



Vincotech

# 更多选择， 更加安全

用于低功率运动控制，  
搭配IGBT M7的*flowE1/E2*

EMPOWERING YOUR IDEAS

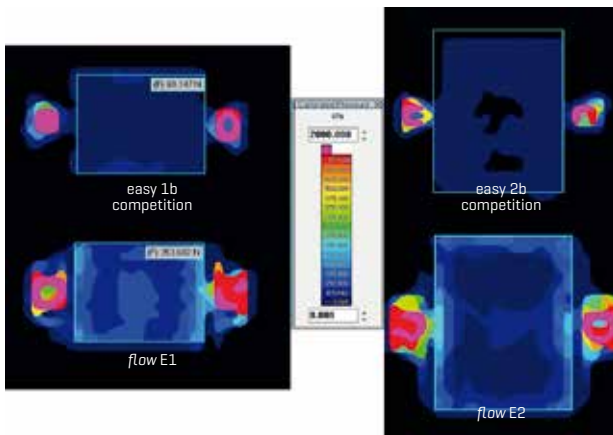
## 主要特征

- / 完全兼容的封装
- / 相同的印刷电路板规格适用于压接和焊接引脚
- / 引脚输出与标准拓扑相同
- / 标准拓扑（CIB、sixpack）的完整产品线

## 主要硬件特征

- / 12 mm低电感标准工业封装
- / 预弯DCB可与散热器发生良好的热接触
- / CTI 600封装材料
- / 压接引脚带泄压区
- / 可选相变材料

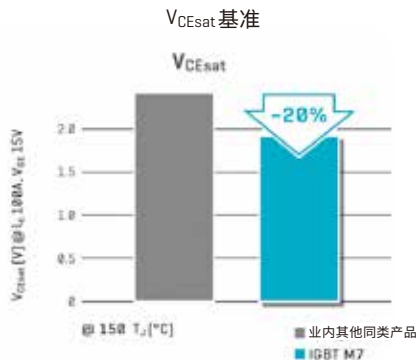
### flow E1/ flow E2与竞品的压力分布的比较分析



flowE模块与  
散热器的热接触  
得到大幅改善，  
从而降低了 $R_{th} [J-S]$

## IGBT M7 的主要电气特性

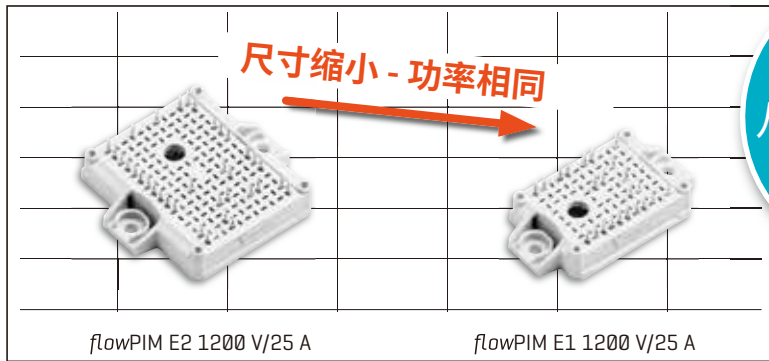
- /  $V_{CEsat}$ 电压等级最低
- / 优化了动态损耗
- / 续流二极管特性更软
- / 增强了dV/dt的可控性



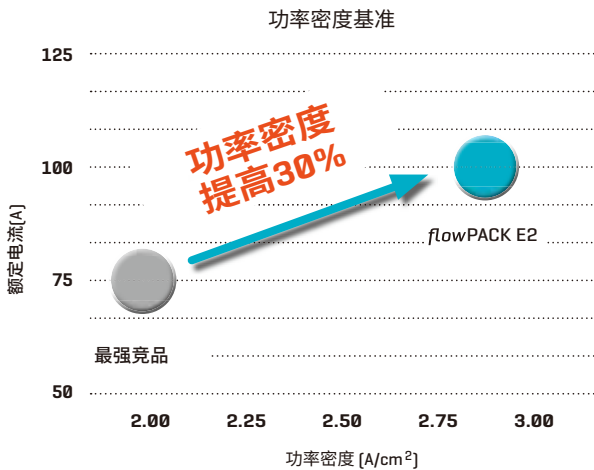
## 客户受益

- / 可靠性更高，热性能更好， $R_{th}$ 比竞品低15%
- / 在小封装中，功率密度更高；在相同封装中，功率更大
- / 损耗低，可满足对高效率的需求
- / 降低系统成本

