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SEMICONDUCTOR



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MBRS540T3G(MS)

Product specification


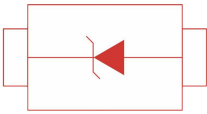

Features

- Pb-Free Package is Available
- Small Compact Surface Mountable Package with J-Bend Leads
- Rectangular Package for Automated Handling
- Highly Stable Oxide Passivated Junction
- Excellent Ability to Withstand Reverse Avalanche Energy Transients
- Guardring for Stress Protection

Mechanical Data

- Case: Epoxy, Molded, Epoxy Meets UL 94 V-0 @ 0.125 in
- Weight: 217 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
- Polarity: Notch in Plastic Body Indicates Cathode Lead
- ESD Rating: Machine Model, C (> 400 V) Human Body Model, 3B (> 8000 V)
- Device Meets MSL 1 Requirements

Reference News

Outline	Pin Configuration	Marking
 <p>SMC</p>		

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

Rating	Symbol	Value	Unit	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	VRRM VRWM VR	40	V	
Average Rectified Forward Current (At Rated VR, Tc = 105°C)	IF(AV)	5	A	
Peak Repetitive Forward Current (At Rated VR, Square Wave, 20 KHz, Tc = 80 °C)	IFRM	10	A	
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	IFSM	190	A	
Storage Temperature Range	Tstg	-65 to +150		
Operating Junction Temperature	TJ	-65 to +125		
Voltage Rate of Change (Rated VR)	dv/dt	10,000	V/μs	
Maximum Instantaneous Forward Voltage (Note 2)	(IF = 5.0 A, Tc = 25°C)		VF	0.50 V
Maximum Instantaneous Reverse Current (Note 2)	(Rated dc Voltage, Tc = 25°C) (Rated dc Voltage, Tc = 100°C)		iR	0.3 mA 15

1. Rating applies when surface mounted on the minimum pad size recommended.

2. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%.

