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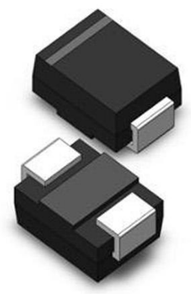
MBRS260T3G, MBRS2H100T3G

Surface Mount Schottky Power Rectifier

SMB Power Surface Mount Package

This device employs the Schottky Barrier principle in a metal−to−silicon power rectifier. Features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency switching power supplies; free wheeling diodes and polarity protection diodes.

SCHOTTKY BARRIER RECTIFIER
2.0 AMPERES, 60−100 VOLTS



SMB
CASE 403A

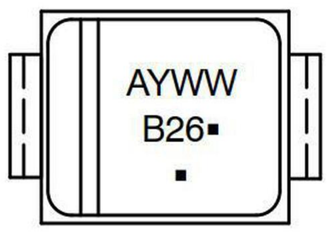
Features

- Compact Package with J−Bend Leads Ideal for Automated Handling
- Highly Stable Oxide Passivated Junction
- Guard−Ring for Over−Voltage Protection
- Low Forward Voltage Drop
- These are Pb−Free Devices

Mechanical Characteristics

- Case: Molded Epoxy
- Weight: 95 mg (Approximately)
- Cathode Polarity Band
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- ESD Ratings:
  - Machine Model = C
  - Human Body Model = 3B

MARKING DIAGRAM



B26	= Specific Device Code
A	= Assembly Location
Y	= Year
WW	= Work Week
▪	= Pb−Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	MARKING	Package	Shipping†
MBRS260T3G	B26	SMB (Pb−Free)	2,500 / Tape & Reel
MBRS2H100T3G	B210	SMB (Pb−Free)	2,500 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	60	V
Average Rectified Forward Current (At Rated V_R, T_L = 95°C)	I_O	2.0	A
Non−Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	60	A
Storage Temperature Range	T_{stg}	−55 to +150	°C
Operating Junction Temperature	T_J	−55 to +125	°C
Voltage Rate of Change (Rated V_R, T_J = 25°C)	dv/dt	10,000	V/μs

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.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction−to−Lead (Note 1) Thermal Resistance, Junction−to−Ambient (Note 2)	$R_{\theta JL}$ $R_{\theta JA}$	24 80	°C/W

1. Mounted with minimum recommended pad size, PC Board FR4.
2. 1 inch square pad size (1 x 0.5 inch for each lead) on FR4 board.

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Value		Unit
Maximum Instantaneous Forward Voltage (Note 3)	v_F	**T_J = 25°C**	**T_J = 125°C**	V
(i_F = 1.0 A) (i_F = 2.0 A)		0.51 0.63	0.475 0.55	
Maximum Instantaneous Reverse Current (Note 3)	I_R	**T_J = 25°C**	**T_J = 125°C**	mA
(V_R = 60 V)		0.2	20	

