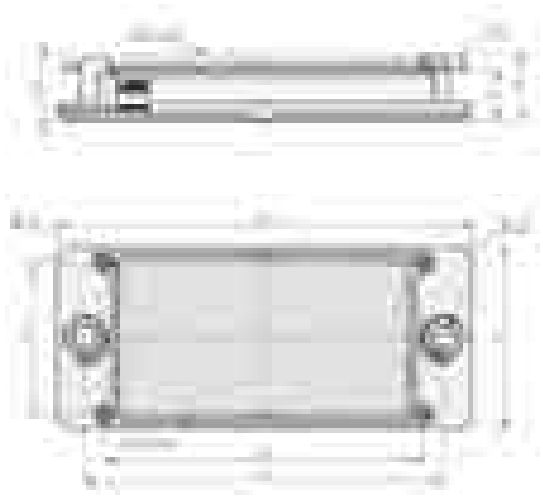
flow90 1

Housing dimensions:
Height: 35 mm
Width: 84 mm
Depth: 21 mm

flow 2 17 mm

Housing dimensions:
Height: 17 mm
Lenght: 107 mm
Width: 47 mm





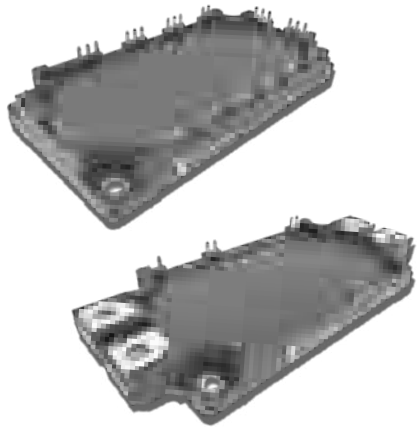
flow 2 13 mm

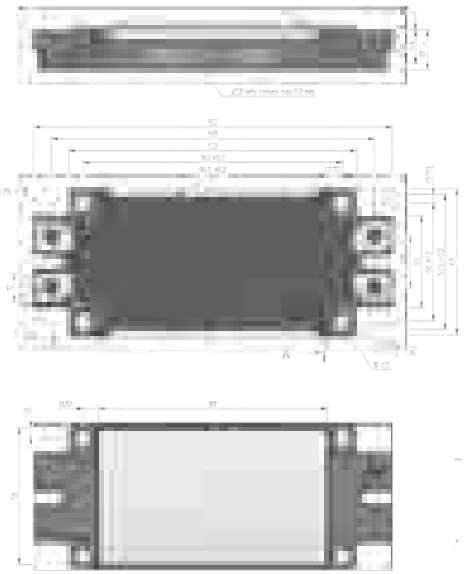
Housing dimensions:
Height: 13 mm
Lenght: 107 mm
Width: 47 mm

VINco E3

Housing dimensions:

Height: 17 mm
Lenght: 152 mm
Width: 62 mm

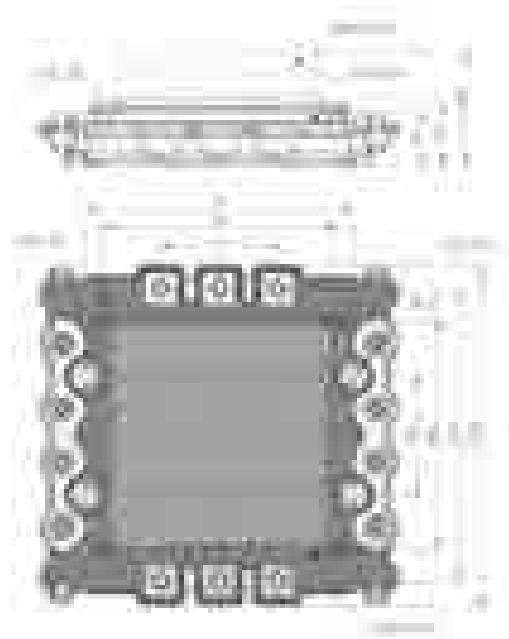


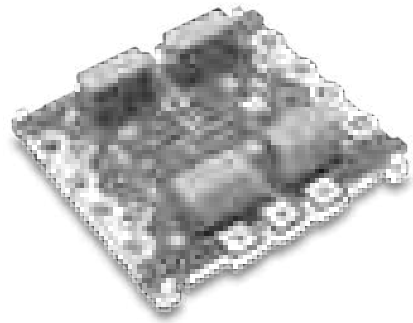


VINco X4

Housing dimensions:

Height: 16 mm
Lenght: 134.8 mm
Width: 129.2 mm

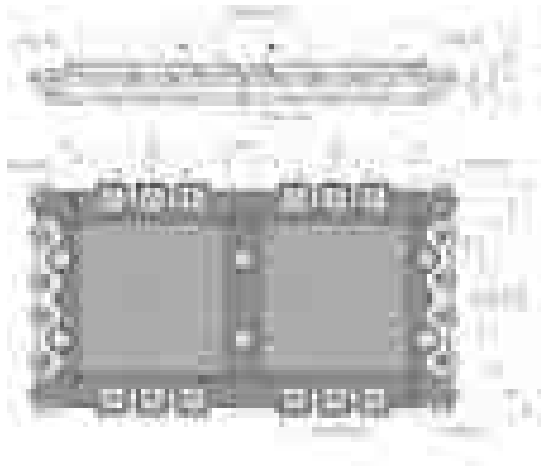




VINco X8

Housing dimensions:

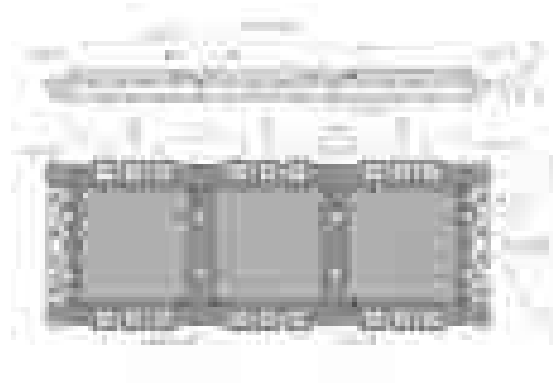
Height: 16 mm
Lenght: 242 mm
Width: 129.2 mm



VINco X12

Housing dimensions:

Height: 16 mm
Lenght: 323 mm
Width: 129.2 mm



MiniSKiiP® 0

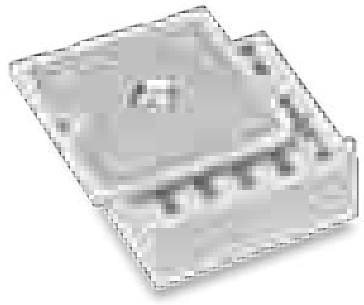
Housing dimensions:

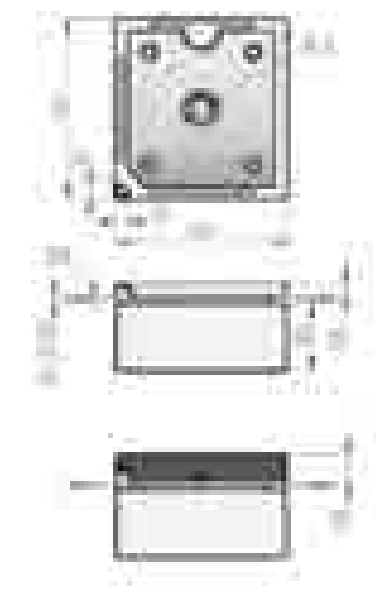
Height: 16 mm
Lenght: 34 mm
Width: 31 mm

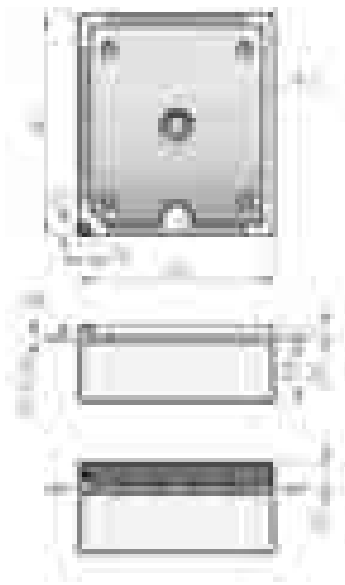
MiniSKiiP® 1

Housing dimensions:

Height: 16 mm
Lenght: 42 mm
Width: 40 mm







MiniSKiiP® 2

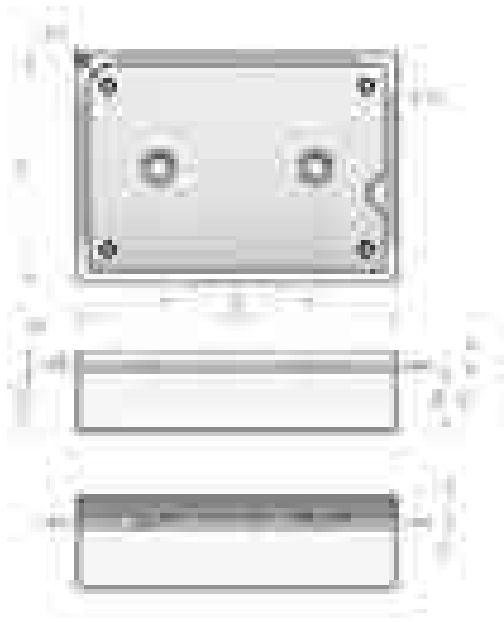
Housing dimensions:

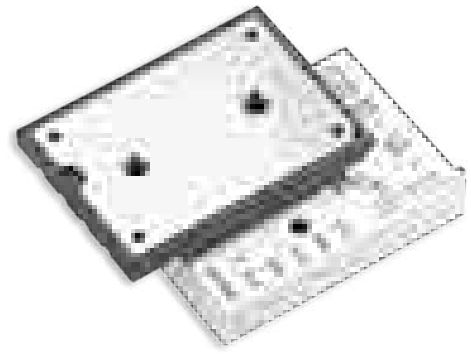
Height: 16 mm
Lenght: 59 mm
Width: 52 mm

