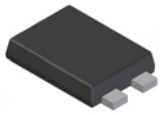
深圳市蓝光明科技有限公司

LSL1045

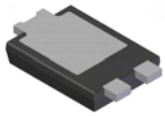
10.0A SUPER BARRIER RECTIFIER

Features

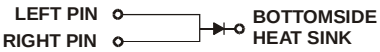
- Bypass Diodes for Solar Panels
- Maximum Junction Temperture 200ºC
- High Thermal Reliability
- Patented Super Barrier Rectifier Technology
- High Foward Surge Capability
- Ultra Low Power Loss, High Efficiency
- Excellent High Temperature Stability



Top View



Bottom View



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

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

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

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

Characteristic	Symbol	LSL1045	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	32	V
Average Rectified Output Current (Note 1) @T_L = 90°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°C	I_{FSM}	275	A
Forward Voltage Drop @I_F = 8A , Tj = 25°C @I_F = 10A,Tj = 25°C @I_F = 10A,Tj = 125°C	V_{FM}	0.42 0.47 0.41	V
Peak Reverse Current @V_F = 45V , Tj = 25°C At Rated DC Blocking Voltage @V_F = 45V, Tj = 100°C @V_F = 45V, Tj = 150°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	°C/W
Operating Temperature Range @V_R ≤ 80% V_{RRM} @V_R ≤ 50% V_{RRM} DC Forward Mode	T_j	-65 to +150 ≤180 ≤200	°C
Storage Temperature Range	T_{STG}	-65 to +150	°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. Polymide PCB, 2oz. Copper. Cathode pad dimensions 18.8mm x 14.4mm. Anode pad dimensions 5.6mm x 14.4mm.

