

**TAYCHIPST**

SURFACE MOUNT SCHOTTKY BARRIER DIODE

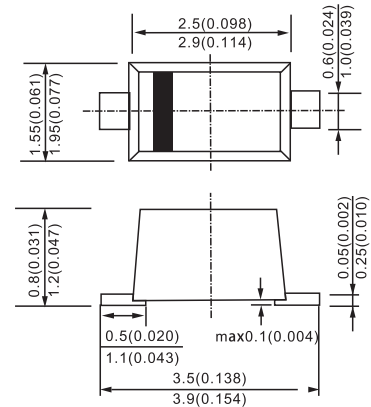
**MBR2H100SFT3G****100V 2.0A****FEATURES**

- Guardring for Stress Protection
- Low Forward Voltage
- 175°C Operating Junction Temperature
- Epoxy Meets UL 94 V-0
- Package Designed for Optimal Automated Board Assembly
- ESD Ratings: Machine Model, C Human Body Model, 3B
- This is a Pb-Free Device

**MECHANICAL DATA**

- Reel Options: MBR2H100SFT3G = 10,000 per 13 in reel/8 mm tape
- Device Marking: L2H
- Polarity Designator: Cathode Band
- Weight: 11.7 mg (approximately)
- Case: Epoxy, Molded
- Lead Finish: 100% Matte Sn (Tin)
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Device Meets MSL 1 Requirements

SOD-123FL



Dimensions in millimeters

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS****MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	100	V
Average Rectified Forward Current ( $T_L = 146^\circ\text{C}$ )	$I_O$	2.0	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	$I_{FSM}$	50	A
Storage and Operating Junction Temperature Range (Note 1)	$T_{stg}, T_J$	-65 to +175	$^\circ\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. The heat generated must be less than the thermal conductivity from Junction-to-Ambient:  $dP_D/dT_J < 1/R_{\theta JA}$ .

**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction-to-Lead (Note 2)	$\Psi_{JCL}$	23	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction-to-Ambient (Note 2)	$R_{\theta JA}$	85	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction-to-Ambient (Note 3)	$R_{\theta JA}$	330	$^\circ\text{C}/\text{W}$

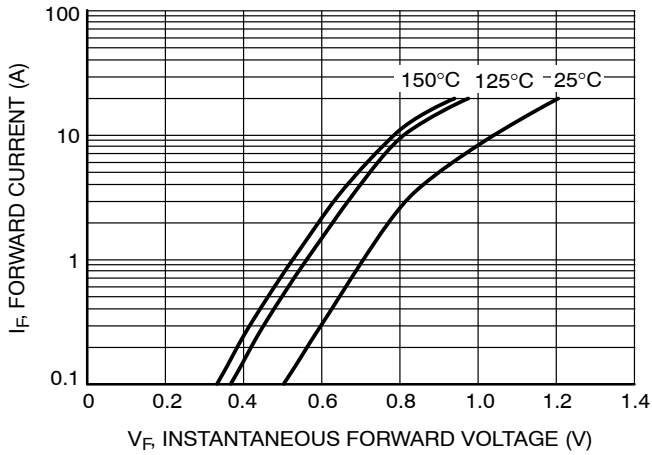
**ELECTRICAL CHARACTERISTICS**

Characteristic	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 4) ( $I_F = 1.0 \text{ A}, T_J = 25^\circ\text{C}$ ) ( $I_F = 2.0 \text{ A}, T_J = 25^\circ\text{C}$ ) ( $I_F = 1.0 \text{ A}, T_J = 125^\circ\text{C}$ ) ( $I_F = 2.0 \text{ A}, T_J = 125^\circ\text{C}$ )	$V_F$	0.76 0.84 0.61 0.68	V
Maximum Instantaneous Reverse Current (Note 4) (Rated dc Voltage, $T_J = 25^\circ\text{C}$ ) (Rated dc Voltage, $T_J = 125^\circ\text{C}$ )	$I_R$	40 0.5	$\mu\text{A}$ mA

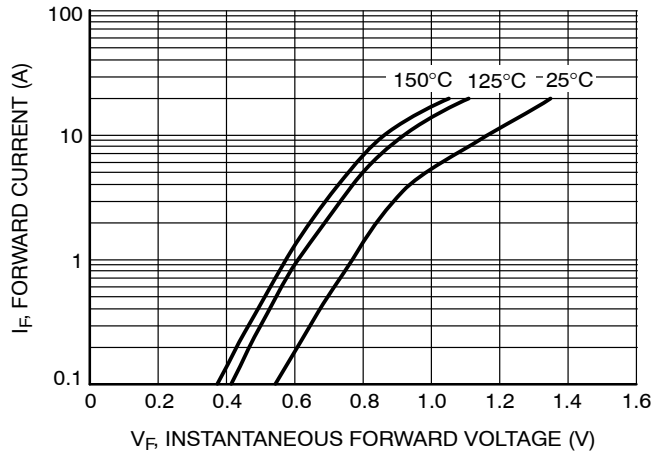
2. Mounted with 700 mm<sup>2</sup> copper pad size (Approximately 1 in<sup>2</sup>) 1 oz FR4 Board.
3. Mounted with pad size approximately 20 mm<sup>2</sup> copper, 1 oz FR4 Board.
4. Pulse Test: Pulse Width  $\leq 380 \mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .



