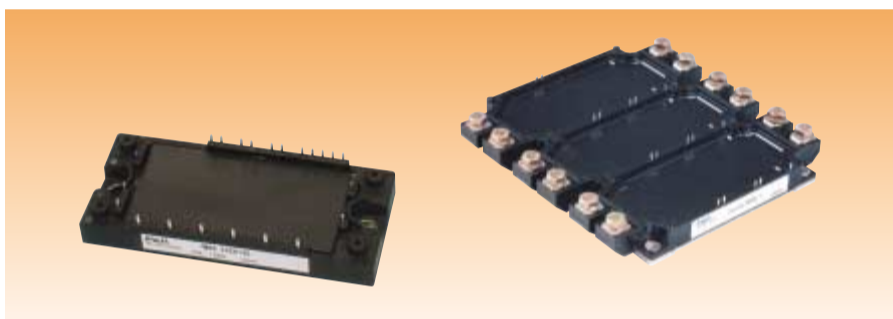


富士电机第五代IGBT模块U-系列

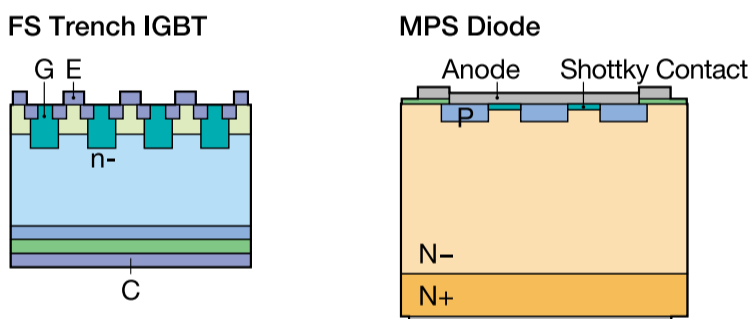
Fuji 5th Gen. IGBT Module U-series

设计理念 Concept of the development

- 强调整体系统温度的含散热片之最强元器件
- 低损耗高效能低噪音之第五代IGBT及FWD
- 多元化产品系列(小型封装至大功率模块)
- 并联使用简单(改进芯片特性及端子位置)
- Best device for system by total thermal consideration including cooling fin.
- Low loss, high efficiency, low noise, by using 5th gen. IGBT and FWD.
- Abundant products line-up. (from Small-PACK up to High power module)
- Easy to parallel connection. (Improved chip characteristics and terminal layout of the package)



U-系列片芯结构 U-series Chip structure



U-系列IGBT 模块产品索引图

U-series IGBT Module Line-up Plan (PKG No.)

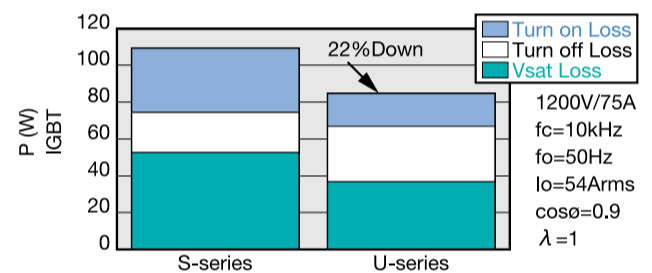
VCES	PKG	Ic rating														
		5A	10A	15A	20A	30A	50A (5.5kW)	75A	100A (11kW)	150A	200A (22kW)	300A	400A (40kW)	600A		
600V	Small-PIM	Small-PIM														
	PIM			EP2/HEP2			EP3/HEP3									
	6in1									TBD (7in1)				ECONOPACK ⁺ -Plus (6in1)		
	2in1									M232		M233		M238		
1200V	Small-PIM	Small-PIM														
	PIM			EP2/HEP2			EP3/HEP3									
	6in1									New PC3 (6in1) with NTC		TBD (7in1)		ECONOPACK-Plus (6in1)		
	2in1/1in1									M232		M233		M238		
	PIM/6in1									M234		M235		M138		
1700V	6in1									New PC3 (with Shunt R)						
	2in1									New PC3 with NTC		ECONOPACK-Plus (6in1)				

特性：600V Trench-NPT比较统S-系列低 30%功耗
1200V Trench-FS 比较统S-系列低 22%功耗

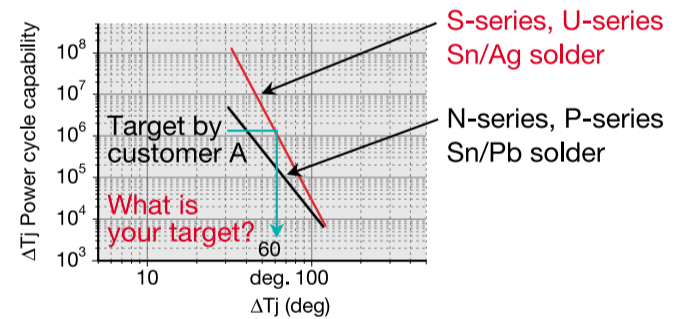
特性 Features

- 1200V: FS-trench IGBT($V_{ce(sat)}=2.0V @125C$)
- 600V: NPT-trench IGBT($V_{ce(sat)}=1.8V @125C$) Trench生产技术减少功耗
- MPS-FWD软反向恢复技术
- 多元化产品及封装(Econo系列)1200V/600V: 10A-600A 88款式/14类封装
- 改进芯片接线技术改善电力曲线
- 1200V: FS-trench IGBT($V_{ce(sat)}=2.0V @125C$)
600V: NPT-trench IGBT($V_{ce(sat)}=1.8V @125C$)
These technologies make power loss lower
- Soft reverse recovery by MPS-FWD technology
- Abundant circuit configuration and smaller package (Econo series)
1200V/600V: 10A-600A 88types/14kinds of package.
- Improved power cycle capability by optimized wire bonding and using Sn based solder

Simulated Inverter Power Loss (fc=10kHz, 180%load)



电力曲线图 Power cycle curve



Features: 600V Trench-NPT achieved 30% lower loss than conventional S-series.
1200V Trench-FS achieved 22% lower loss than conventional S-series.

★ "ECONOPACK" is a trade mark of eupec GmbH, Warstein.