



flowPACK 1

1200 V / 35 A

Features

- IGBT M7 with tandem diode solution
- Compact and low inductive design
- Integrated thermal sensor
- AlN substrate for improved thermal performance

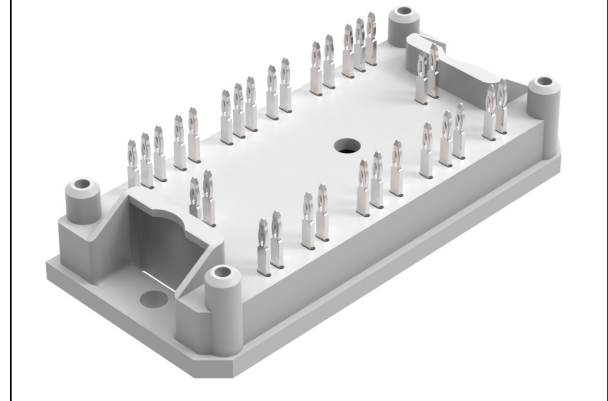
Target applications

- Embedded Drives
- Industrial Drives

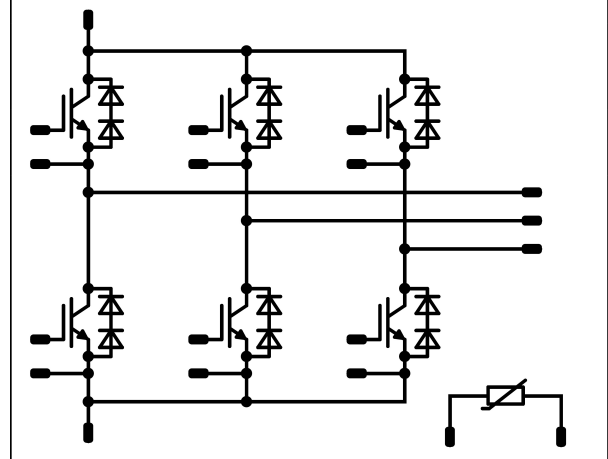
Types

- 10-P1126TA035M7-L827F79Y

flow 1 housing



Schematic





Vincotech

10-P1126TA035M7-L827F79Y
target datasheet

Maximum Ratings

$T_j = 25\text{ °C}$, unless otherwise specified

Parameter	Symbol	Conditions	Value	Unit
Inverter Switch				
Collector-emitter voltage	V_{CES}		1200	V
Collector current	I_C		35	A
Repetitive peak collector current	I_{CRM}	t_p limited by T_{jmax}	70	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	154	W
Gate-emitter voltage	V_{GES}		± 20	V
Short circuit ratings	i_{SC}	$V_{GE} = 15\text{ V}$ $T_j = 150\text{ °C}$	9,5	μs
Maximum junction temperature	T_{jmax}		175	$^{\circ}\text{C}$

Inverter Diode

Peak repetitive reverse voltage	V_{RRM}		1300	V
Continuous (direct) forward current	I_F		30	A
Repetitive peak forward current	I_{FRM}	t_p limited by T_{jmax}	60	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	114	W
Maximum junction temperature	T_{jmax}		175	$^{\circ}\text{C}$



Vincotech

10-P1126TA035M7-L827F79Y
target datasheet

Maximum Ratings

$T_j = 25\text{ °C}$, unless otherwise specified

Parameter	Symbol	Conditions	Value	Unit
-----------	--------	------------	-------	------

Module Properties

Thermal Properties

Storage temperature	T_{stg}		-40...+125	°C
Operation temperature under switching condition	T_{jop}		-40...+(T_{jmax} - 25)	°C

Isolation Properties

Isolation voltage	V_{isol}	DC Test Voltage $t_p = 2\text{ s}$	6000	V
Isolation voltage	V_{isol}	AC Voltage $t_p = 1\text{ min}$	2500	V
Creepage distance			>12,7	mm
Clearance			>12,7	mm
Comparative Tracking Index	CTI		≥ 175	



Vincotech

Characteristic Values

Parameter	Symbol	Conditions					Values			Unit
		V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max		

Inverter Switch

Static

Gate-emitter threshold voltage	$V_{GE(th)}$			10	0,0035	25	5,4	6	6,6	V
Collector-emitter saturation voltage	$V_{CE(sat)}$		15		35	25 125 150		1,55 1,75 1,8	1,85	V
Collector-emitter cut-off current	I_{CES}		0			25			0,08	mA
Gate-emitter leakage current	I_{GES}		0	0		25			0,5	μ A
Input capacitance	C_{ies}	f =	0	10		25		7900		pF
Output capacitance	C_{oes}							270		pF
Reverse transfer capacitance	C_{res}							97		pF
Gate charge	Q_g	$V_{CC} = 600$ V	15		35	25		260		nC