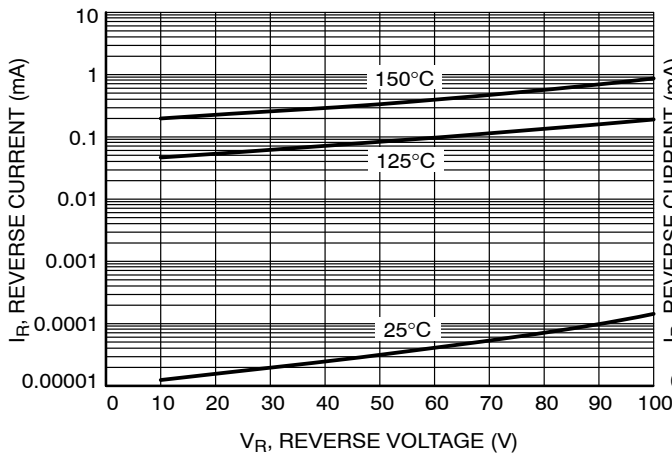
**RATINGS AND CHARACTERISTIC CURVES MBR2H100SFT3G**



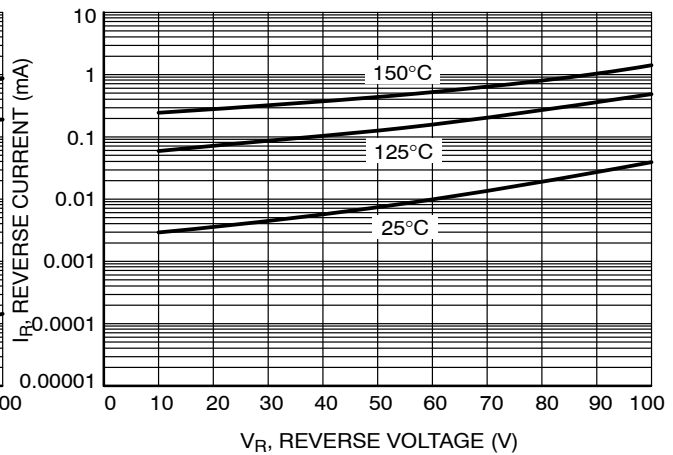
**Figure 1. Typical Forward Voltage**



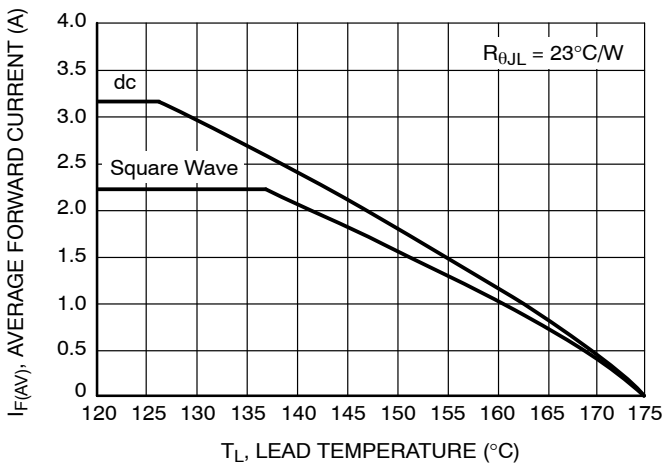
**Figure 2. Maximum Forward Voltage**



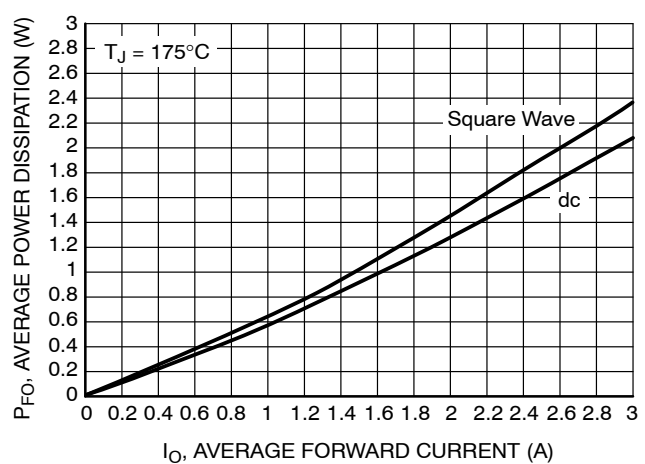
**Figure 3. Typical Reverse Current**



**Figure 4. Maximum Reverse Current**



**Figure 5. Current Derating**



**Figure 6. Forward Power Dissipation**