

High-Voltage Schottky Diodes

Product Character

- Half Bridge Rectified、Common Cathode Structure.
- Multilayer Metal -Silicon Potential Structure.
- Beautiful High Temperature Character.
- Have Over Voltage protect loop, high reliability.
- RoHs Product.

Primary Use

- Low Voltage High Frequency Switching Power Supply.
- Low Voltage High Frequency Invers Circuit.
- Low Voltage Continued Circuit and Protection Circuit.

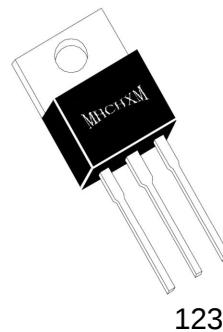
Summarize

- MBR4060CT/MBR4060FCT/MBR4060CD Device optimized for ultra-low forward voltage drop to maximize efficiency in Power Supply applications.

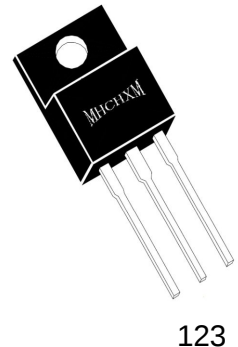
Device Weight :

ITO-220AB-1.48g TO-220AB-1.96g TO-263-1.78g

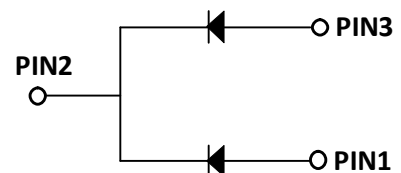
TO-220



ITO-220



TO-263



Absolute Maximum Ratings

Item	Symbol	Data	Unit
Maximal Inverted Repetitive Peak Voltage	VRRM	60	V
*Average Rectified Forward Current (Rated VR-20Khz Square Wave) - 50% duty cycle	IFAV	40	A
Typical Thermal Resistance (per leg) Package =TO-220AB/TO-263 Package =ITO-220AB	R _{θJc}	2	°C/W
		4	°C/W
Forward Peak Surge Current(Rated Load 8.3 Half Mssine Wave-According to JEDEC Method)	IFSM	400	A
Maximum Rate of Voltage Change (at Rated VR)	dv/dt	10000	V/uS
Peak Repetitive Reverse Surge Current (2uS-1Khz)	IRRM	1	A
Operating Junction Temperature	TJ	-40- +175	°C
Storage Temperature	TSTG	-40- +175	°C

Electricity Character

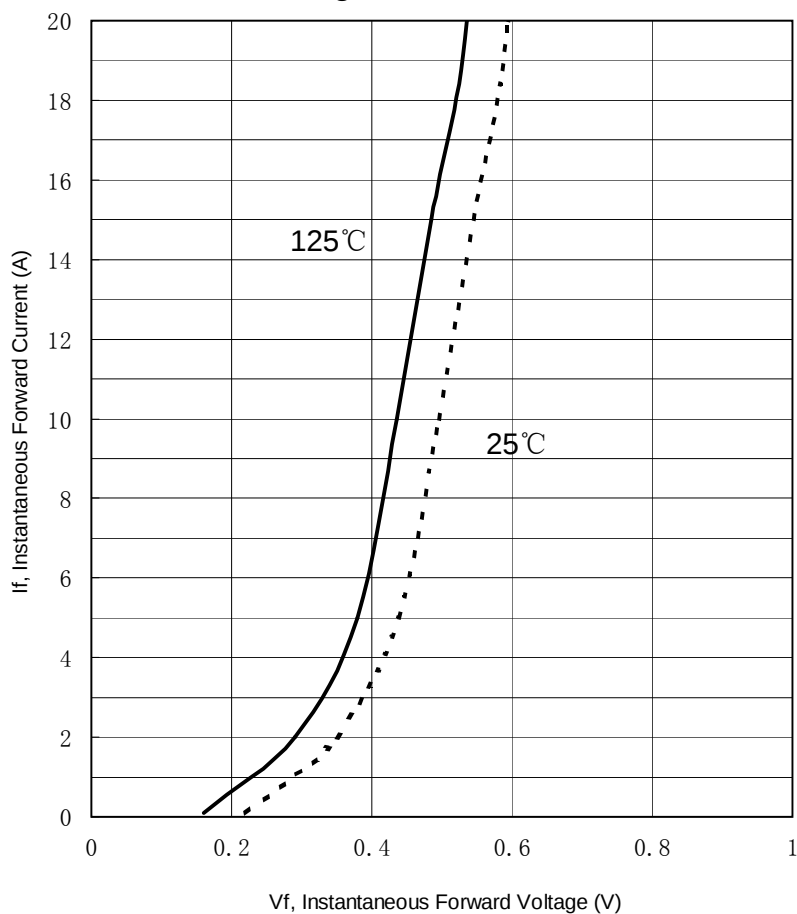
Item	Test Condition		TYP.	MAX.	Unit
IR	TJ =25°C	VR=VRRM		50	uA
	TJ =125°C			20	mA
VF	TJ =25°C	IF=20A	0.7	0.73	V
	TJ =125°C	IF=20A		0.63	V