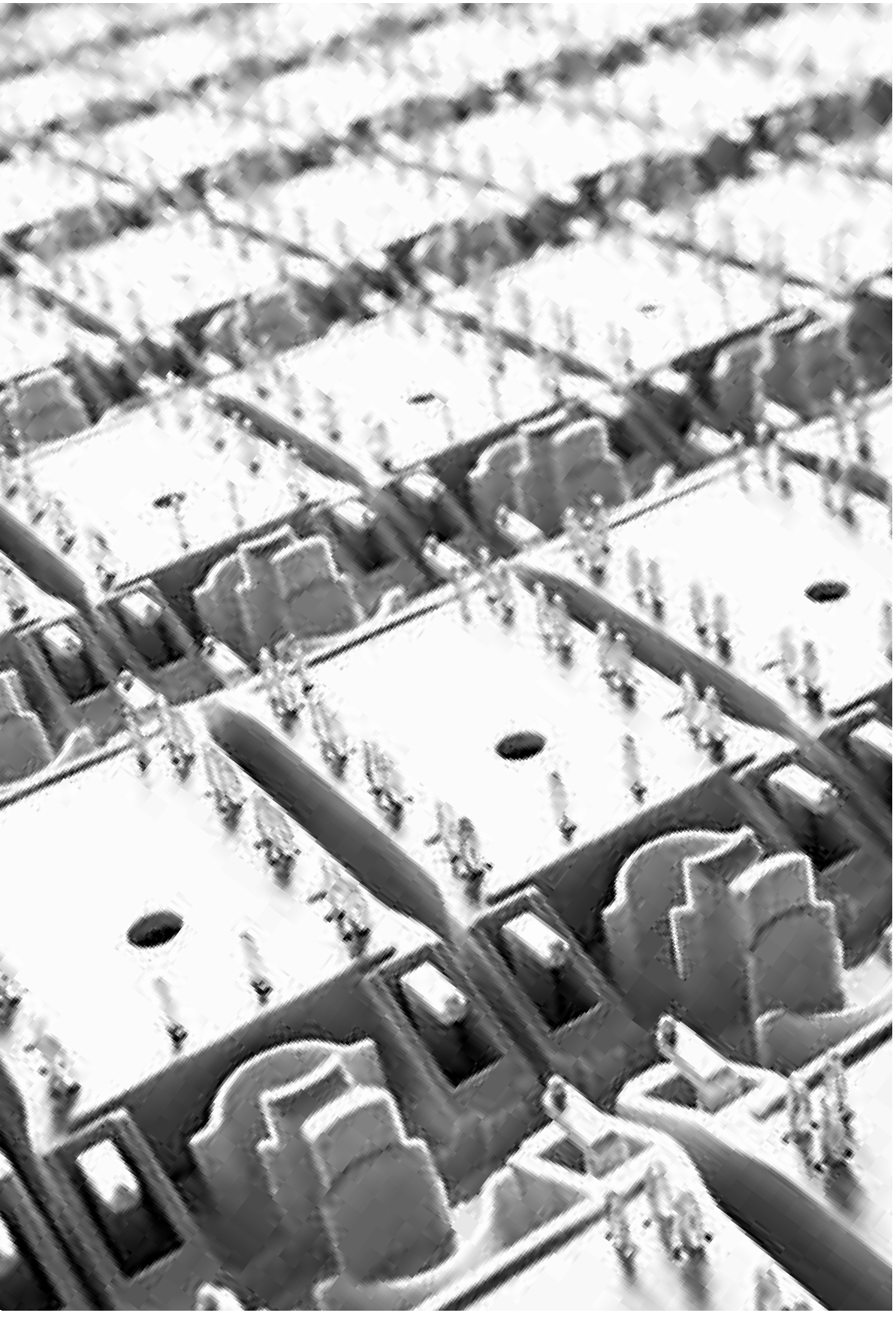
MiniSKiiP® 3

Housing dimensions:

Height: 16 mm
Lenght: 82 mm
Width: 59 mm







VINCOTECH

WORLDWIDE

VINCOTECH **WORLDWIDE**

▲ HEADQUARTERS ■ DESIGN CENTER ◆ SALES OFFICES ● MANUFACTURING

LOCATIONS

Vincotech is an internationally expanding company within the Mitsubishi Electric Corporation. The firm is headquartered in Germany and operates a production site in Hungary.

VINCOTECH

GLOSSARY

ABBREVIATIONS

AC	Alternating Current
AlN	Aluminium Nitride
Al_2O_3	Aluminium Oxide
AMNPC	Advanced MNPC
BRC	Brake Chopper
CIB	Converter Inverter Break
DC	Direct Current
DCB	Direct Copper Bonding
EMC	Electromagnetic Compatibility
FET	Field-Effect Transistor
FWD	Free Wheeling Diode
IGBT	Insulated Gate Bipolar Transistor
IPM	Intelligent Power Module
JFET	Junction Field-Effect Transistor
LVRT	Low Voltage Ride Through
MNPC	Mixed voltage NPC
MOSFET	Metal-Oxide Semiconductor Field-Effect Transistor
MPP	Maximum Power Point
NPC	Neutral Point Clamp
NTC	Negative Temperature Coefficient
PCM	Phase-change Material
PFC	Power Factor Correction
PIM	Power Integrated Module
PTC	Positive Temperature Coefficient
REACH	Registration, Evaluation, Athorization & Restriction of Chemicals (EU 1907/2006)
RoHS	Restriction of certain Hazardous Substances (EU 2011/65)
$R_{DS(on)}$	On resistance
R_{th}	Thermal Resistance
SCR	Silicon Controlled Rectifier (thyristor)
Si	Silicon
SiC	Silicon Carbide
SMPS	Switching Mode Power Supplies
TIM	Thermal Interface Material
T_j	Junction Temperature
UPS	Uninterruptable CHARGER STATIONS
ZVS	Zero Voltage Switching

VERSION 1

This ordering code is identical with the product name shown here. It remains valid for all products released before mid 2009 and subsequent releases within product families established before 2009.

Leading Number
V23990: Power modules
V23109: Relays
S30814: Hybrids

Product Identification
First two digits: product family identifier
Last digit: module identifier
Modules are listed from lowest to highest power
(e.g. 600 V / 4 A – 1200 V / 15 A)

Part Number
Ending

V23990-P868-F49 Y-/3/-PM

Product Classification
P: *flow* power modules
K: MiniSKiiP® power modules
S: Relays
Q: Hybrids

Option Code
Different housings
Optional DCB material
Optional parts (e.g. brake)
Y as last letter:
Press-fit option

Option Code 2 (optional)
Thermal Interface Material:
MiniSKiiP® options

VERSION 2

Version 2 introduces a new name and ordering code for products released after mid 2009.