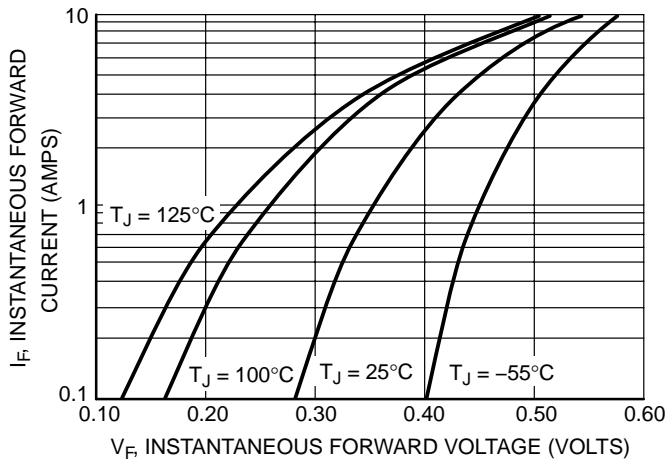


Figure 1. Typical Forward Voltage

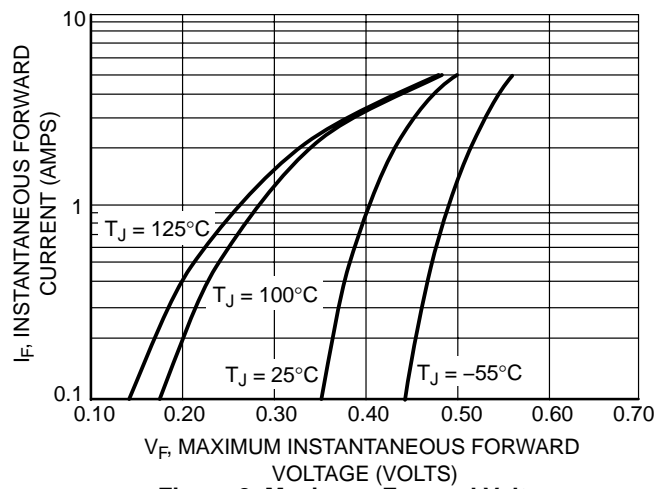


Figure 2. Maximum Forward Voltage

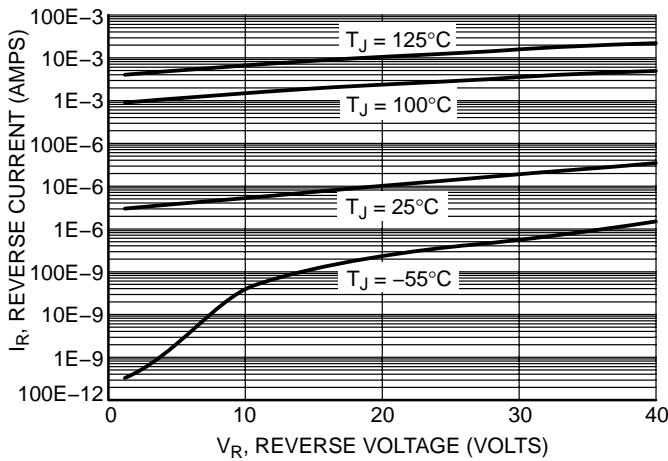


Figure 3. Typical Reverse Current

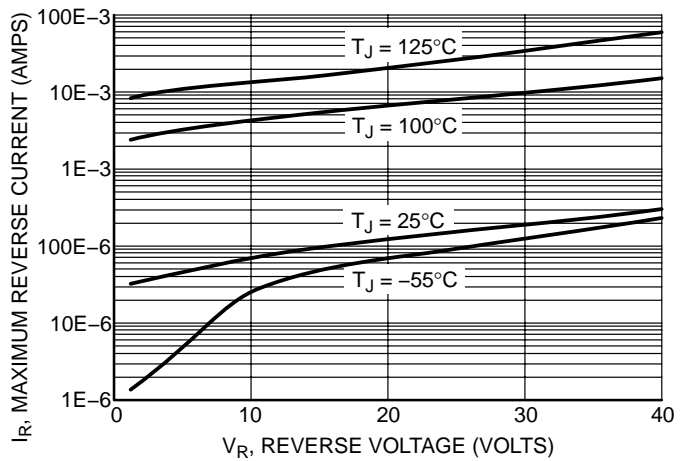


Figure 4. Maximum Reverse Current

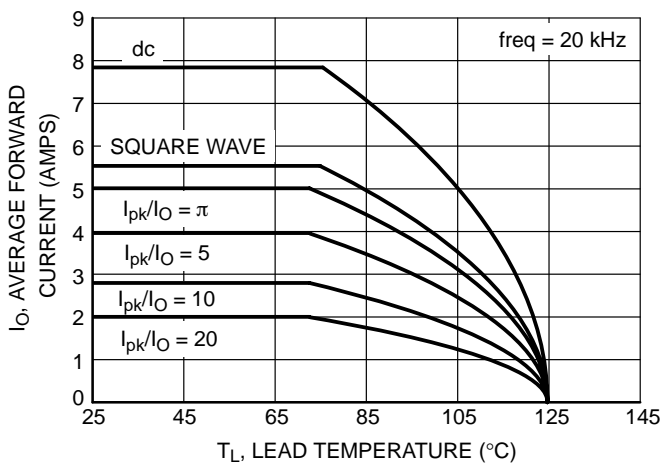


Figure 5. Current Derating

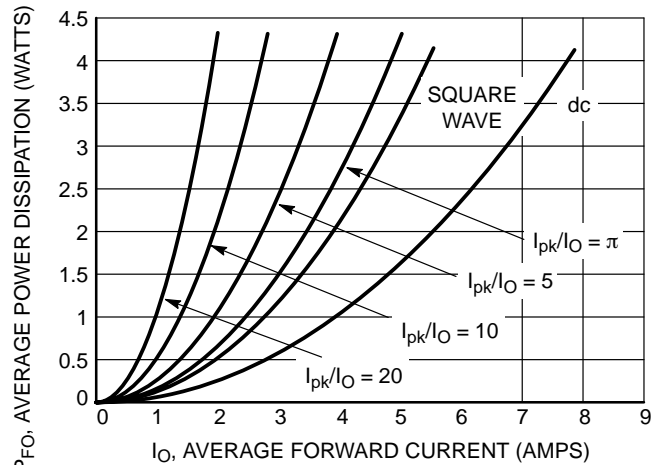