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{foil}=220$ W/mk (KU-ALF5)						0,55		K/W
-------------------------------------	---------------	--	--	--	--	--	--	------	--	-----

Inverter Diode

Static

Forward voltage	V_F				30	25		2,9	3,84	V
Reverse leakage current	I_R			1300		25			1,6	μ A

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{foil}=220$ W/mk (KU-ALF5)						0,74		K/W
-------------------------------------	---------------	--	--	--	--	--	--	------	--	-----



Vincotech

Characteristic Values

Parameter	Symbol	Conditions					Values			Unit
		V_{GS} [V]	V_{GE} [V]	V_{DS} [V]	V_{CE} [V]	T_j [°C]	Min	Typ	Max	

Thermistor

Static

Rated resistance	R					25		4,7		kΩ
Deviation of R100	$A_{R/R}$	$R_{100} = 426 \Omega$				100	-12		11	%
Power dissipation	P							200		mW
Power dissipation constant						25		2		mW/K
B-value	$B_{(25/50)}$					25		3500		K
B-value	$B_{(25/100)}$					25		3560		K
Vincotech Thermistor Reference									G	



Vincotech

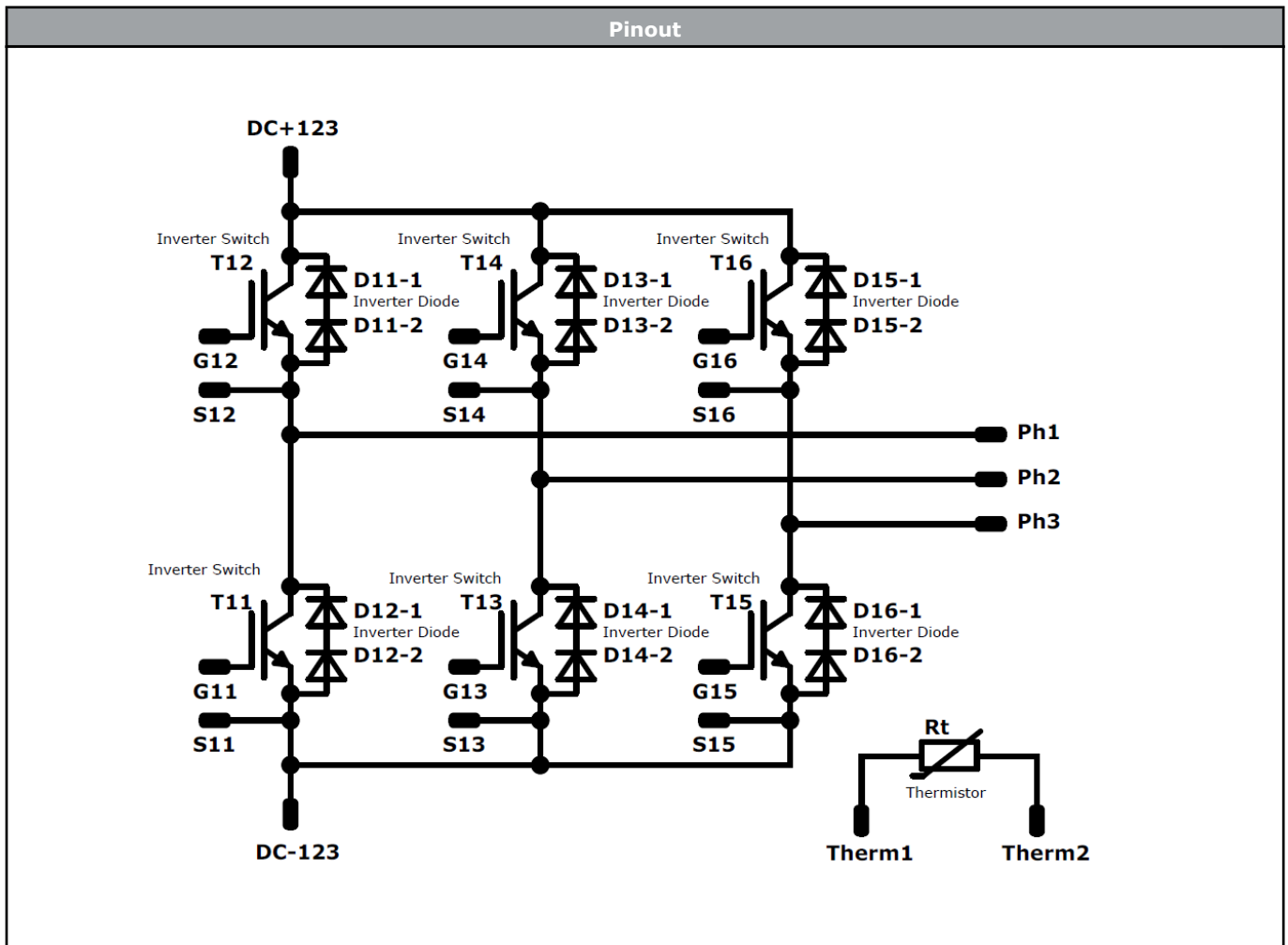
10-P1126TA035M7-L827F79Y
target datasheet

