



Vincotech

PACKAGED TO MEET YOUR MID-POWER NEEDS

The new low-profile package
for motion control, solar and
UPS applications

EMPOWERING YOUR IDEAS

VINco E3 PACKAGED TO MEET YOUR MID-POWER NEEDS

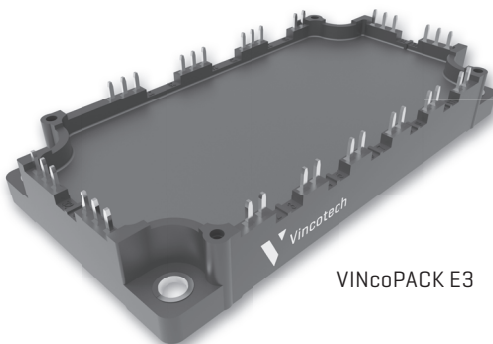
VINco E3, our latest mid-power package, features SoLid Cover (SLC) technology in the industry-standard low-profile housing. The VINco E3 enables engineers to design mid-power inverters with higher output current, greater power density and improved reliability for industrial drives, solar power, UPS and other applications.

Key features

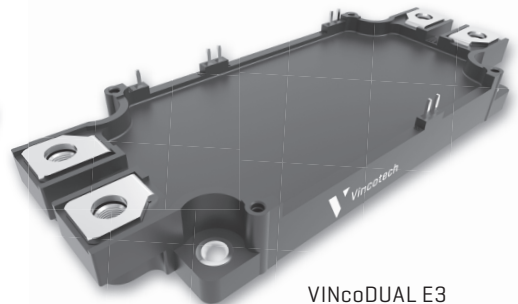
- / Low-loss, new gen-7 chip technology
- / New SLC and Insulated Metal Baseplate (IMB) technology
- / Superior thermal cycling capability
- / "Pump-out free" with matched CTE values (IMB, resin, case)
- / Low-profile package
- / Integrated NTC
- / Press-fit pins and pre-applied Phase Change Material

User benefits

- / Extended module life time
- / Increased power density
- / Simple mounting and easy inverter design and manufacturing

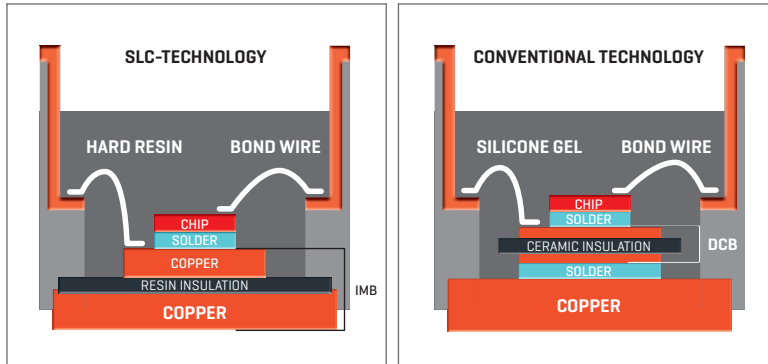


VINcoPACK E3



VINcoDUAL E3

VINco E3's new SoLiD Cover technology



Structure comparison between conventional technology and the new SLC technology

The VINco E3 is based on SLC, a newly developed package technology.

The new IMB [Insulated Metal Baseplate] combines an electrically insulating resin layer with a direct-bonded, topside and bottom-side copper layer.

It replaces the substrate solder layer and separate baseplate to achieve

- / High thermal cycling capability
- / Reduced thermal resistance
- / High power density and low stray inductance

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

- / Improved power cycling capability

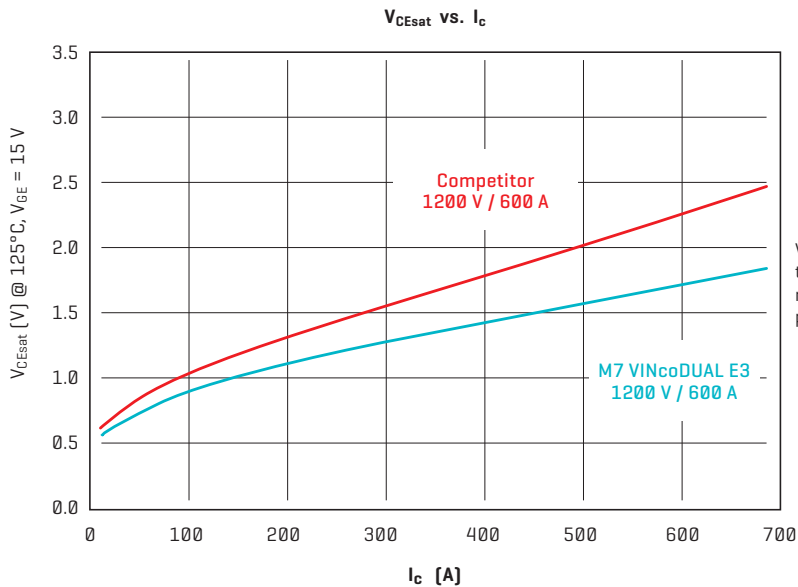
VINco E3 with the new IGBT M7

Key features

- / Ultra-thin wafer processing technology (N^- drift layer)
- / Optimized cell design (gate capacitance)

