

SMBR30100CT-SMBRF30100CT

Trench Schottky Rectifier
 Reverse Voltage 100 V Forward Current 30 A

Features

- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center tap
- Low forward voltage, high efficiency



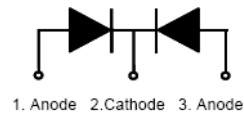
SMBR30100CT
 Package: TO-220-AB



SMBRF30100CT
 Package: ITO-220-AB

Mechanical Data

- Case: epoxy, molded
- Weight: 1.9grams (approximately)
- Finish: all external surfaces corrosion resistant and terminal leads readily solderable
- Lead temperature for soldering purpose: 260°C max. for 10 sec
- 50 units per plastic tube



Schematic Diagram

Maximum Ratings & Electrical Characteristics

($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Parameter | Test Conditions | Symbol | Value | Unit | |
|--|---|------------------------|--------------|-------------------------|-----------------------------|
| Maximum Repetitive Peak Reverse Voltage | | V_{RRM} | 100 | V | |
| Working Peak Reverse Voltage | | V_{RWM} | 100 | V | |
| Maximum DC Blocking Voltage | | V_{DC} | 100 | V | |
| Maximum Average Forward Rectified Current @ $T_c=105^{\circ}\text{C}$ | Total Device Per Diode | $I_{F(AV)}$ | 30 15 | A | |
| Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load per Diode | | I_{FSM} | 200 | A | |
| Peak repetitive Reverse Current Per Leg at $t_p=2.0\mu\text{s}$, 1KHz | | I_{RRM} | 1.0 | A | |
| Voltage Rate of Change (rated V_R) | | DV/dt | 10000 | V/ μs | |
| Operating Junction Temperature Range | | T_J | - 55 to+150 | $^{\circ}\text{C}$ | |
| Storage Temperature Range | | T_{STG} | - 55 to+150 | $^{\circ}\text{C}$ | |
| Isolation Voltage (ITO-220-AB only) from Terminal to Heatsink $t = 1 \text{ sec}$ | | V_{AC} | 1500 | V | |
| Maximum Instantaneous Forward Voltage per Leg | $I_F=15\text{A}$ $T_c=25^{\circ}\text{C}$ $I_F=15\text{A}$ $T_c=125^{\circ}\text{C}$ | V_F | 0.72 0.62 | V | |
| Maximum Reverse Current per Leg at Working Peak Reverse Voltage | $T_J=25^{\circ}\text{C}$ $T_J=100^{\circ}\text{C}$ | I_R | 500 50 | μA mA | |
| Thermal Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted) | | | | | |
| Symbol | Parameter | Typ.(TO-220-AB) | | Typ.(ITO-220-AB) | Unit |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case per Leg | 2.0 | | 4.0 | $^{\circ}\text{C}/\text{W}$ |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient per Leg | 62.5 | | 62.5 | $^{\circ}\text{C}/\text{W}$ |