*IF(AV)= 20A×2

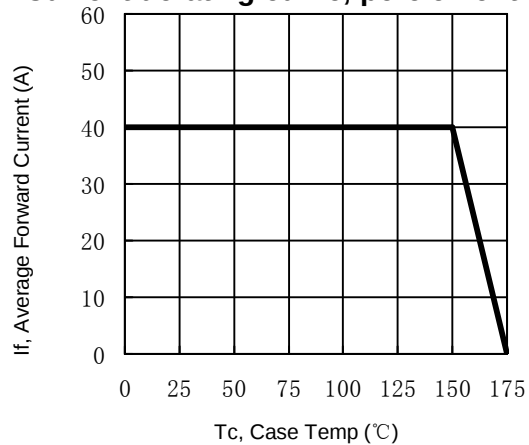
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Characteristic Curves

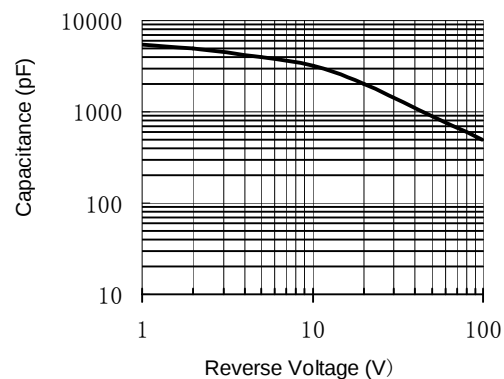
The forward voltage and forward current curve



