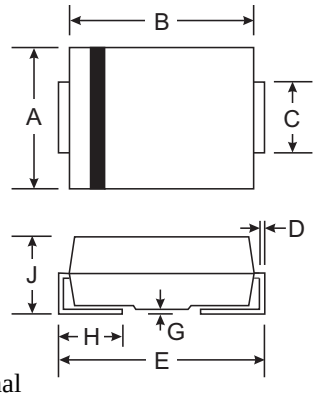
MBRS1100T3/MBRS190T3

1.0A Surface Mount Schottky Power Rectifier

Features

- Pb−Free Packages are Available
- Small Compact Surface Mountable Package with J-Bend Leads
- Rectangular Package for Automated Handling
- Highly Stable Oxide Passivated Junction
- High Blocking Voltage − 100 Volts
- 175°C Operating Junction Temperature
- Guardring for Stress Protection



SMB		
Dim	**Min**	**Max**
A	3.30	3.94
B	4.00	4.65
C	1.95	2.21
D	0.15	0.40
E	5.00	6.00
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Mechanical Data

- Case: Epoxy, Molded
- Weight: 95 mg (approximately)
- 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
- Shipped in 12 mm Tape and Reel, 2500 units per reel
- Cathode Polarity Band

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 MBRS190T3 MBRS1100T3	V_{RRM} V_{RWM} V_R	 90 100	V
Average Rectified Forward Current T_L = 163°C T_L = 148°C	$I_{F(AV)}$	 1.0 2.0	A
Non−Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	50	A
Operating Junction Temperature (Note 1)	T_J	−65 to +175	°C
Voltage Rate of Change	dv/dt	10	V/ns

Maximum Instantaneous Forward Voltage (Note 1) (i_F = 1.0 A, T_J = 25°C)	V_F	0.75	V
Maximum Instantaneous Reverse Current (Note 1) (Rated dc Voltage, TJ = 25°C) (Rated dc Voltage, T_J = 100°C)	I_R	 0.5 5.0	mA

1. The heat generated must be less than the thermal conductivity from Junction−to−Ambient: $dP_D/dT_J < 1/R_{\theta JA}$.
2. Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

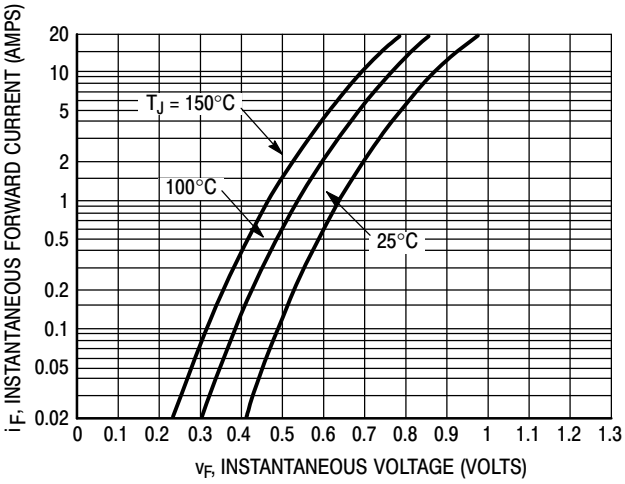


Figure 1. Typical Forward Voltage

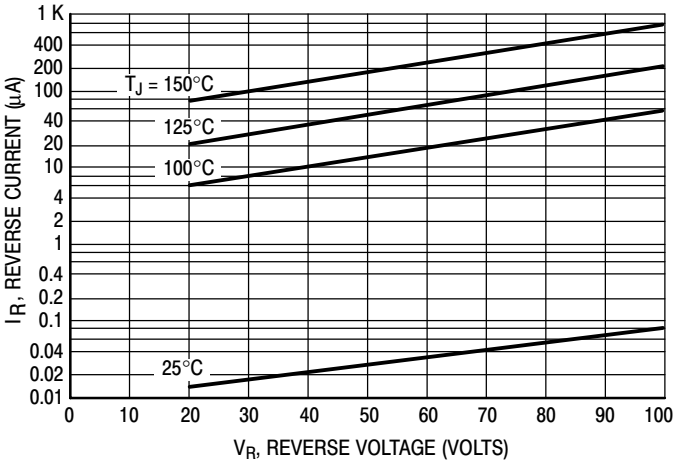


Figure 2. Typical Reverse Current*

*The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these curves if V_R is sufficient below rated V_R.