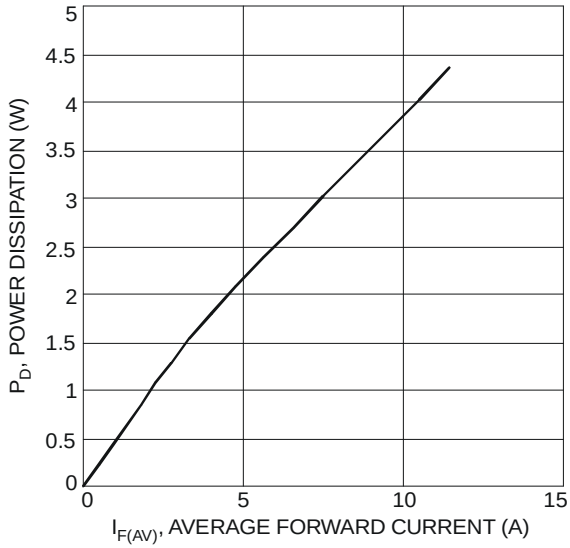


Fig. 1 Forward Power Dissipation

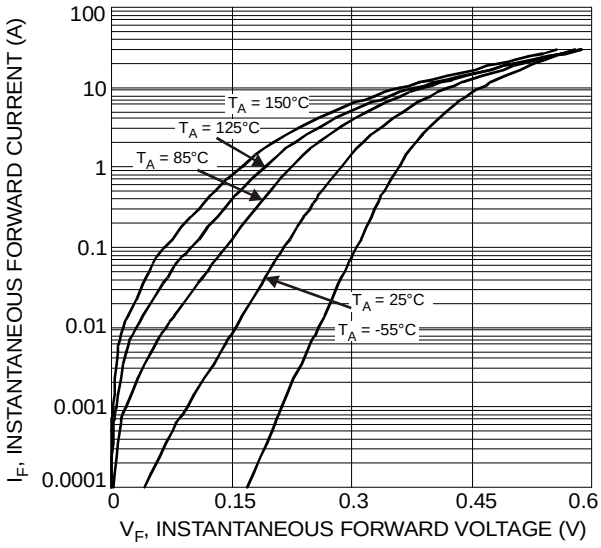


Fig. 2 Typical Forward Characteristics

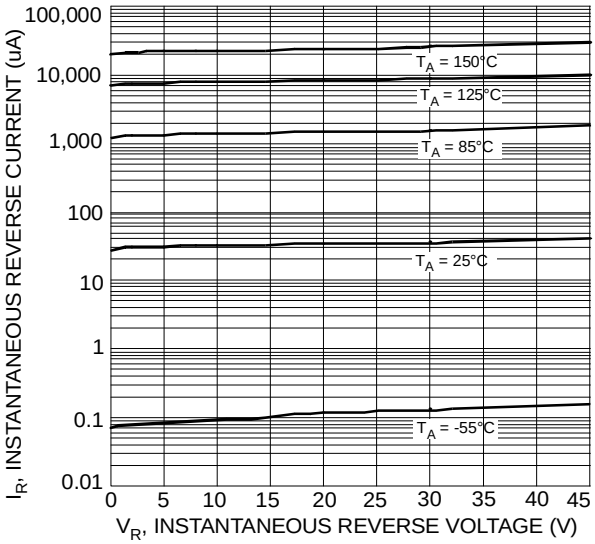


Fig. 3 Typical Reverse Characteristics

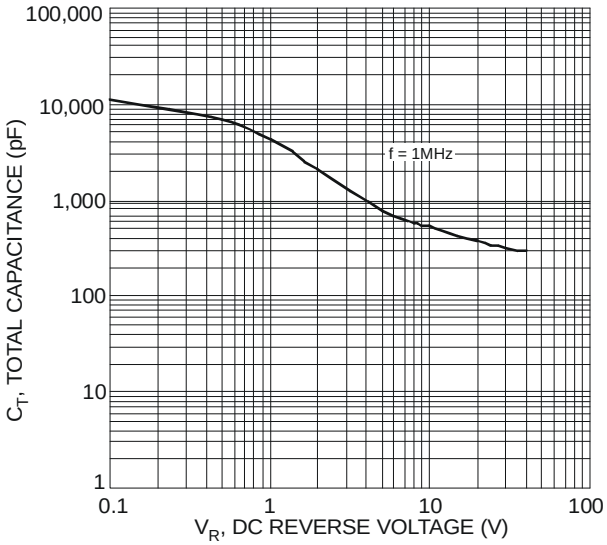


Fig. 4 Total Capacitance vs. Reverse Voltage

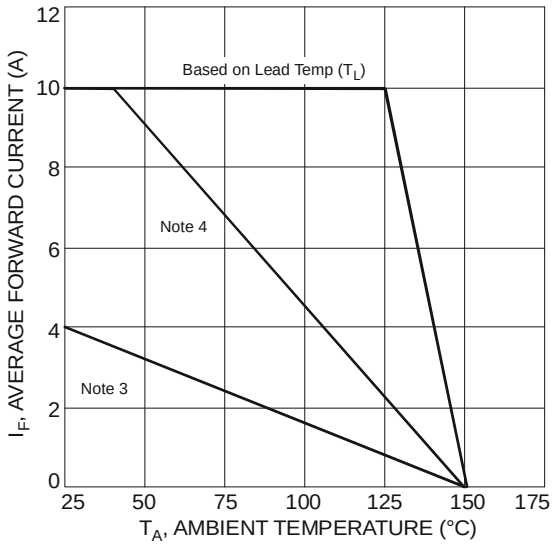


Fig. 5 Forward Current Derating Curve

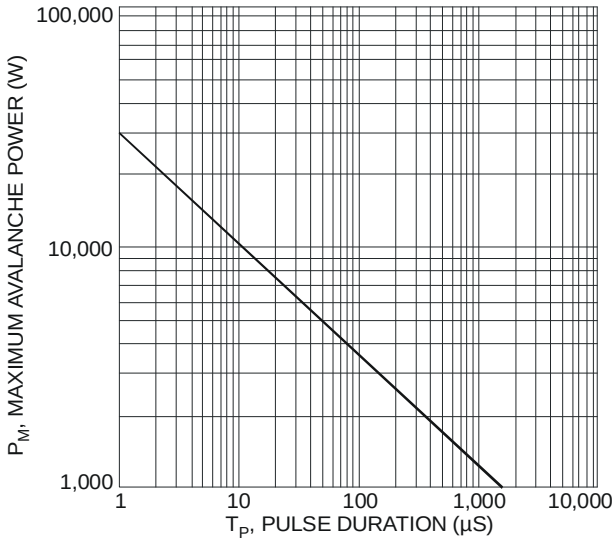
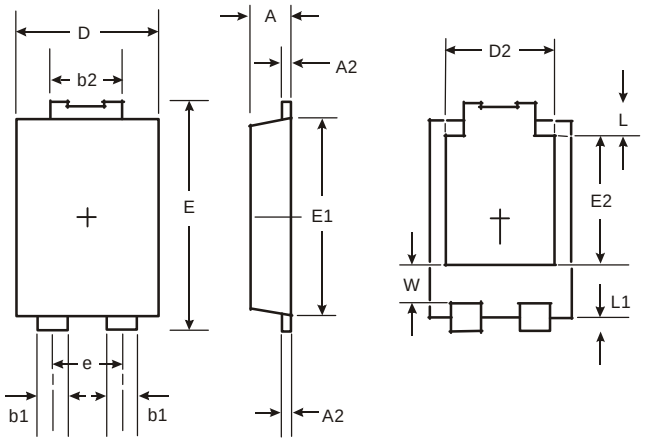


Fig. 6 Maximum Avalanche Power

Ordering Information

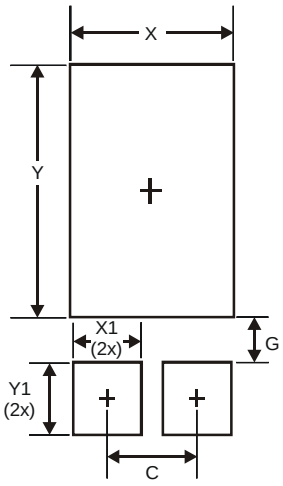
Part Number	Case	Packaging
LSL1045	TO-277	5000/Tape & Reel

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