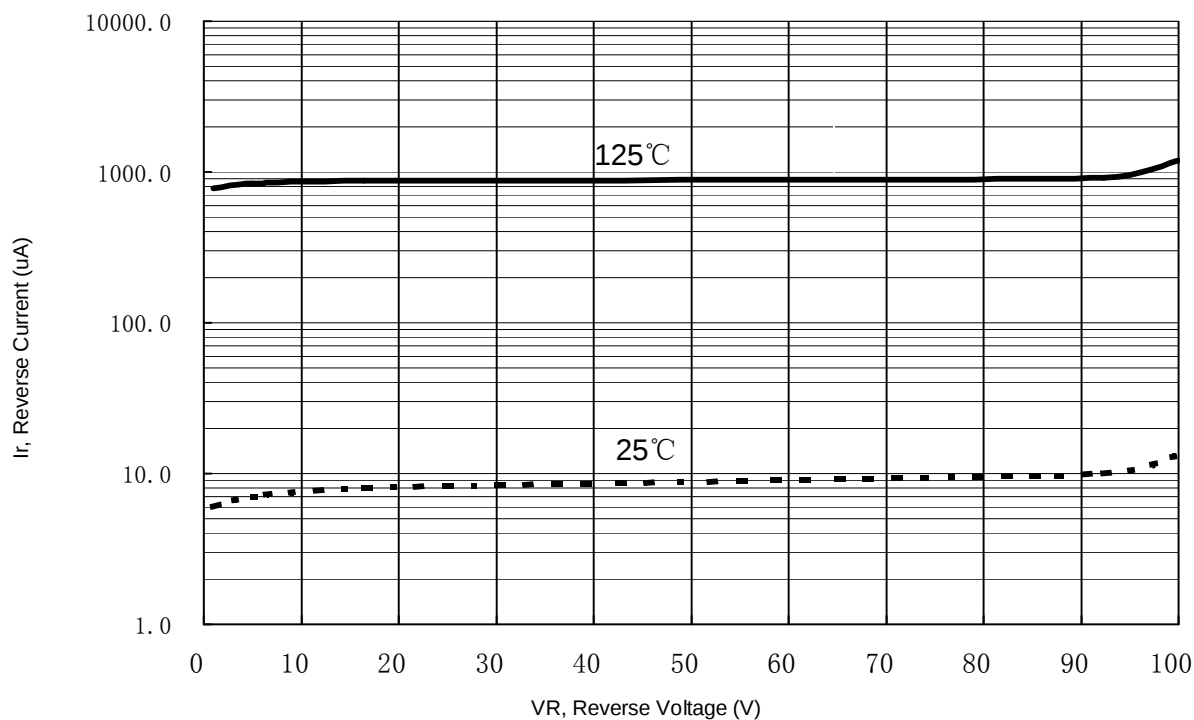
Current derating curve, per element



The crunode capacitance curve

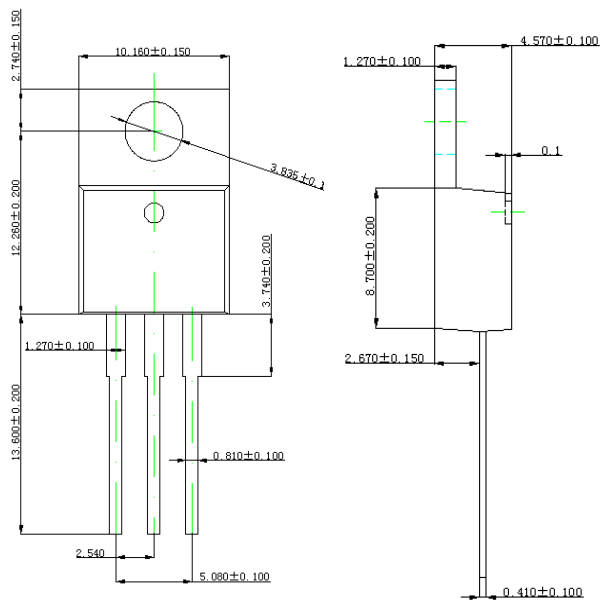


The reverse leak current and the reverse voltage (single-device) curve.