Note: Pulse test:300us pulse width, duty cycle=2%

Ratings and Characteristics Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

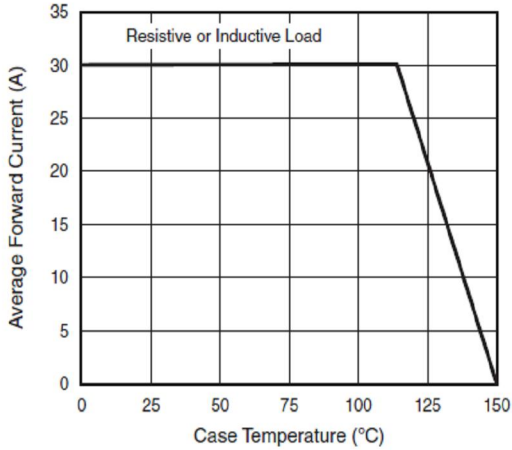


Fig. 1 - Forward Current Derating Curve

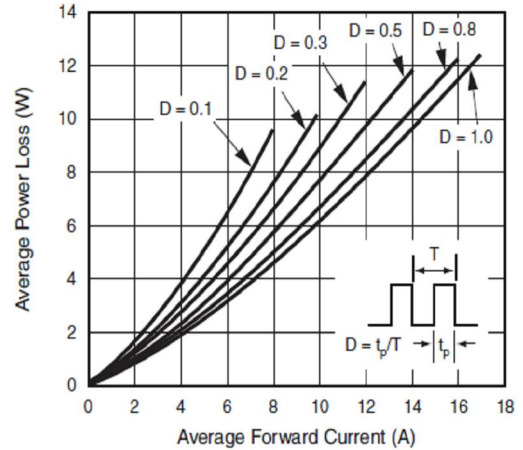


Fig. 2 - Forward Power Loss Characteristics Per Diode

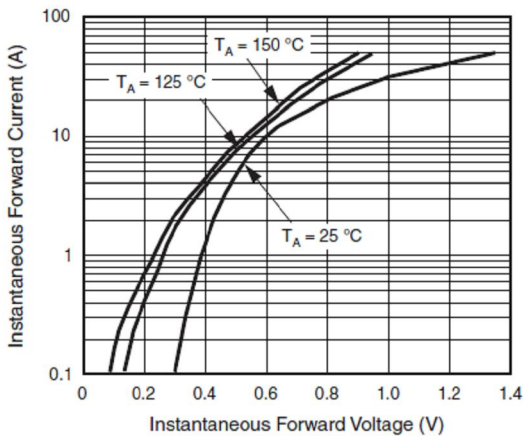


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

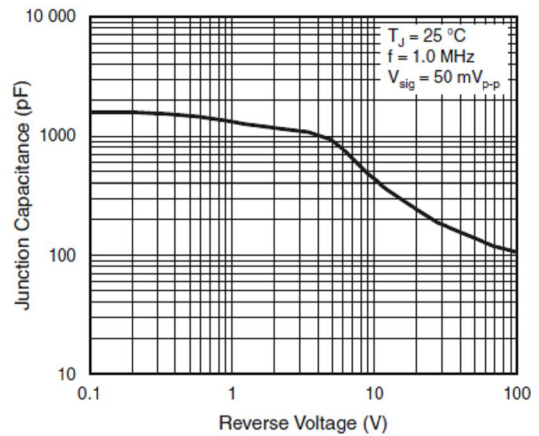


Fig. 5 - Typical Junction Capacitance

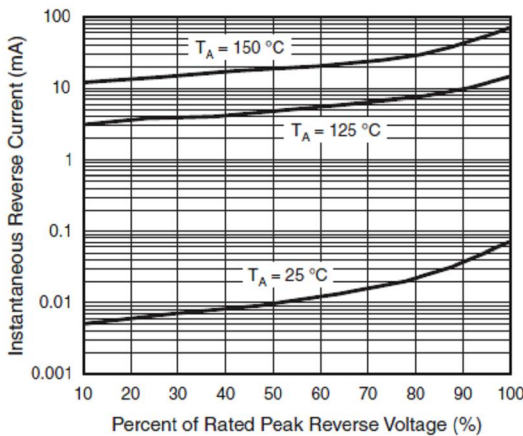


Fig. 4 - Typical Reverse Characteristics Per Diode

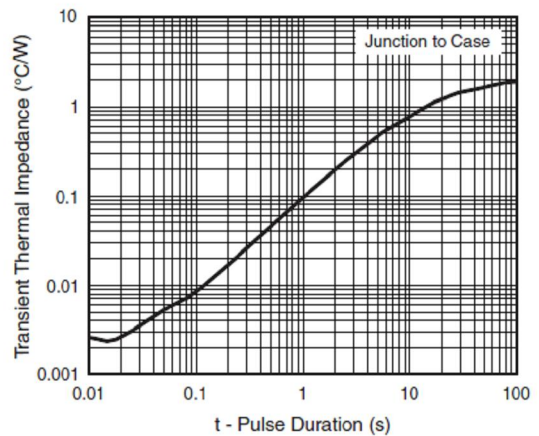


Fig. 6 - Typical Transient Thermal Impedance Per Diode

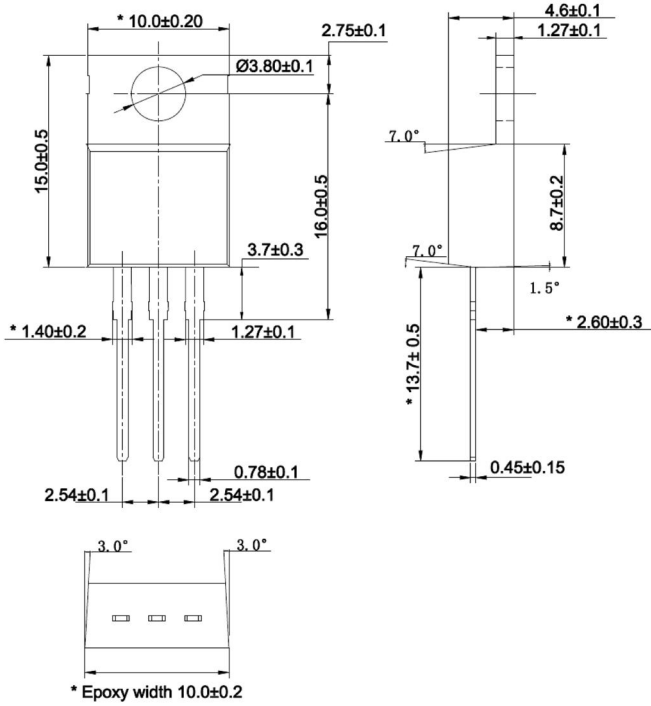
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Package Outline Dimensions

in millimeters

TO-220-AB



ITO-220-AB

