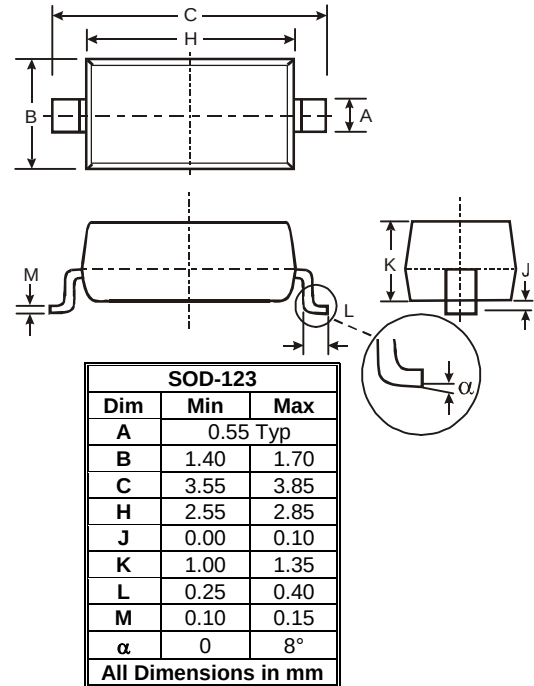


Features

- Guardring for Stress Protection
- Very Low Forward Voltage (0.38 V Max @ 0.5 A, 25°C)
- 125°C Operating Junction Temperature
- Epoxy Meets UL 94 V-0 @ 0.125 in
- Package Designed for Optimal Automated Board Assembly
- Pb-Free Packages are Available

Mechanical Data

- Reel Options: MBR0520LT1 = 3,000 per 7" reel/8 mm tape
MBR0520LT3 = 10,000 per 13" reel/8 mm tape
- Polarity Designator: Cathode Band
- Weight: 11.7 mg (approximately)
- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds



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

Rating	Symbol	Value		Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20		V
Average Rectified Forward Current (Rated V_R , $T_L = 90^\circ\text{C}$)	$I_{F(AV)}$	0.5		A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	5.5		A
Storage Temperature Range	T_{stg}	-65 to +150		°C
Operating Junction Temperature	T_J	-65 to +125		°C
Voltage Rate of Change (Rated V_R)	dv/dt	1000		V/ μs
ESD Ratings: Machine Model = C Human Body Model = 3B		> 400 > 8000		V
Maximum Instantaneous Forward Voltage (Note 2) ($i_F = 0.1$ Amps) ($i_F = 0.5$ Amps)	V_F	$T_J = 25^\circ\text{C}$ 0.300 0.385	$T_J = 100^\circ\text{C}$ 0.220 0.330	V
Maximum Instantaneous Reverse Current (Note 2) ($V_R = 10$ V) (Rated DC Voltage = 20 V)	I_R	$T_J = 25^\circ\text{C}$ 75 μA 250 μA	$T_J = 100^\circ\text{C}$ 5 mA 8 mA	mA

1. 1 inch square pad size (1 x 0.5 inch for each lead) on FR4 board.
2. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2\%$.