借助1200 V的flowE，可在较小的flowE1封装中实现50 A的最大额定电流。因此，可以在尺寸缩小35%的封装中获得相同的功率，实现更为紧凑的逆变器设计。



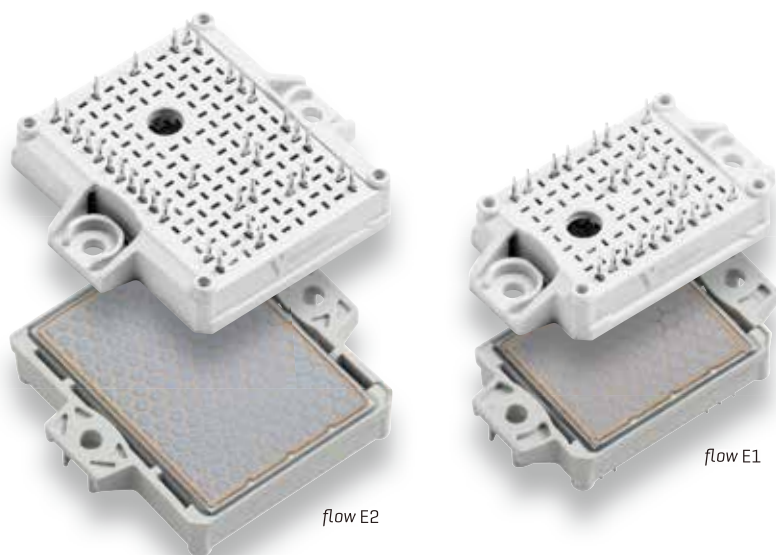
使用flowE2封装，可将最大电流从75A增加到100A，从而使功率密度增大30%。



# 减少供应链问题， 提升性能

## 采用IGBT M7的全新*flow*PIM和*flow*PACK E1/E2

每家企业都渴望拥有更可靠的供应链。在我们的业务范围内，我们采取多源采购策略来保证供应链的流畅；其方案是在设计时同时考虑机械和电气元件的因素。例如用于低功率电机驱动应用的*flow*E标准工业封装就是一个典型的例子，目前在此系列产品中，*flow*E1/E2搭载了IGBT M7芯片技术。



## Vincotech 1200 V *flow* E IGBT4 vs. IGBT M7

开发新型PIM (CIB)和sixpack配置，扩展功率范围至对应的50A和100A。

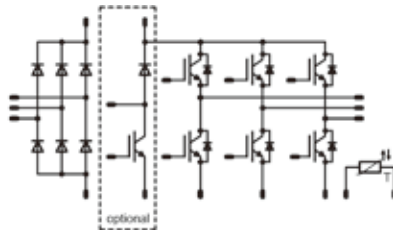
拓扑结构	封装	技术	I <sub>nom</sub> [A]						
			10	15	25	35	50	75	100
PIM (CIB)	<i>flow</i> E1	IGBT4	■	■					
		IGBT M7	■	■	◆				
	<i>flow</i> E2	IGBT4		■	■	■			
		IGBT M7		■	■	■	◆		
SIXPACK	<i>flow</i> E1	IGBT4			■	■			
		IGBT M7			■	■	◆		
	<i>flow</i> E2	IGBT4					■	■	
		IGBT M7					■	■	◆

◆ 功率扩展

更多选择，更加安全——这便是Vincotech为满足客户对更可靠供应链的需要而推出的解决方案。新型*flow*E IGBT M7通过各种机械和电气级别的真正多供应商选项，为客户提供了自由选择权。

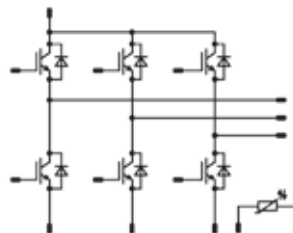
### *flow*PIM E1/E2

欲了解全系列产品，敬请访问  
[www.vincotech.com/flowPIM-E](http://www.vincotech.com/flowPIM-E)



