

10.0A SUPER BARRIER RECTIFIER

SL1045

Formosa MS

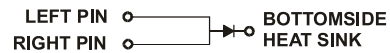
Features

- Bypass Diodes for Solar Panels
- Maximum Junction Temperature 200°C
- High Thermal Reliability
- Patented Super Barrier Rectifier Technology
- High Forward Surge Capability
- Ultra Low Power Loss, High Efficiency
- Excellent High Temperature Stability



Mechanical Data

- Case: TO-277 Molded Plastic "Green" Molding Compound
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.093 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- Lead Free: For RoHS/Lead Free Version



Note: Pins Left & Right must be electrically connected at the printed circuit board.

Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	SL1045	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	45	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	32	V
Average Rectified Output Current (Note 1) @ $T_L = 90^\circ\text{C}$	I_o	10.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) @ $T_L = 75^\circ\text{C}$	I_{FSM}	275	A
Forward Voltage Drop @ $I_F = 8\text{A}, T_j = 25^\circ\text{C}$ @ $I_F = 10\text{A}, T_j = 25^\circ\text{C}$ @ $I_F = 10\text{A}, T_j = 125^\circ\text{C}$	V_{FM}	0.42 0.47 0.41	V
Peak Reverse Current @ $V_R = 45\text{V}, T_j = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $V_R = 45\text{V}, T_j = 100^\circ\text{C}$ @ $V_R = 45\text{V}, T_j = 150^\circ\text{C}$	I_{RM}	0.3 15 75	mA
Repetitive Peak Avalanche Power(1us, 25°C)	P_{ARM}	30000	W
Typical Thermal Resistance Junction to Ambient (Note 2) (Note 3)	$R_{\theta JA}$	73 31	$^\circ\text{C/W}$
Operating Temperature Range @ $V_R \leq 80\% V_{RRM}$ @ $V_R \leq 50\% V_{RRM}$ DC Forward Mode	T_j	-65 to +150 ≤ 180 ≤ 200	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150	$^\circ\text{C}$

Note: 1. Valid provided that leads are kept at ambient temperature at a distance of 9.5mm from the case.
2. FR-4 PCB, 2oz. Copper, minimum recommended pad layout .
3. Polyimide PCB, 2oz. Copper. Cathode pad dimensions 18.8mm x 14.4mm. Anode pad dimensions 5.6mm x 14.4mm.

