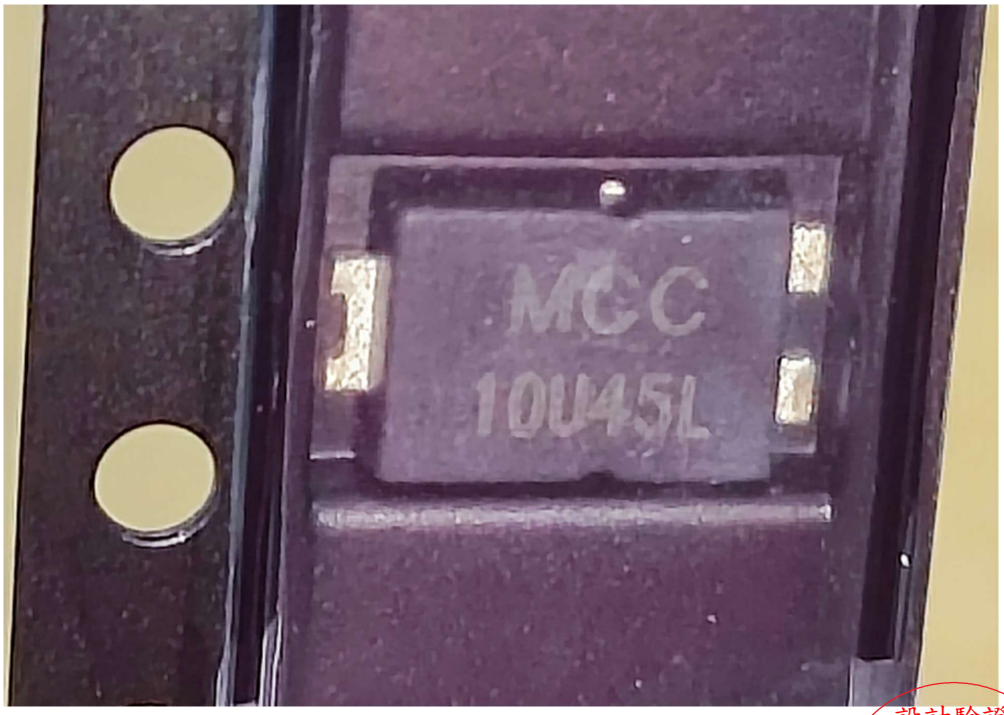


設計驗證
工程課
2024 -04- 16
發行
鈺鑾科技開發股份有限公司

承　　認　　書

APPROVAL　SHEET

客戶名稱： 鈺緯科技開發股份有限公司

客戶料號： MBR10U45L-TP

零件敘述： DIODE (MBR10U45L,3PIN,SMD,MCC)

零件料號： 3D10U45L01Y (D0167)

零件廠牌： MCC

承認日期： 2023.11.30

客戶認可章	晨昕公司發行章
設計驗證 工程課 2024-04-16 發行 鈺緯科技開發股份有限公司	晨昕 發行章

SRT 晨昕科技股份有限公司 SUNRISETEK CO., LTD.

TEL:02-2226-7955　FAX:02-2221-3858

Features

- Halogen Free. “Green” Device (Note 1)
- High Surge Forward Current Capability
- Low Power Loss, High efficiency
- Lead Free Finish/RoHS Compliant(Note 2)("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1

10 Amp Low VF Schottky Barrier Rectifier 45 Volts

Maximum Ratings

- Operating Junction Temperature Range: -55ºC to +150ºC
- Storage Temperature Range: -55ºC to +150ºC
- Maximum Thermal Resistance:8.0 ºC/W Junction to Case

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MBR10U45L	10U45L	45V	31.5V	45V

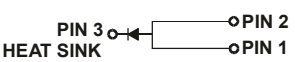
Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	I_O	10A	See Fig 1
Peak Forward Surge Current	I_{FSM}	275A	8.3ms,Half Sine
Forward Voltage	V_F	0.41V(Typ) 0.47V(Max) 0.37V(Typ) 0.40V(Max)	I_F=10A T_J=25ºC I_F=10A T_J=125ºC
Reverse Current	I_R	0.5mA(Max) 100mA(Max)	V_R=50; T_J=25ºC V_R=50; T_J=125ºC
Reverse Breakdown Voltage	V_{BR}	45V(Min)	I_R=0.1mA
Current Squared Time	I^2T	313 A^2s	1ms≤t＜8.3ms T_J=25ºC

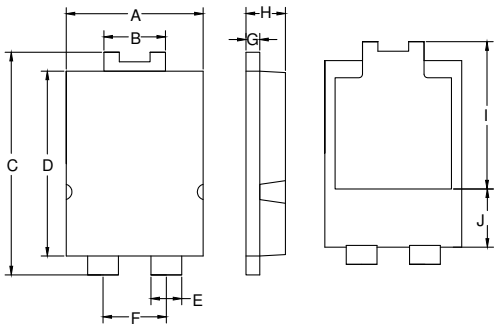
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

Internal Structure

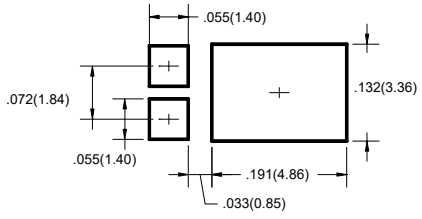


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DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.154	0.161	3.90	4.10	
B	0.067	0.075	1.70	1.90	
C	0.252	0.260	6.40	6.60	
D	0.209	0.217	5.30	5.50	
E	0.031	0.039	0.80	1.00	
F	0.071	0.075	1.80	1.90	
G	0.014	0.018	0.35	0.45	
H	0.043	0.047	1.10	1.20	
I	0.161	0.177	4.10	4.50	
J	0.059	0.075	1.50	1.90	