Figure 6. Forward Power Dissipation

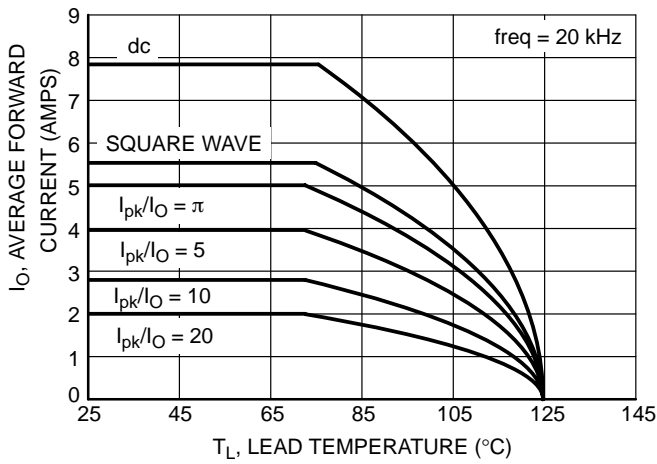


Figure 5. Current Derating

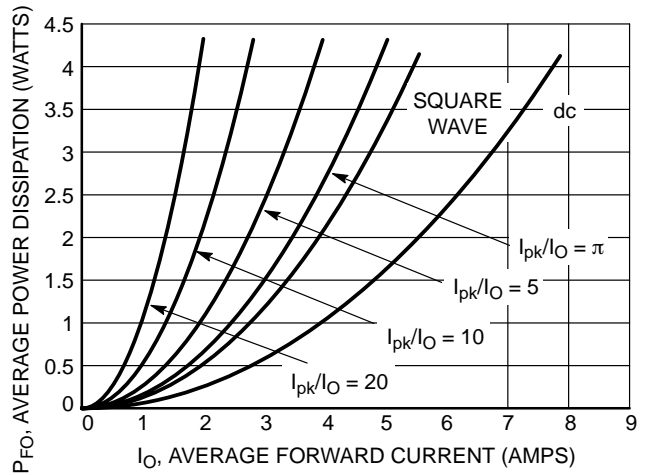


Figure 6. Forward Power Dissipation

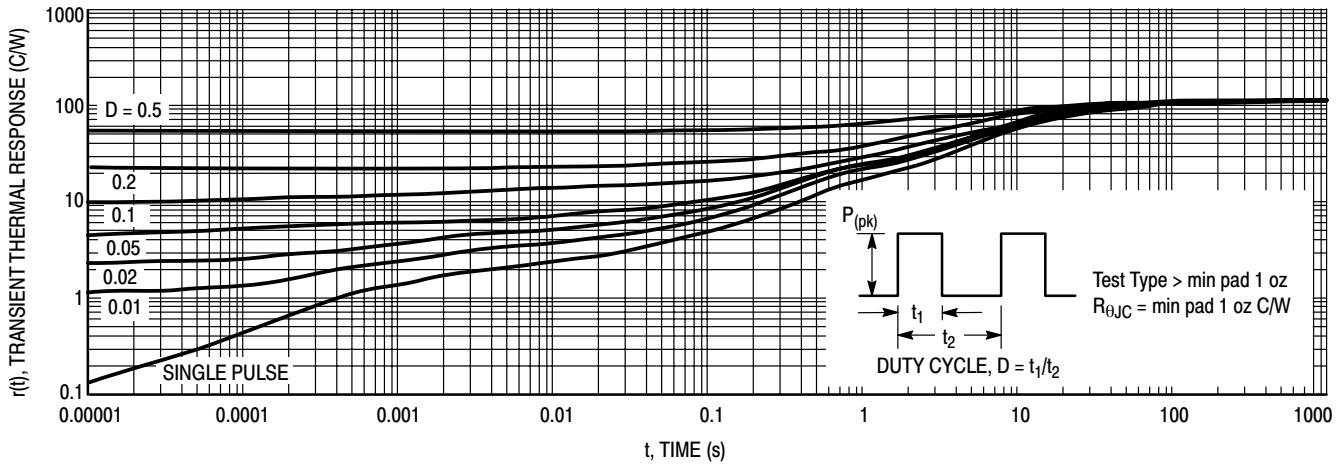


Figure 9. Thermal Response – MBR540T3 on min pad

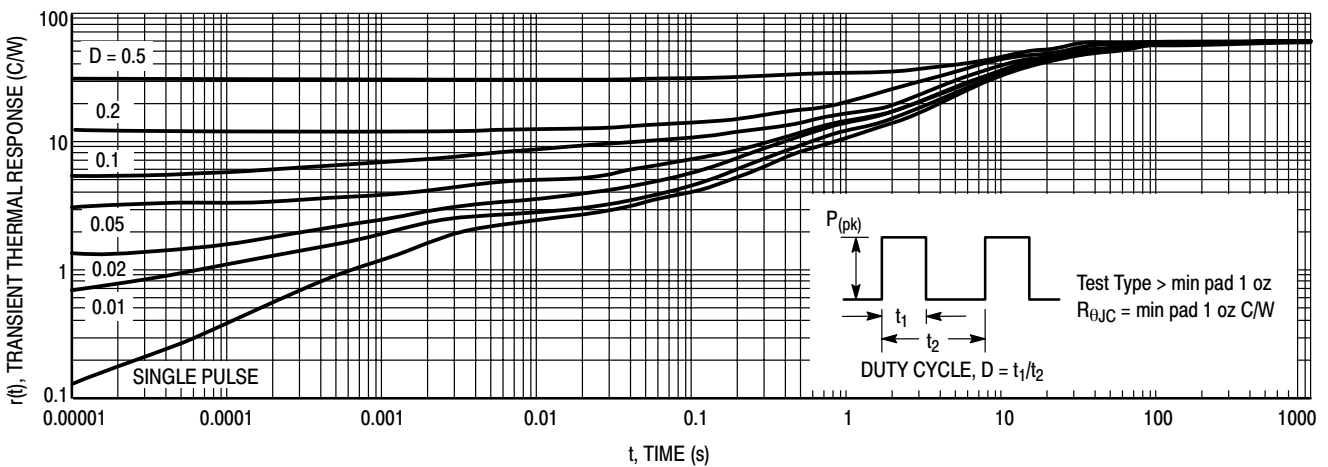
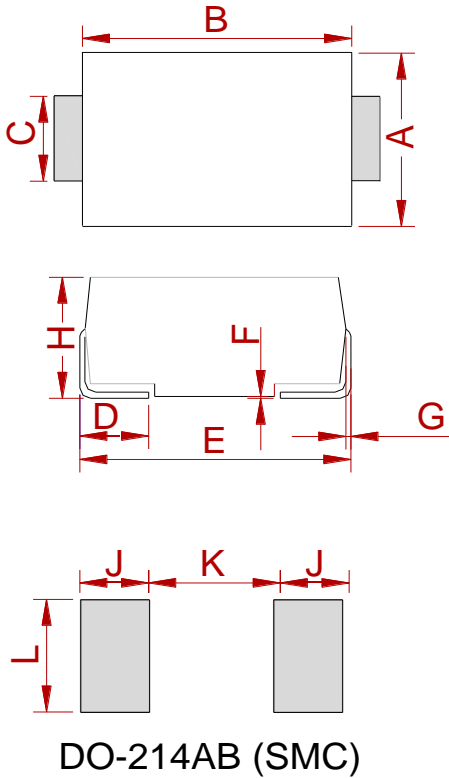


Figure 10. Thermal Response – MBR540T3 on 1" pad

PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	5.75	6.25	0.226	0.246
B	6.90	7.40	0.272	0.291
C	2.75	3.25	0.108	0.128
D	0.95	1.52	0.037	0.060
E	7.70	8.20	0.303	0.323
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.15	2.62	0.085	0.103
J	2.40		0.094	
K		4.20		0.165
L	3.30		0.130	

REEL SPECIFICATION

P/N	PKG	QTY
MBRS540T3G(MS)	SMC	3000

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