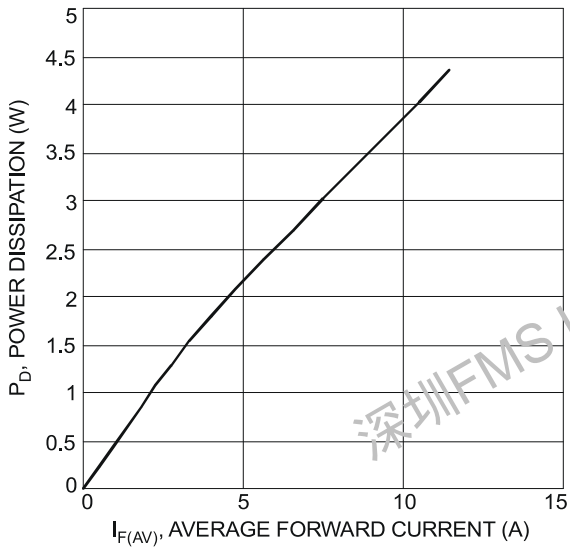


Fig. 1 Forward Power Dissipation

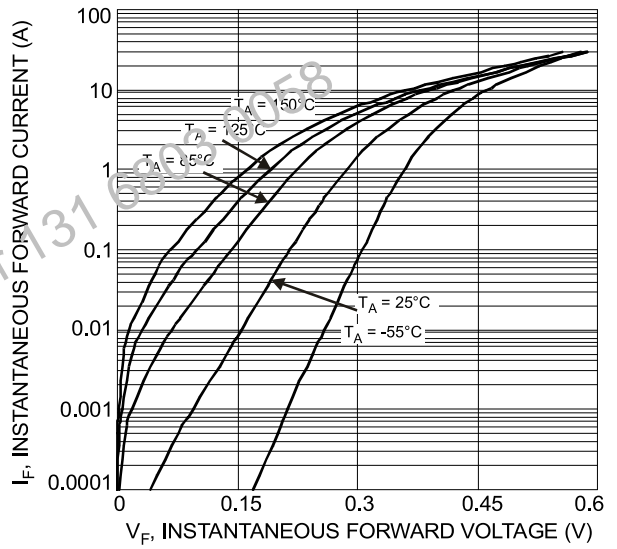


Fig. 2 Typical Forward Characteristics

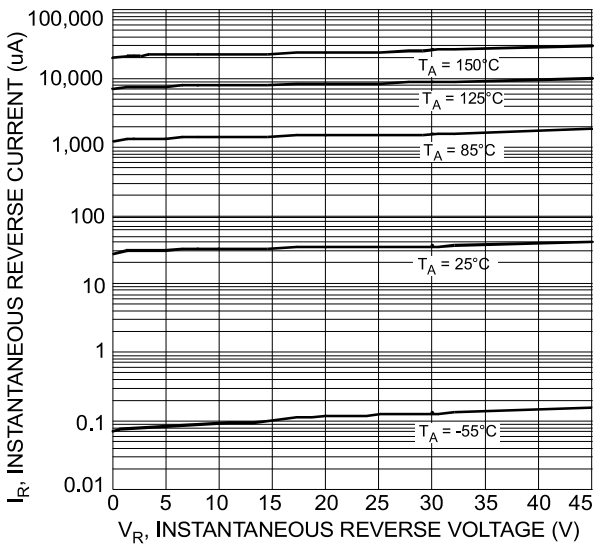


Fig. 3 Typical Reverse Characteristics

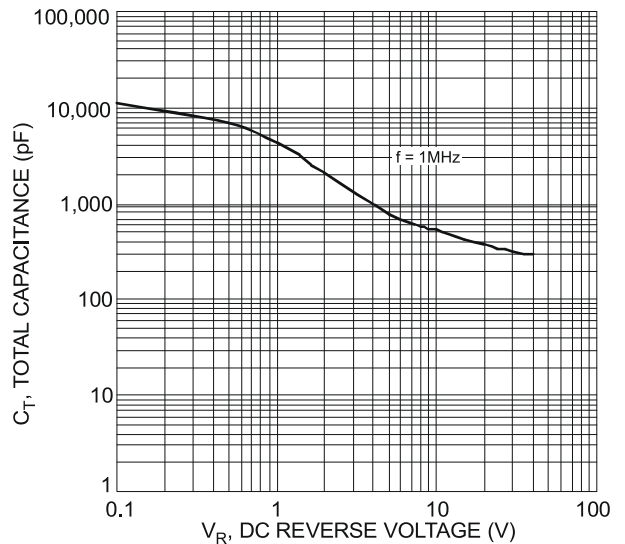


Fig. 4 Total Capacitance vs. Reverse Voltage

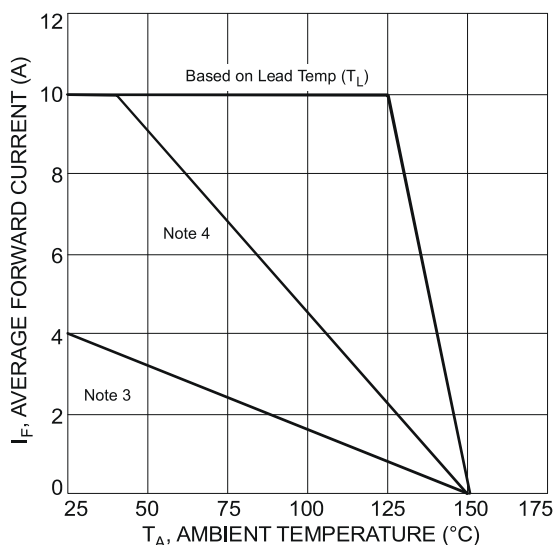


Fig. 5 Forward Current Derating Curve

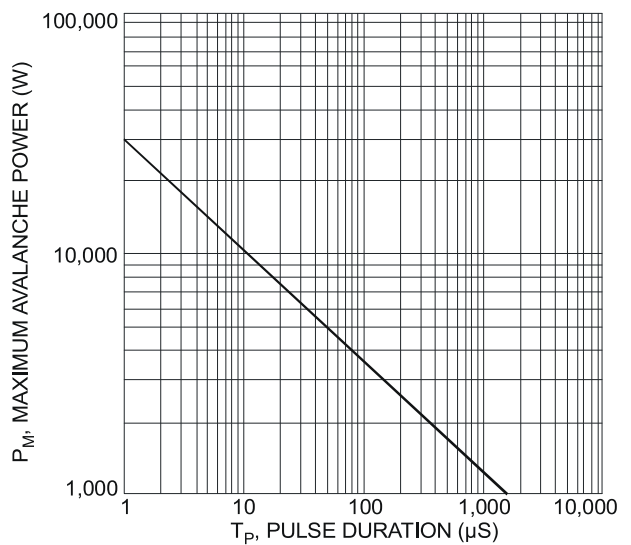
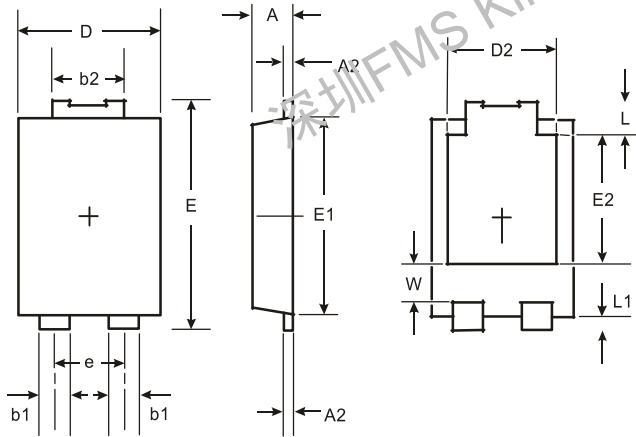


Fig. 6 Maximum Avalanche Power

Ordering Information

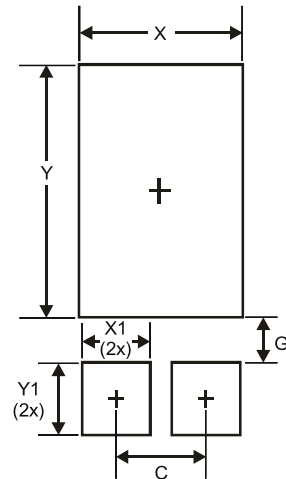
Part Number SL1045	Case TO-277	Packaging 5000/Tape & Reel
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Package Outline Dimensions



TO-277		
Dim	Min	Max
A	1.05	1.15
A2	0.33	0.43
b1	0.80	0.99
b2	1.70	1.88
D	3.90	4.05
D2	3.054 Typ	
E	6.40	6.60
e	1.84 Typ	
E1	5.30	5.45
E2	3.549 Typ	
L	0.75	0.95
L1	0.50	0.65
W	1.10	1.41
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
C	1.840
G	0.852
X	3.360
X1	1.390
Y	4.860
Y1	1.400