### *flow* PACK E1/E2

欲了解全系列产品，敬请访问  
[www.vincotech.com/flowPACK-E](http://www.vincotech.com/flowPACK-E)





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Vincotech

# MORE CHOICES, GREATER SECURITY

*flow* E1/E2 with IGBT M7  
for low-power motion control

EMPOWERING YOUR IDEAS

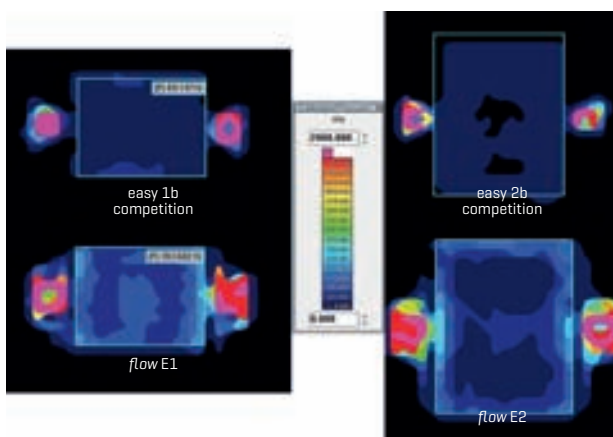
## Key features

- / Fully compatible housing
- / Same PCB specification for Press-fit and solder pins
- / Same pin-out as standard topologies
- / Full product line for standard topologies (CIB, sixpack)

## Key hardware features

- / 12 mm, low-inductive standard industrial package
- / Pre-bent DCB for excellent thermal contact to heat sink
- / CTI 600 housing material
- / Press-fit pins with stress-relieved zone
- / Optional phase-change material

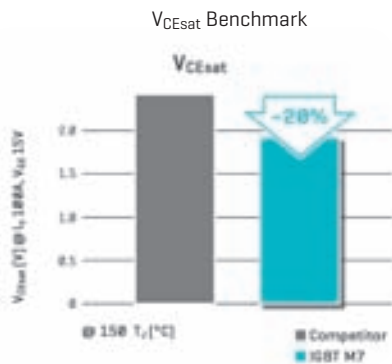
### Pressure distribution benchmark for *flow E1* / *flow E2* and the competition



THE *flow E* MODULES THERMAL CONTACT TO THE HEAT SINK IS MUCH BETTER, RESULTING IN LOWER  $R_{th[J-S]}$

## Key electrical features IGBT M7

- / Lowest on-stage voltage  $V_{CEsat}$
- / Optimized dynamic losses
- / Improved FWD softness
- / Enhanced  $dV/dt$  control

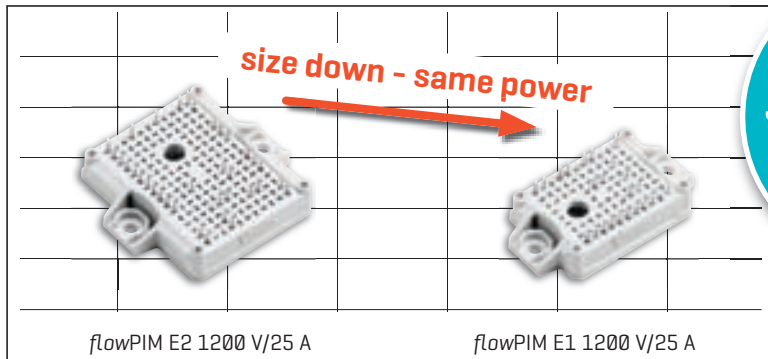




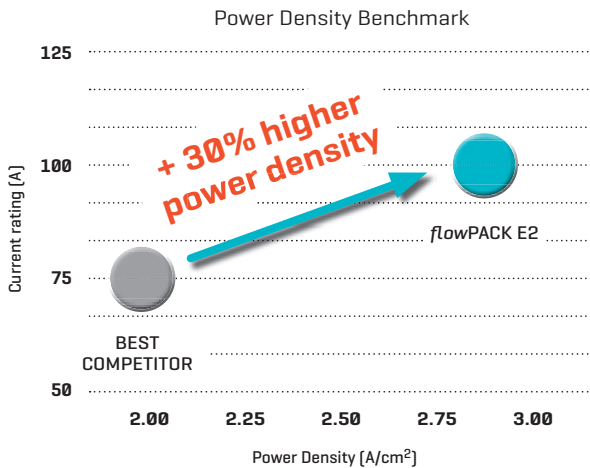
## Customer benefits

- / Greater reliability, better thermal performance with 15% lower  $R_{th}$  than competing products
- / Higher power density in a smaller package or more power from the same package
- / Low losses to meet discriminating demands for high efficiency
- / Lower system costs

With *flow* E featuring 1200 V, a maximum current rating of 50 A can be realized in a smaller *flow* E1 housing. Thus, the same power can be achieved in a 35% smaller package for a more compact inverter design.