Benefits

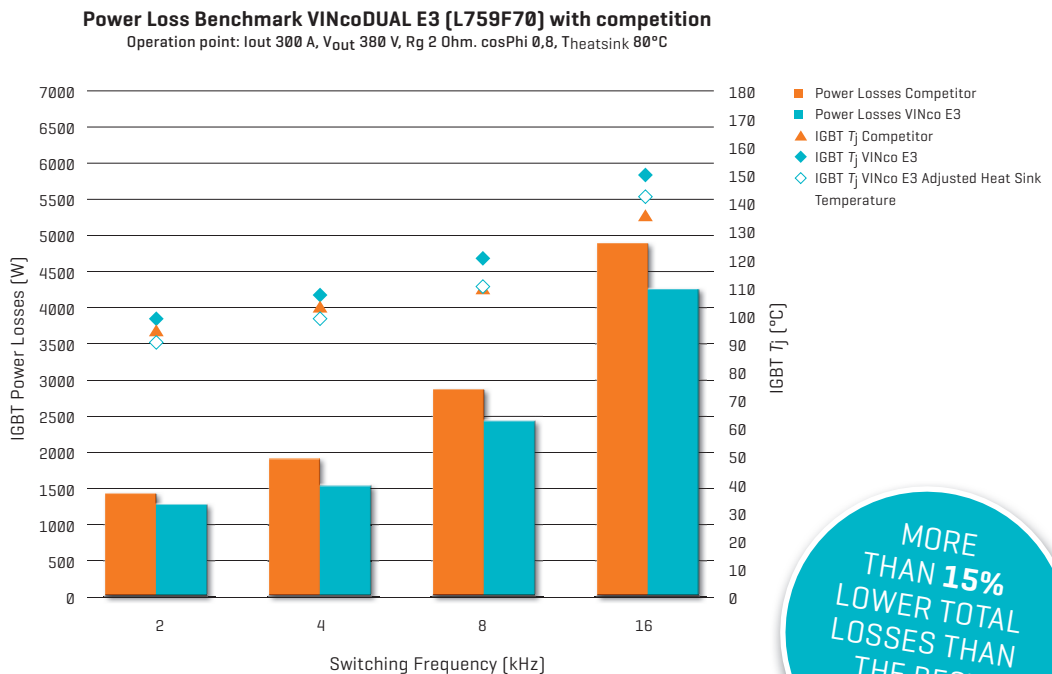
- / Lowest on state V_{CEsat}
- / Low switching losses
- / Improved SOA capability
- / Easier-to-control dv/dt with R_g



V_{CEsat} @ I_c 600A 23% lower than the competition, significantly reducing static losses for superior performance

VINco E3 benchmark application

VincotechISE, our Integrated Simulation Environment, served to benchmark the VINco E3's total power losses in comparison with rival products using a half-bridge configuration. All power loss and temperature calculations are based on actual measurements taken of each module.



MORE
THAN **15%**
LOWER TOTAL
LOSSES THAN
THE BEST
COMPETITOR

VINco E3

line-up at a glance

- / VINco E3 will be available in 650 V, 1200 V and 1700 V versions for scalable platform designs
- / IGBT M7 and Trench IGBT3/IGBT4 chips available from multiple sources to protect your supply lines

Topology	Housing	V _{CES} 650 V	V _{CES} 1200 V	V _{CES} 1700 V	Chip Technology
Half-Bridge	VINcoDUAL E3	300 A*	200 A	300 A*	IGBT M7 / Trench IGBT3 / IGBT4*
Half-Bridge	VINcoDUAL E3	300 A*	300 A	300 A*	IGBT M7 / Trench IGBT3 / IGBT4*
Half-Bridge	VINcoDUAL E3	450 A*	450 A	450 A*	IGBT M7 / Trench IGBT3 / IGBT4*
Half-Bridge	VINcoDUAL E3	600 A*	600 A	600 A*	IGBT M7 / Trench IGBT3 / IGBT4*
Half-Bridge	VINcoDUAL E3		800 A*		IGBT M7
SIXPACK	VINcoPACK E3	100 A*	100 A	100 A*	IGBT M7 / Trench IGBT3 / IGBT4*
SIXPACK	VINcoPACK E3	150 A*	150 A	150 A*	IGBT M7 / Trench IGBT3 / IGBT4*
SIXPACK	VINcoPACK E3	200 A*	200 A		IGBT M7 / Trench IGBT3 / IGBT4*

* Under development





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