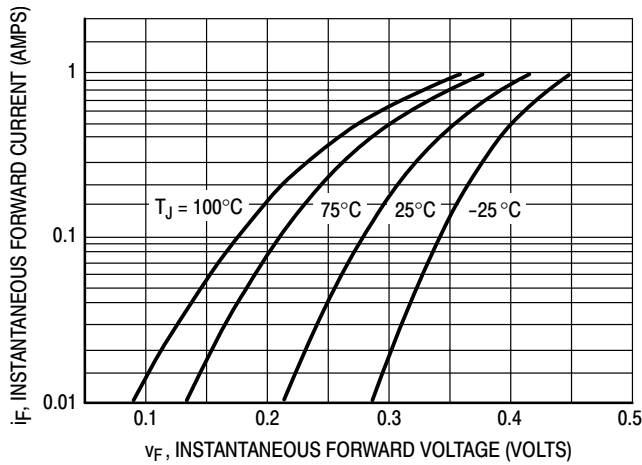


Figure 1. Typical Forward Voltage

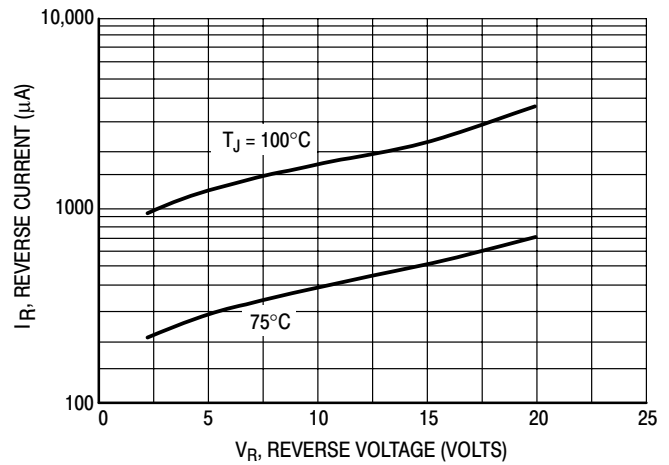


Figure 2. Typical Reverse Current

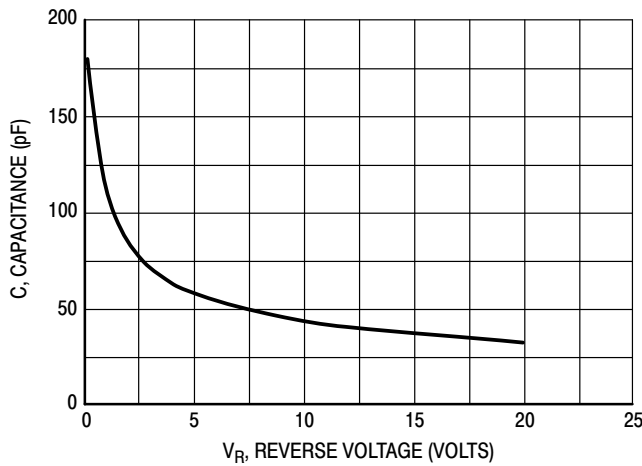


Figure 3. Typical Capacitance

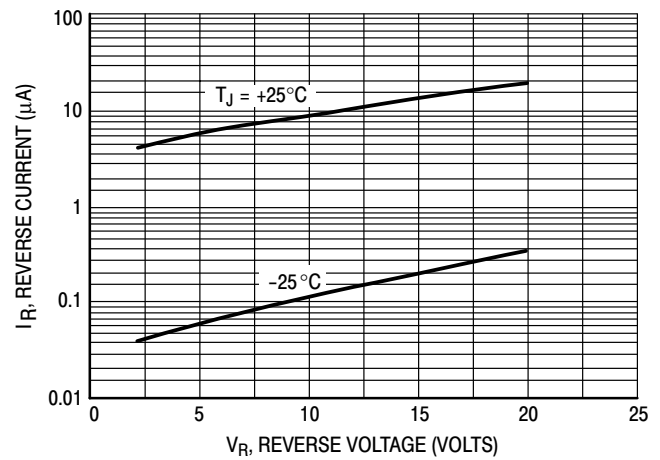


Figure 4. Typical Reverse Current

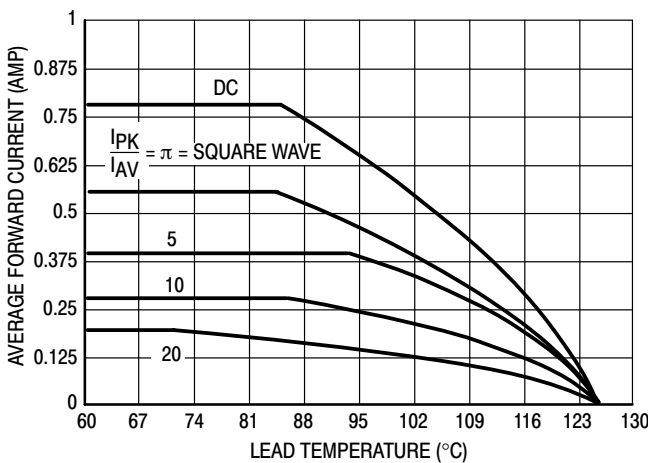


Figure 5. Current Derating (Lead)

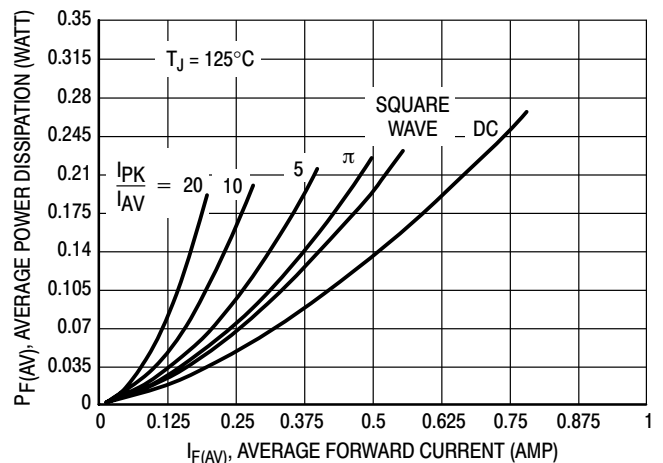


Figure 6. Power Dissipation