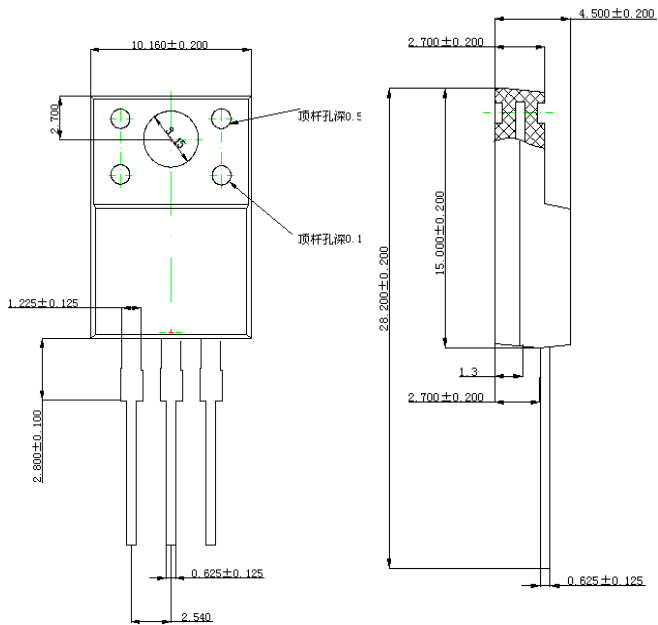


Package Outline Dimensions

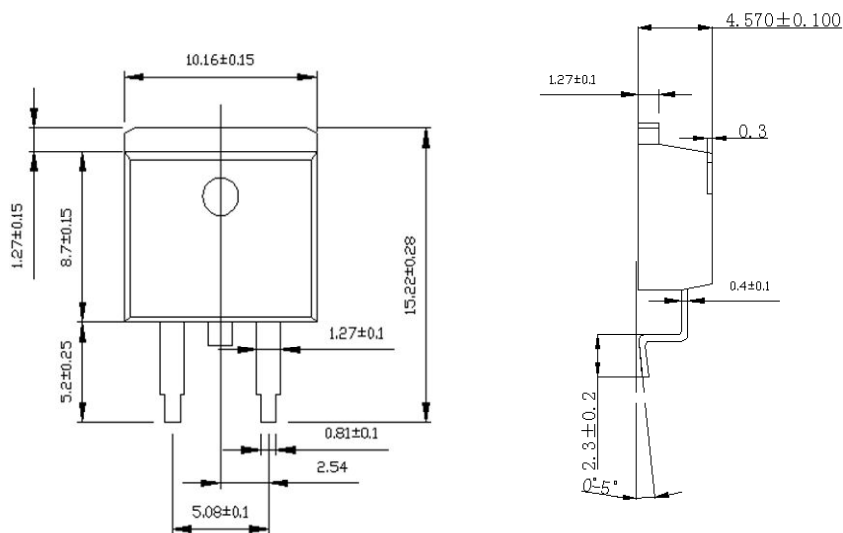
TO-220



ITO-220



TO-263



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Product Reliability Test Project

Sequence Number	Test Item	Test Conditions	Acceptance Criterion
1	High temperature reverse bias test	Temp.: 125℃； VR :100%VRRM; Test period: 168H	0 ACC 1 REJ
2	Pressure cooker test	Temp.: 121℃ ； Water vapor pressor: 0.2Mpa; Humidrty:100% ； Test period: 8H	0 ACC 1 REJ
3	High temperature storage life test	Temp. ： 150℃ Test period: 168H	0 ACC 1 REJ
4	Low temperature storage life test	Temp. ： -40℃ Test period: 168H	0 ACC 1 REJ
5	Temperature cycling test	Low Temp.: -40℃(30min)—Ta=25℃(30min)	0 ACC 1 REJ
		High Temp.: 150℃(30min)—Ta=25℃(30min)	
		Cycle Index: 10 times	
6	Thermal shock test	High Temp.:95~100℃	0 ACC 1 REJ
		Low Temp. ： -5~0℃	
		Cycle Index: 10times	
7	Resistance to soldering heat test	Temp.: 260±1℃； Test period ： 10±1sec	0 ACC 1 REJ
8	Solderability test	Temp.: 245±5℃； Test period ： 3±1sec	0 ACC 1 REJ
9	Damp heat, steady-state test	Temp.: 85±3℃； Humidrty: 85±5%RH; Test period :168H	0 ACC 1 REJ
10	Amp heat, cyclic test	T1: 25 ℃（4H） ； T2： 65℃(4H)	0 ACC 1 REJ
		Humidrty ： 80~98%	
		Cycle Index ： 10 times	
11	Forward surge test	IF = IFSM	0 ACC 1 REJ
		Test period ： 10 ms	
		Cycle Index ： 1 times	
Judgement Criteria		VF<1.1*VF spec. IR<2*IR spec.	