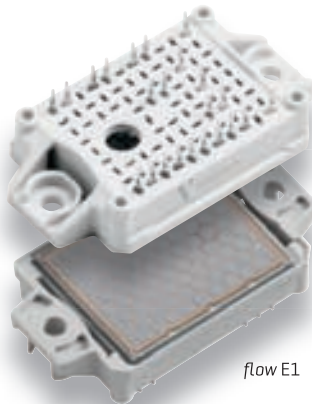
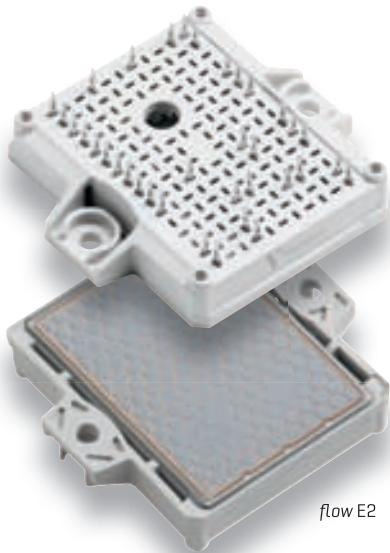
With the *flow* E2 package, a 30% higher power density can be achieved by increasing the maximum current from 75 A up to 100 A.



# FEWER SUPPLY CHAIN ISSUES, TOP PERFORMANCE

## New *flow*PIM & *flow*PACK E1/E2 with IGBT M7

Every business wants a more reliable supply chain. And in our line of business, it takes a multi-sourcing strategy to make that happen; a policy that factors both mechanical and electrical components into the design. Vincotech covers both with the *flow*E standard industry package for low-power motor drive applications. Rounding out our range, *flow* E1/E2 ships with IGBT M7 chip technology.



## Vincotech 1200 V *flowE* IGBT4 vs. IGBT M7

Discover the new PIM [CIB] and sixpack configurations with power ranges extending up to 50 A and 100 A, respectively.

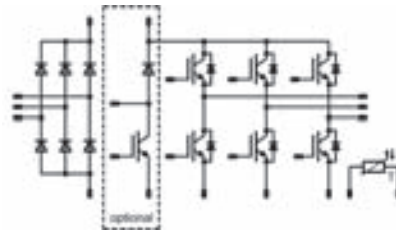
Topology	Package	Technology	$I_{Cnom}[A]$						
			10	15	25	35	50	75	100
PIM [CIB]	<i>flowE</i> 1	IGBT4	■	■					
		IGBT M7	■	■	◆				
	<i>flowE</i> 2	IGBT4		■	■	■			
		IGBT M7		■	■	■	◆		
SIXPACK	<i>flowE</i> 1	IGBT4			■	■			
		IGBT M7			■	■	◆		
	<i>flowE</i> 2	IGBT4					■	■	
		IGBT M7					■	■	◆

◆ Power Extension

More choices, greater security – that is Vincotech’s answer to customer demands for a more reliable supply chain. The new *flowE* IGBT M7 affords customer’s freedom of choice with real multi-sourcing options at every mechanical and electrical level.

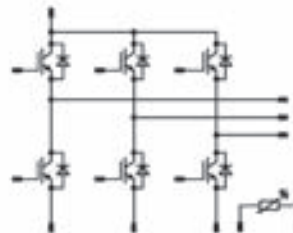
### *flowPIM E1/E2*

For the full range of products, please visit [www.vincotech.com/flowPIM-E](http://www.vincotech.com/flowPIM-E)



### *flowPACK E1/E2*

For the full range of products, please visit [www.vincotech.com/flowPACK-E](http://www.vincotech.com/flowPACK-E)



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