Suggested Solder Pad Layout



Curve Characteristics

Fig. 1 - Forward Current Derating Curve

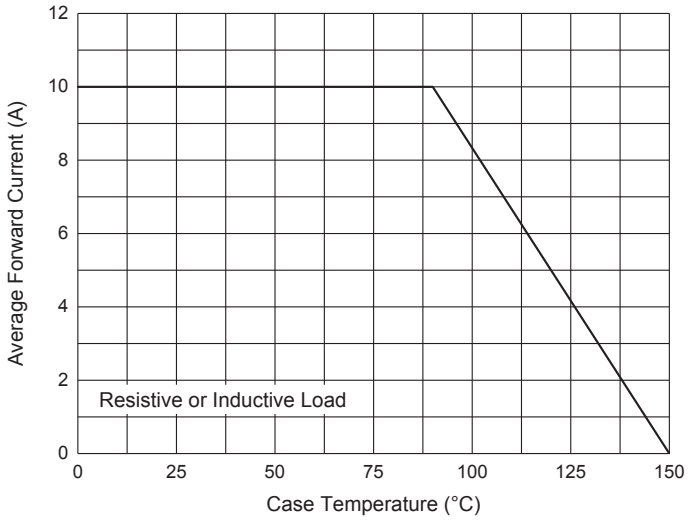


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

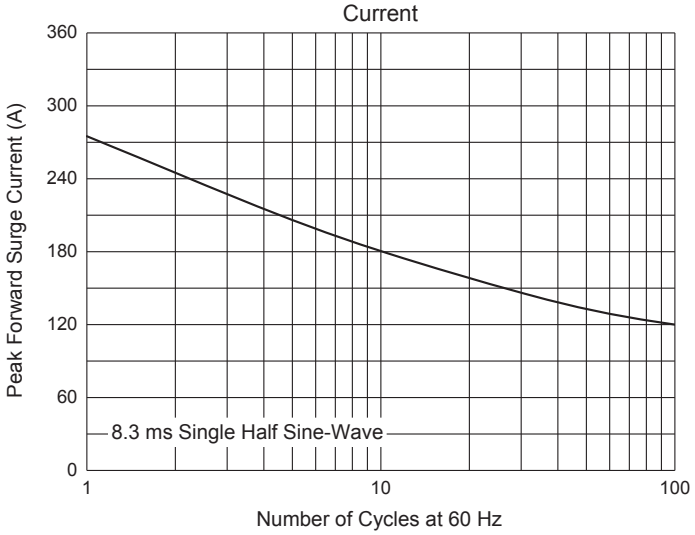


Fig. 3 - Typical Instantaneous Forward Characteristics

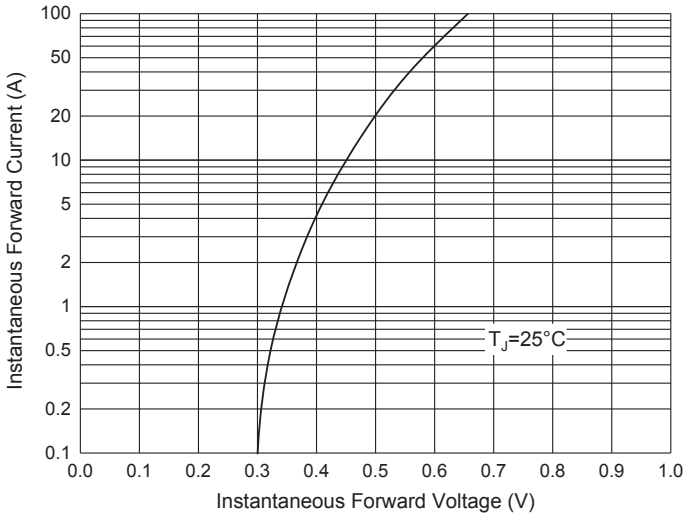
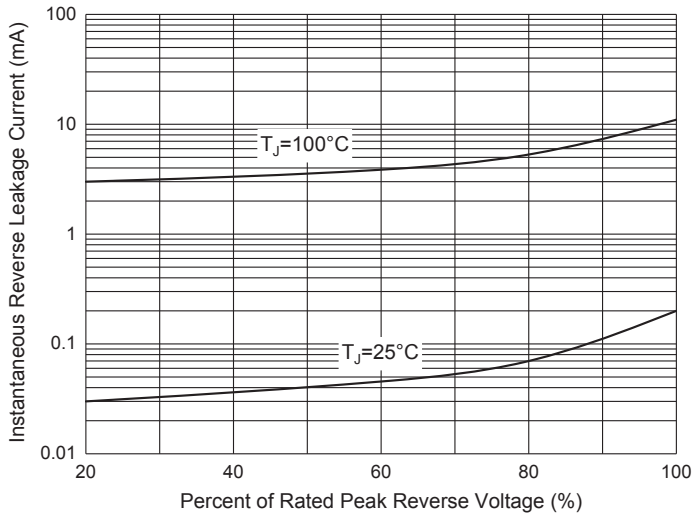


Fig. 4 - Typical Reverse Leakage Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 4Kpcs/Reel

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