MSKSEMI 美森科
SEMICONDUCTOR

ESD TVS TSS MOV GDT PLED

MBRS320T3G(MS)

Product specification

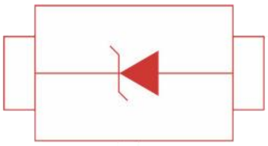
FEATURES

- Small Compact Surface Mountable Package with J-Bend Leads
- Rectangular Package for Automated Handling
- Highly Stable Oxide Passivated Junction
- Very Low Forward Voltage Drop (0.5 V Max @ 3.0 A, T_J = 25°C)
- Excellent Ability to Withstand Reverse Avalanche Energy Transients
- Guard-Ring for Stress Protection
- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant

Mechanical Characteristics

- Case: Epoxy, Molded, Epoxy Meets UL 94 V−0
- 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: Polarity Band on Plastic Body Indicates Cathode Lead
- Device Meets MSL 1 Requirements
- ESD Ratings:
  Machine Model = C (> 400 V)
  Human Body Model = 3B (> 8000 V)

Reference News

PACKAGE OUTLINE	PIN CONFIGURATION	Marking Information
		
SMC(DO-214AB)		

MAXIMUM RATINGS

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	$I_{F(AV)}$	3.0 @ T_L = 110℃ 4.0 @ T_L = 105℃	A
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	80	A
Operating Junction Temperature	T_J	− 65 to +150	℃
ISO 7637 Pulse #1 (100 V, 10Ω)		5000	Pulses
ESD Ratings: Machine Model = C Human Body Model = 3B		 > 400 > 8000	V

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS

Thermal Resistance, Junction−to−Lead	$R_{\theta JL}$	11	℃/W

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (Note 1) (i_F = 3.0 A, T_J = 25℃)	V_F	0.50	V
Maximum Instantaneous Reverse Current (Note 1) (Rated dc Voltage, T_J = 25℃) (Rated dc Voltage, T_J = 100℃)	i_R	 2.0 20	mA

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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

