



Vincotech

最新基于IGBT 5的模块

提高效率 and 降低成本。

EMPOWERING YOUR IDEAS

提高效率 降低成本

新款 *flow*NPC 采用

IGBT TRENCHSTOP™ 5

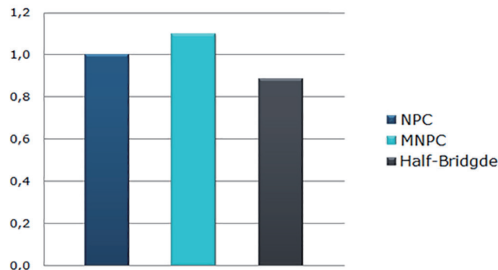
简介:

- 虽然两电平模块更便宜,但在性能和总系统成本方面并没有竞争力
- 采用新型第5代IGBT Trenchstop™,即使使用Si二极管,NPC仍可提供8 kHz以上的最佳性能
- 在相同的额定电流下,NPC成本比MNPC低10%

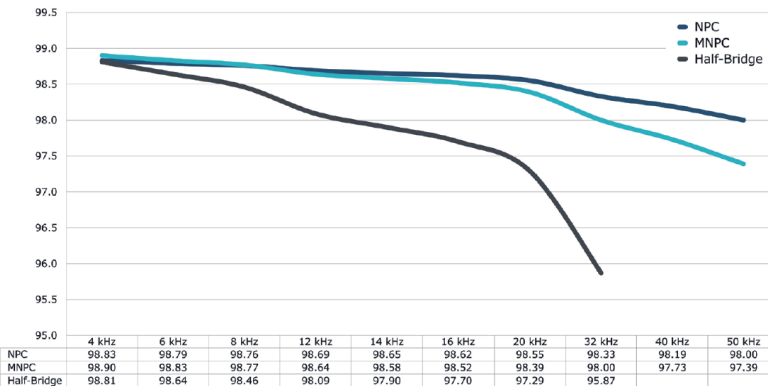
拓扑结构:



成本

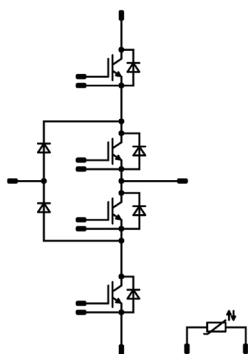


效率VS频率 (%)



产品组合 已上市

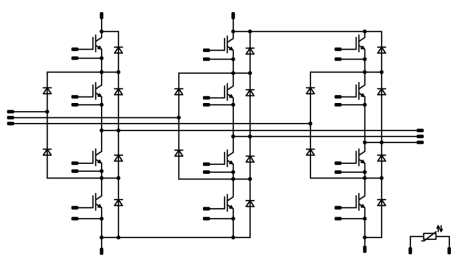
三电平 NPC (I型)



产品型号	产品线	输入电压 (V)	输入电流 (A)	主芯片技术	封装系列
10-F007NIA030SM -P965F39	flowNPC 0 IGBT	1200	30	IGBT H5	flow 0
10-F007NIA030SM01 -P965F49	flowNPC 0 IGBT	1200	30	IGBT H5	flow 0
10-FZ07NIA060SM -P926F43	flowNPC 0 IGBT	1200	60	IGBT H5	flow 0
10-FZ07NIA075SM -P926F58	flowNPC 0 IGBT	1200	75	IGBT H5	flow 0
10-PY07NIB080SM03 -L095F03Y	flowNPC 1	1200	80	IGBT H5	flow 1
10-FZ07NIA100S502 -P927F58	flowNPC 0	1200	100	IGBT S5	flow 0
10-FY07NIA150S5 -M516F58	flowNPC 1	1200	150	IGBT S5	flow 1
10-FY07NPA150SM01 -L364F08	flowNPC 1	1200	150	IGBT H5 + L5	flow 1
10-FY07NPA150SM02 -L365F08	flowNPC 1	1200	150	IGBT H5	flow 1
10-FY07NPA200SM02 -L366F08	flowNPC 1	1200	200	IGBT H5	flow 1
30-FT07NIB200S502	flowNPC 2	1200	200	IGBT S5	flow 2
30-FT07NIB300S502 -LE06F58	flowNPC 2	1200	300	IGBT S5	flow 2