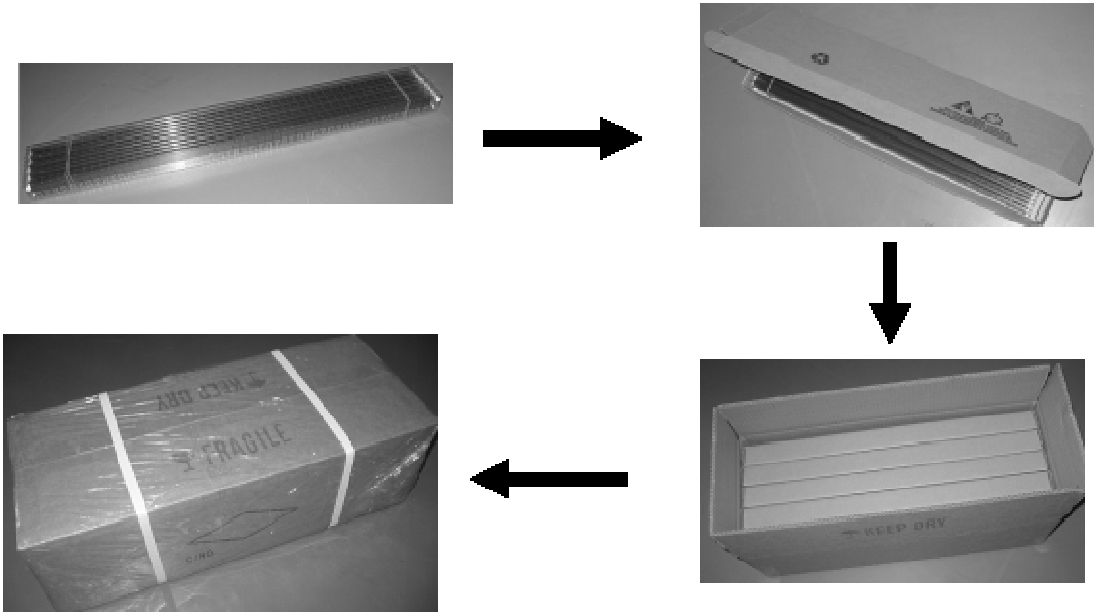
MHCHXM

High-Voltage Schottky Diodes

MBR4060CT/MBR4060FCT/MBR4060CD

Packing Information

Part Number	Package	Delivery Mode
MBR4060CT/CD	TO-220/TO-263	50 pieces / tube
MBR4060FCT	ITO-220	50 pieces / tube



Part Number	Quantity	Size (mm)
tube	50 pieces	530*33*7
inner box	1000 pieces	560*150*40
outer container	5000 pieces	580*230*170

Marking



- 1.MHCHXM为LOGO。
- 2.MBR4060CT为产品型号。
- 3.XXXX代表日期码，第一码表示公元年的最后一码，第二码表示生产时当月码（A,B,C...为一月，二月，三月...),第三，四码表示大量生产时批次码
例如:2013年第一月生产的，D/C为3AXX。
- 4.ITO-220封装后面加“F”区别

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Label

内盒标签（尺寸：125*32mm）格式：



一维条码类型：CODE128； 二维条码类型：QR CODE

PART NO: 产品型号；

DATE CODE: 产品周号；

QTY: 实物数量；

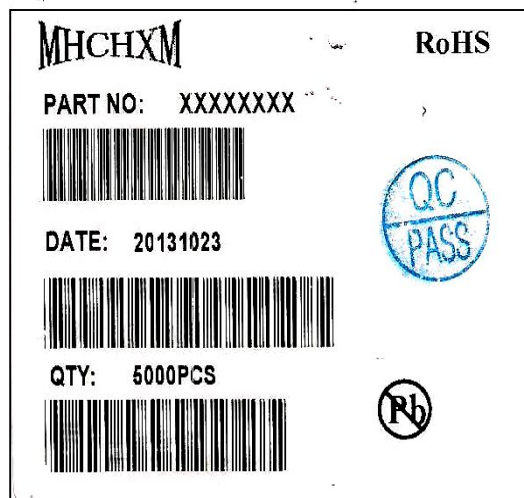
PACKAGE: 产品封装形式；

BOX NO: 箱号（产品追溯码），每盒号唯一与系统生产批号相关联。

二维码内容: 产品型号/产品周号/数量/箱号，

例如：XXXXXXX/3J43/1000/20130615001016

外箱标签（尺寸：75*64mm）格式：



PART NO: 产品型号；

DATE: 产品包装日期；

QTY: 产品数量。

注意事项

- 1) 凡本公司出厂的产品，均符合相应规格书的电参数和外形尺寸要求；对于客户有特殊要求的产品,双方应签订相关技术协议。
- 2) 在安装时，要注意减少机械应力的产生，安装扭矩推荐值0.3牛/米，防止由此引起的产品失效。
- 3) 避免靠近发热元件；焊接上锡时要注意控制温度和时间，焊接温度小于260℃，10S。
- 4) 产品储存需注温度与湿度的控制，一般情况下，温度在5℃-25℃，湿度50%条件下，可存放一年，过保存期后，使用前需重新测试。
- 5) 静电及高压会对产品产生损坏，使用和检验产品时，佩戴防静电腕带或手套，设备工具可靠接地。