* Examples

/ **The new product name describes the module's characteristics.**
/ **The new ordering code extends the product's name. It is listed in the product data sheet.**

Technology Group
For UL notification

Voltage*
06: 600 V
07: 650 V
09: 900 V
12: 1200 V
etc.

Pinout
Modules with same topology, same housing, and same pinout have same character

Current/$R_{DS(on)}$*
045 (IGBT): 45 A
045 (MOS): 45 mΩ
etc.

Options
Alternative parts
Optional substrate material

Internal Identifier

10-PZ06NRA041FS02-P965F68Y-/3/

Housing Solder pins
FZ: *flow* 0 12 mm
F0: *flow* 0 17 mm
ZB: *flow* 0B 12 mm
0B: *flow* 0B 17 mm
FY: *flow* 1 12 mm
TY: *flow* 1 12 mm 2-clip
F1: *flow* 1 17 mm
TB: *flow* 1B 12 mm
1B: *flow* 1B 17 mm
1C: *flow* 1C
FT: *flow* 2 12 mm
F2: *flow* 2 17 mm
R0: *flow* 90 0
R1: *flow* 90 1

Press-fit Pins
PZ: *flow* 0 12 mm
PC: *flow* 0 12 mm w/o clips; 4 towers
P0: *flow* 0 17 mm
PD: *flow* 0 17 mm w/o clips; 4 towers
P1: *flow* 1 17 mm
PY: *flow* 1 12 mm
PW: *flow* 1 2-clip
FB: *flow* 1B 12 mm
PB: *flow* 1B 17 mm
P2: *flow* 2 17 mm
PT: *flow* 2 12 mm

Low-profile package:
VS: VINco E3 Solder pins
VP: VINco E3 Press-fit pins

Screw Terminals
W2: VINco X4
W4: VINco X8
W6: VINco X12

MiniSKiiP®
M0: MiniSKiiP® 0
M1: MiniSKiiP® 1
M2: MiniSKiiP® 2
M3: MiniSKiiP® 3

Topology
AN: Advanced NPFC
NA: ANFC
BV: Booster + H6.5
BI: Booster + Inverter
B2: Booster Dual
BB: Buck-Boost
HV: H6.5
2P: Half-Bridge
4P: H-Bridge
IP: IPM w/o brake with PFC
NM: MNPC
NI: NPC
NP: NPC Inverter Parallel
NR: NPC Inverter Reactive
PS: PIM (CI) w/ extra switch
PN: PIM w/o brake (CI)
PR: PIM w/o brake (CI) with single-phase rectifier
PP: PIM w/o brake with PFC
PM: PIM(CIB)
PQ: PIM(CIB) with single-phase rectifier
RI: Rectifier + Inverter
2T: Rectifier + PFC
2U: Rectifier + P-Switch PFC
AA: RPI (Rectifier-PFC-Inverter)
7P: Sevenpack (Sixpack + Brake)
6P: Sixpack
1S: SPFC
NB: Symmetric Booster
6B: Three-phase Rectifier + Brake
3B: Triple Booster

Option Code (optional)
Thermal Interface Material
MiniSKiiP® options

Chip Technology
FR: Fairchild NPT IGBT
SM: IGBT H5
M7: IGBT M7
RC: IGBT RC
S5: IGBT S5
FU: IGBT UltraFast
SD: IGBT2
FC: IGBT2 fast
FB: IGBT2 High-Speed
SA: IGBT3
SG: IGBT3 High-Speed
SB: IGBT3 Low Loss
SC: IGBT4
SH: IGBT4 High-Speed
FS: Infineon CoolMOS™ C6
CR: Infineon CoolMOS™ CFD2
FH: Infineon CoolMOS™ CP
MF: MOSFET + Fast Diode
MC: MOSFET + SiC
FP: Parallel Switch
ME / MR: SiC MOSFET
FV: Trench Field Stop IGBT

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Product specifications are subject to change without notice.
Vincotech does not authorize or warrant any of its products for use in life-support devices and / or systems.

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