产品组合
已上市

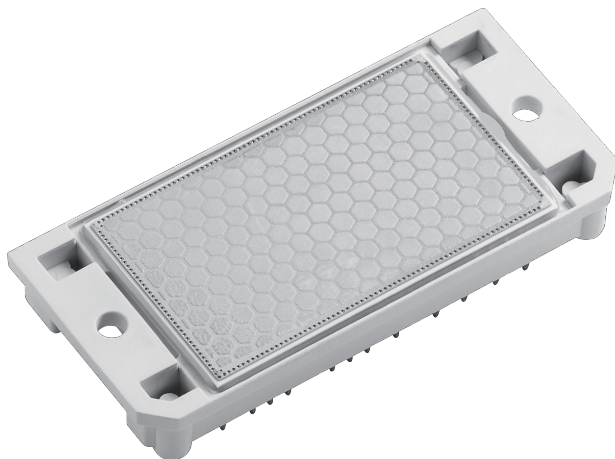
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产品型号	产品线	输入电压 (V)	输入电流 (A)	主芯片技术	封装系列
10-PY07N3A015SM -M892F08Y	flow3xNPC 1	1200	15	IGBT H5	flow 1
10-PY07N3A030SM -M894F08Y	flow3xNPC 1	1200	30	IGBT H5	flow 1
10-PY07N3A050SM -M896F04Y	flow3xNPC 1	1200	50	IGBT H5	flow 1

A black and white photograph of a hand holding a pen, with the pen's nibs in focus. The background is heavily blurred, showing a pattern of light and dark circles. The text 'IGBT 5' is overlaid in a bold, orange font at the bottom left.

IGBT 5



特点:

- 最新的IGBT 5技术
- 超低价格, 超高效率
- 低电感布局和封装
- 开关频率高达50 kHz, 无SiC器件
- 适合太阳能逆变器和UPS应用
- 可提供预涂的相变材料和压接管脚

优势:

- 与IGBT HS 3相比, 相同效率下可实现双倍开关频率
 - 较小的无源元件, 降低成本
 - 与IGBT HS 3相比, 16 kHz时的效率提高了0.2%
-

市场和趋势

- 三电平模块四象限运行的需求正在增加
- 太阳能应用更低的功率因数需求
- 三电平模块越来越广泛引用在UPS行业
- 开关频率的目标至少是当前16-17 kHz的两倍
- 对现有的封装提出更高的功率要求
- 太阳能应用中的价格压力继续增加

在这种市场趋势下, 使用基于IGBT 5的NPC模块可以为您提供完美的解决方案。



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BOOST EFFICIENCY AND SLASH COSTS

flow NPC WITH IGBT TRENCHSTOP™ 5

EMPOWERING YOUR IDEAS

BOOST EFFICIENCY AND SLASH COSTS

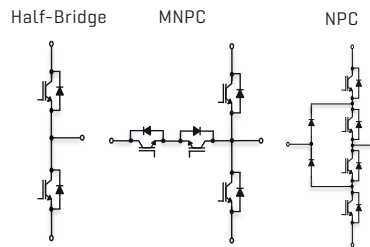
*flow*NPC WITH IGBT TRENCHSTOP™ 5

Introduction: Inverter Topologies Benchmark

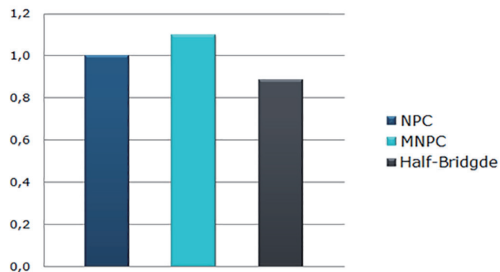
Conclusion:

- Even if two-level modules are cheaper, they are not competitive in performance and total system costs
- With the new IGBT Trenchstop™ 5 generation, NPC delivers the best performance starting above 8 kHz when Si components are used
- NPC costs are 10 % lower than MNPC for the same current rating

