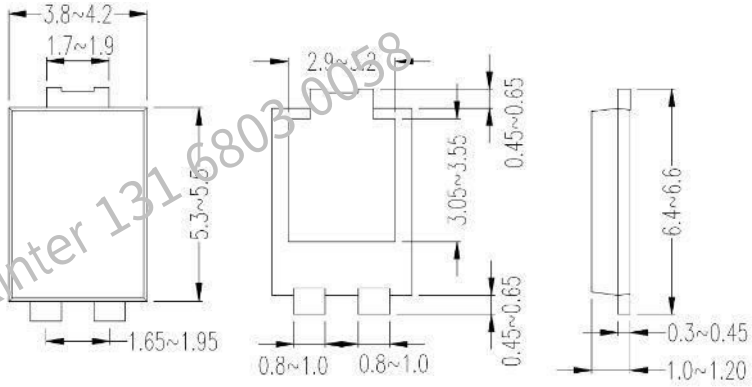
# 10.0A SUPER BARRIER RECTIFIER

# SB1045L

Formosa MS

## Features

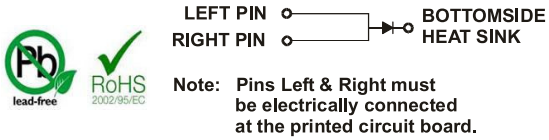
- Bypass Diodes for Solar Panels
- Maximum Junction Temperture 200ºC
- High Thermal Reliability
- Patented Super Barrier Rectifier Technology
- High Foward Surge Capability
- Ultra Low Power Loss, High Efficiency
- Excellent High Temperature Stability




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## 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 | SB1045L | Unit |
|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 45 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 32 | V |
| Average Rectified Output Current (Note 1) | $I_O$ | 10.0 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>Single half sine-wave superimposed on rated load<br>(JEDEC Method) | $I_{FSM}$ | 150 | A |
| Forward Voltage Drop<br>@$I_F$ = 10A,Tj = 25°C | $V_{FM}$ | 0.5 | V |
| Peak Reverse Current<br>At Rated DC Blocking Voltage<br>@$V_R$ = 45V , Tj = 25°C<br>@$V_R$ = 45V, Tj = 100°C | $I_{RM}$ | 0.3<br>15 | mA |
| Repetitive Peak Avalanche Power(1us,25°C) | $P_{ARM}$ | 30000 | W |
| Typical Thermal Resistance Junction to Ambient (Note 2)<br>(Note 3) | $R_{\theta JA}$ | 73<br>31 | °C/W |
| Operating Temperature Range<br>@$V_R$ ≤ 80% $V_{RRM}$<br>DC Forward Mode | $T_j$ | -65 to +150 | °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 .

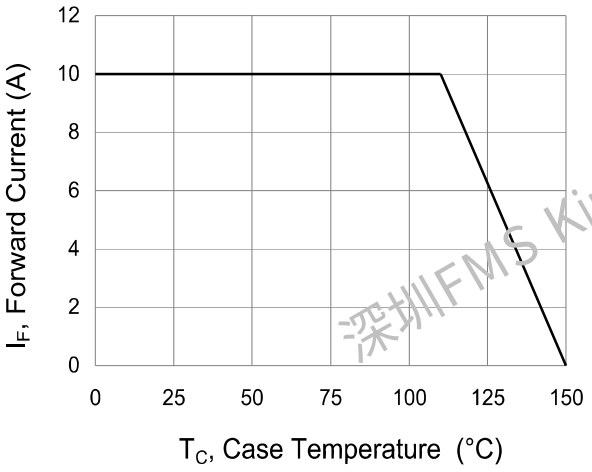



Fig. 1 Forward Current Derating Curve

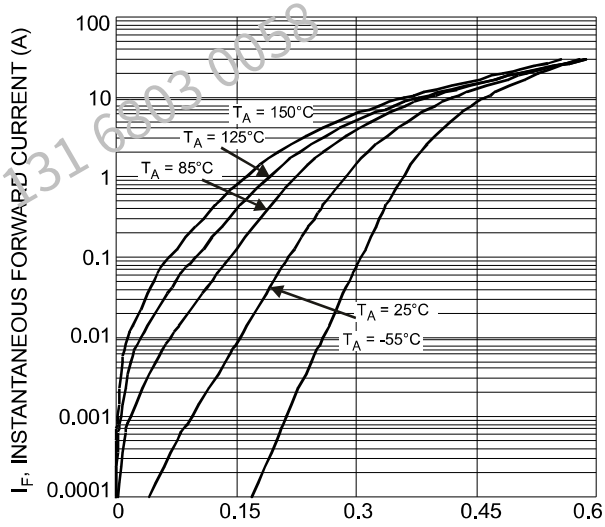



Fig. 2 Typical Forward Characteristics

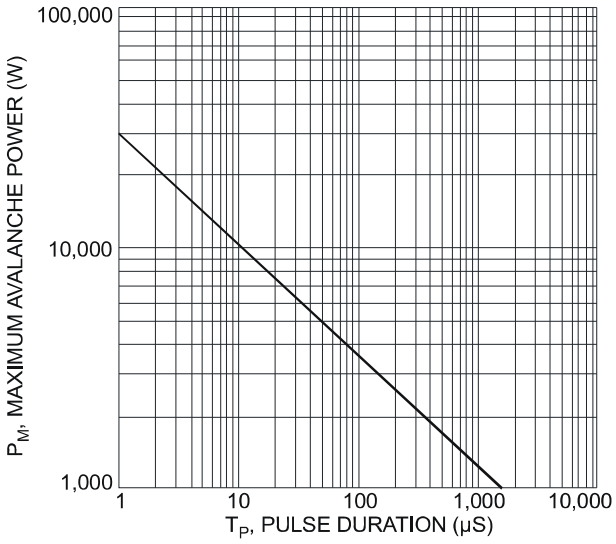



Fig. 3 Maximum Avalanche Power

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