TYPICAL ELECTRICAL CHARACTERISTICS

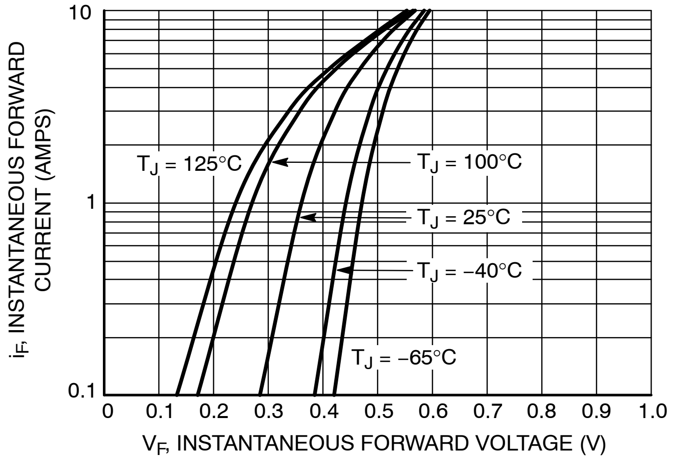


Figure 1. Typical Forward Voltage

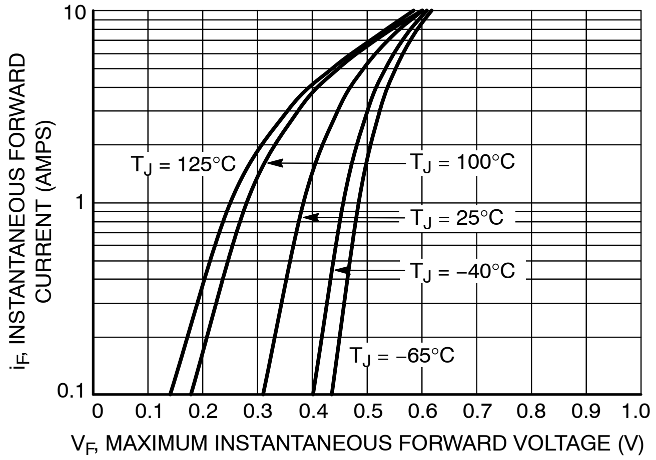


Figure 2. Maximum Forward Voltage

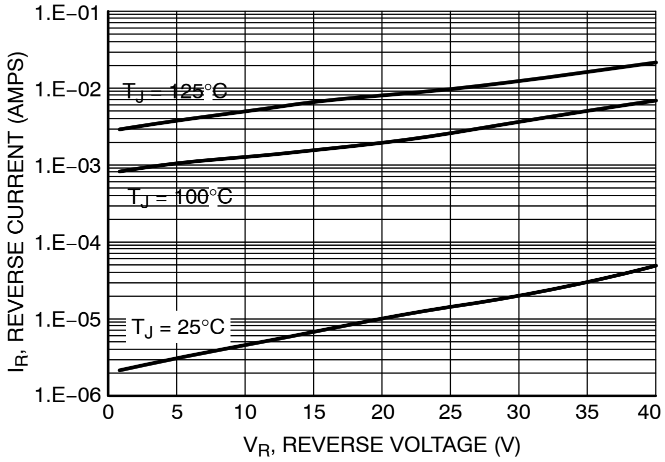


Figure 3. Typical Reverse Current

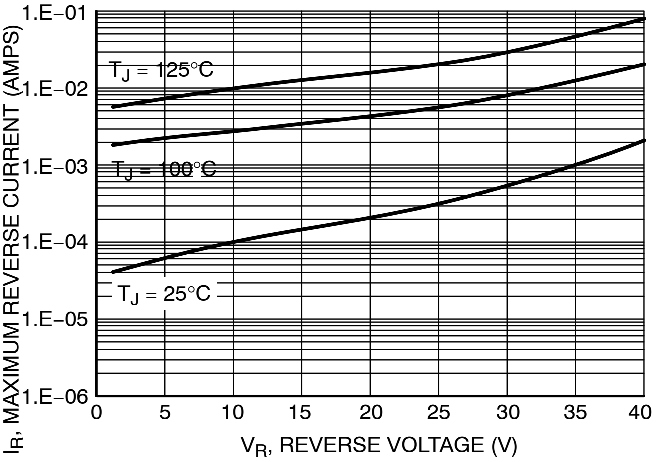


Figure 4. Maximum Reverse Current

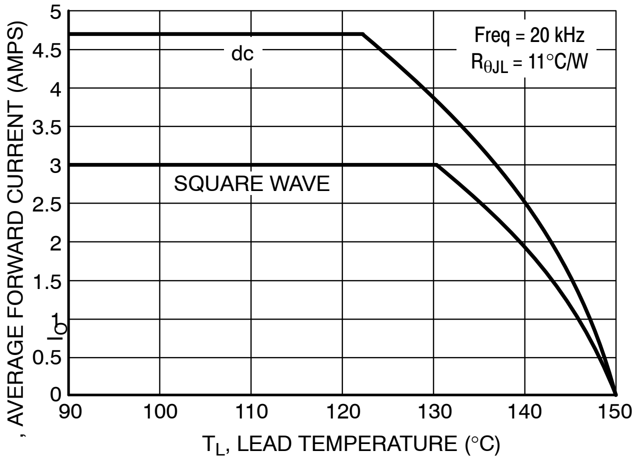


Figure 5. Current Derating

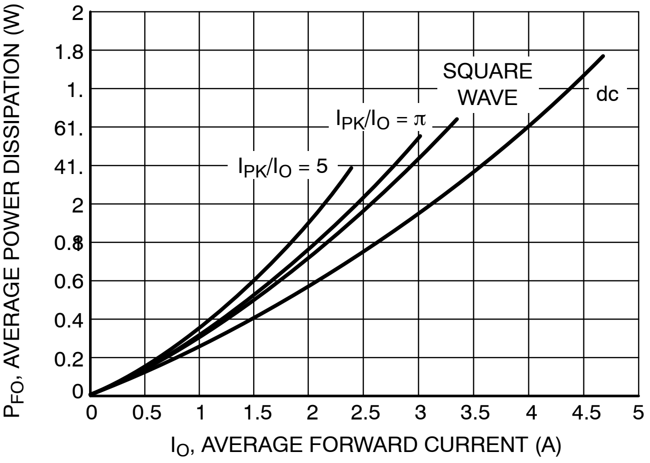


Figure 6. Forward Power Dissipation

YPICAL ELECTRICAL CHARACTERISTICS (continued)

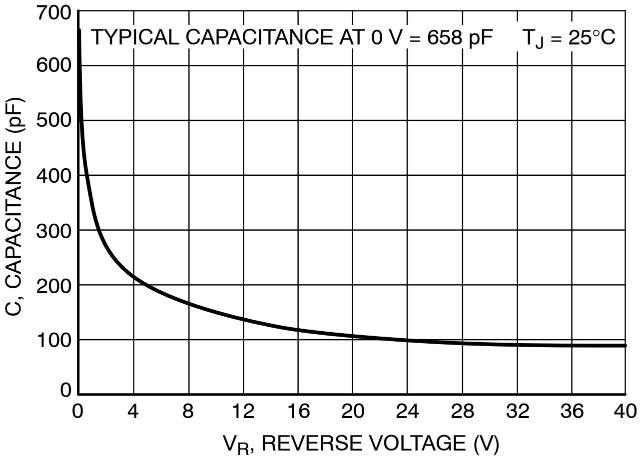
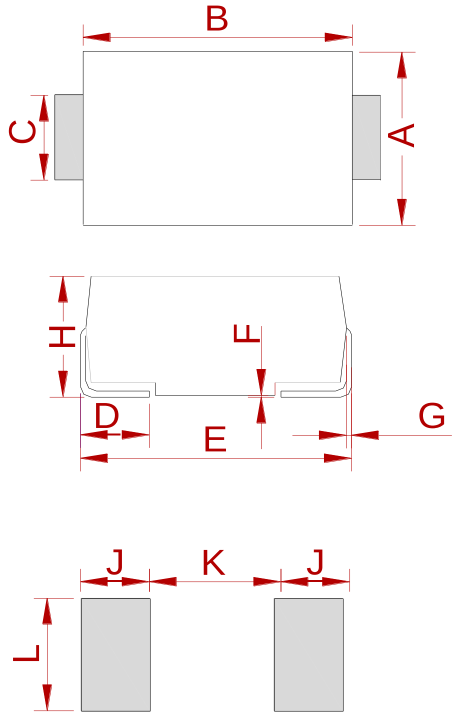


Figure 7. Typical Capacitance

PACKAGE MECHANICAL DATA



DO-214AB (SMC)

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
MBRS320T3G(MS)	SMC	3000

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