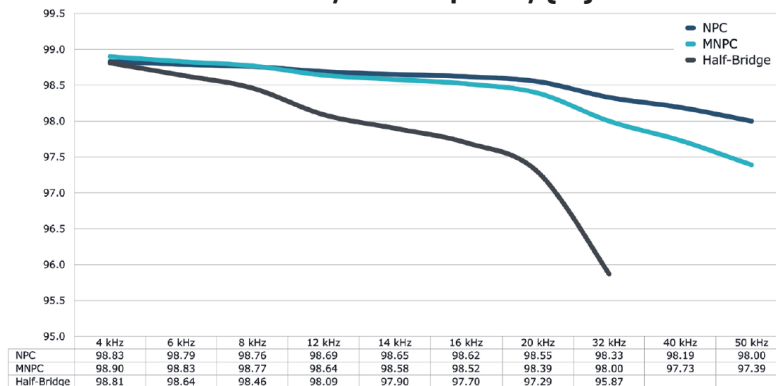
Topologies:



Cost

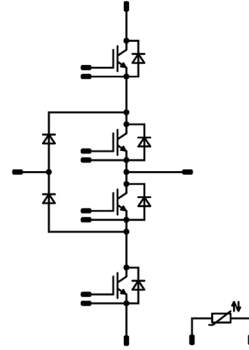


Efficiency vs. Frequency [%]



ALREADY AVAILABLE PRODUCT PORTFOLIO

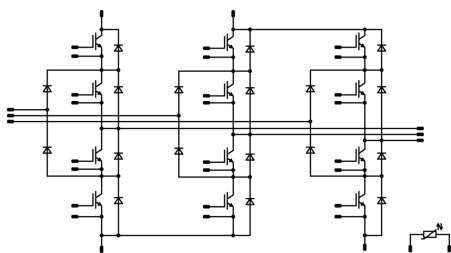
THREE-LEVEL NPC (I-TYPE)



PART-NO	PRODUCT LINE	VOLTAGE IN V	CURRENT IN A	MAIN CHIP TECHNOLOGY	HOUSING FAMILY
10-F007NIA030SM -P965F39	flowNPC 0 IGBT	1200	30	IGBT H5	flow 0
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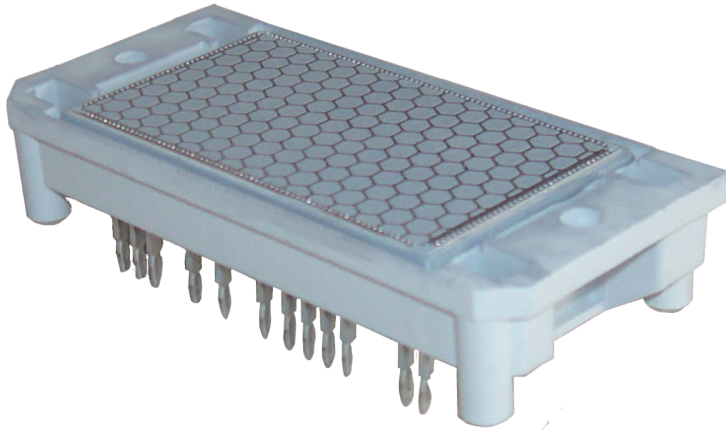
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10-PY07N3A030SM -M894F08Y	<i>flow</i> 3xNPC 1	1200	30	IGBT H5	<i>flow</i> 1
10-PY07N3A050SM -M896F04Y	<i>flow</i> 3xNPC 1	1200	50	IGBT H5	<i>flow</i> 1

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IGBT 5



Features:

- Latest chip technology with IGBT S5 & L5
- Highest efficiency at lowest price
- Low inductive layouts and packages
- Switching frequencies up to 50 kHz without SiC
- Optimized for Solar and UPS's output stage
- Available with pre-applied phase change material and Press-fit

Customer's Benefits:

- Double switching frequency with same efficiency compared to IGBT HS 3
 - Cost reduction by smaller passive components
 - 0,2% better efficiency @ 16 kHz compared to IGBT HS 3
-

Introduction:

MARKET AND TRENDS

- The demand for bidirectional three-level modules is increasing
- Lower cost for solar applications
- Higher demand of three-level modules for UPS
- The target for switching frequency is to at least double the current 16-17 kHz
- More power is required from the existing housings
- The price pressure continues to increase specially in Solar applications
- The IGBT H5 is difficult to control and shows a poor EMI behavior

These challenges can be solved using full IGBT 5 NPC modules

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