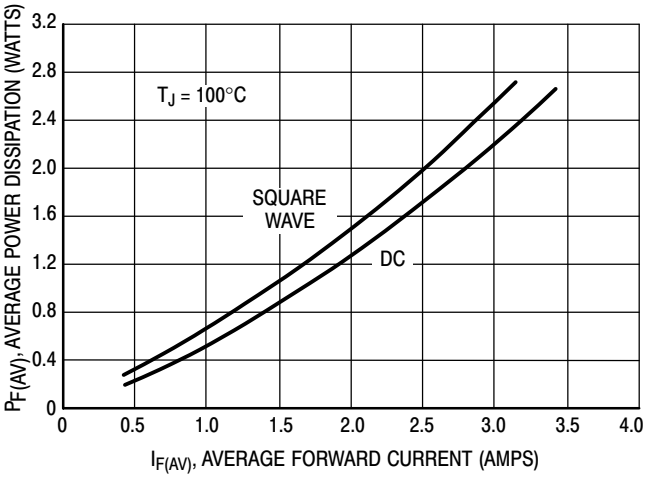


Figure 3. Power Dissipation

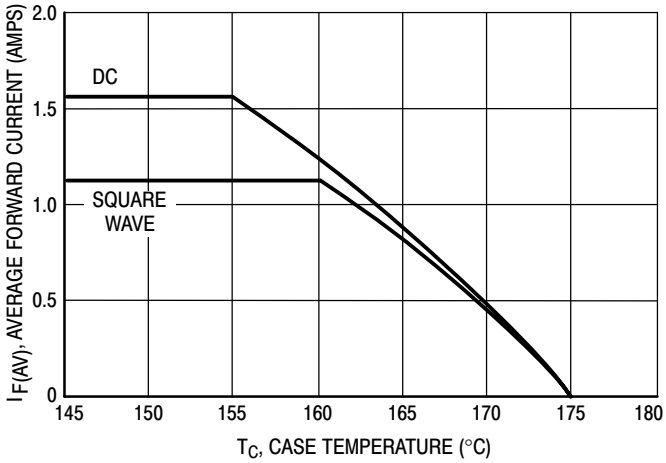


Figure 4. Current Derating, Case, Per Leg

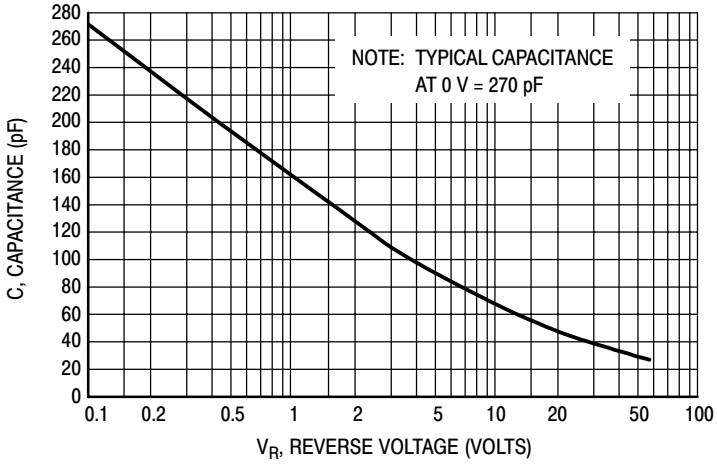


Figure 5. Typical Capacitance