Ordering Code & Marking								
Version			Ordering Code					
without thermal paste 17mm housing with solder pins			10-P1126TA035M7-L827F79Y					
with thermal paste 17mm housing with solder pins			10-P1126TA035M7-L827F79Y-3/					
NN-NNNNNNNNNNNNNN TTTTITTV WWYY UL VIN LLLLL SSSS			Text	Name	Date code	UL & VIN	Lot	Serial
				NN-NNNNNNNNNNNNNN-TTTTITTV	WWYY	UL VIN	LLLLL	SSSS
			Datamatrix	Type&Ver	Lot number	Serial	Date code	
			TTTTITTV	LLLLL	SSSS	WWYY		

Pin table [mm]				Outline	
Pin	X	Y	Function	<p style="text-align: right;">Tolerance of pinpositions: ±0.5mm at the end of pins Dimension of coordinate axis is only offset without tolerance</p>	
1	52,6	0	DC-123		
2	49,9	0	DC-123		
3	42,65	0	G15		
4	39,65	0	S15		
5	35,15	0	Therm1		
6	28,4	0	Therm2		
7	24	0	G13		
8	21	0	S13		
9	12,2	0	G11		
10	9,2	0	S11		
11	2,7	0	DC-123		
12	0	0	DC-123		
13	0	14,65	DC+123		
14	2,7	14,65	DC+123		
15	0	28,6	Ph1		
16	2,7	28,6	Ph1		
17	5,4	28,6	Ph1		
18	9,6	28,6	S12		
19	12,6	28,6	G12		
20	19,6	28,6	Ph2		
21	22,3	28,6	Ph2		
22	25	28,6	Ph2		
23	29,7	28,6	S14		
24	32,7	28,6	G14		
25	39,7	28,6	S16		
26	42,7	28,6	G16		
27	47,2	28,6	Ph3		
28	49,9	28,6	Ph3		
29	52,6	28,6	Ph3		
30	52,6	14,65	DC+123		
31	49,9	14,65	DC+123		



Vincotech




Identification					
ID	Component	Voltage	Current	Function	Comment
T11, T12, T13, T14, T15, T16	IGBT	1200 V	35 A	Inverter Switch	
D11, D12, D13, D14, D15, D16	FWD	1300 V	30 A	Inverter Diode	
Rt	Thermistor			Thermistor	



Packaging instruction				
Standard packaging quantity (SPQ) 100	>SPQ	Standard	<SPQ	Sample

Handling instruction
Handling instructions for <i>flow 1</i> packages see vincotech.com website.

Package data
Packaging data for <i>flow 1</i> packages see vincotech.com website.

UL recognition and file number
This device is certified according to UL 1557 standard, UL file number E192116. For more information see vincotech.com website. 

Document No.:	Date:	Modification:	Pages
10-P1126TA035M7-L827F79Y-T1-14	4 Oct. 2019	Initial Release	

Product status definition		
Datasheet Status	Product Status	Definition
Target	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice. The data contained is exclusively intended for technically trained staff.

Disclaimer

The information, specifications, procedures, methods and recommendations herein (together "information") are presented by Vincotech to reader in good faith, are believed to be accurate and reliable, but may well be incomplete and/or not applicable to all conditions or situations that may exist or occur. Vincotech reserves the right to make any changes without further notice to any products to improve reliability, function or design. No representation, guarantee or warranty is made to reader as to the accuracy, reliability or completeness of said information or that the application or use of any of the same will avoid hazards, accidents, losses, damages or injury of any kind to persons or property or that the same will not infringe third parties rights or give desired results. It is reader's sole responsibility to test and determine the suitability of the information and the product for reader's intended use.

LIFE SUPPORT POLICY

Vincotech products are not authorised for use as critical components in life support devices or systems without the express written approval of Vincotech.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in labelling can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.