3. Pulse Test: Pulse Width ≤ 250 μs, Duty Cycle ≤ 2.0%.

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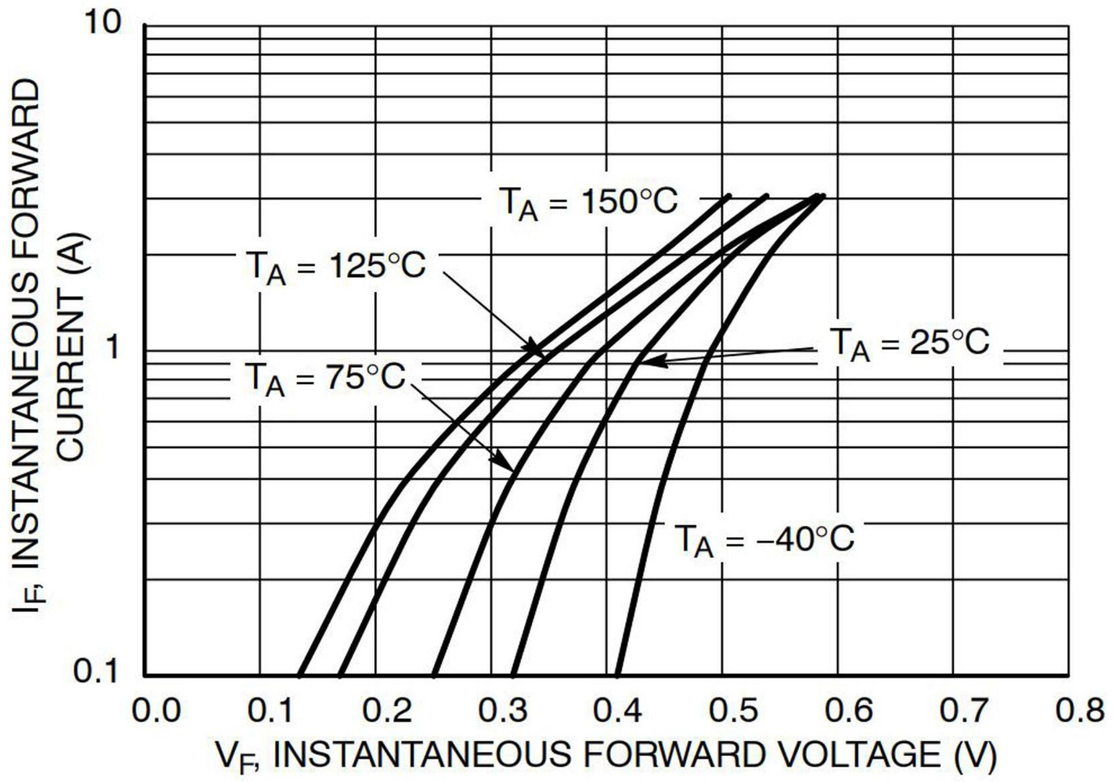

Figure 1. Typical Forward Voltage

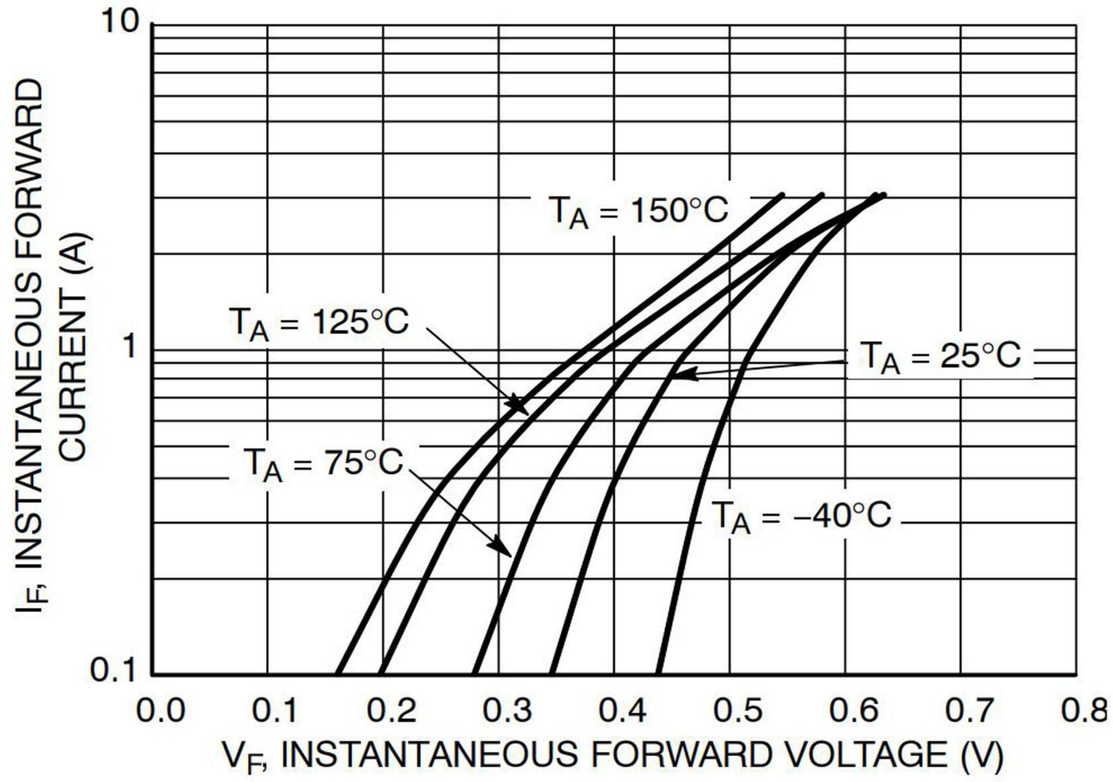

Figure 2. Maximum Forward Voltage

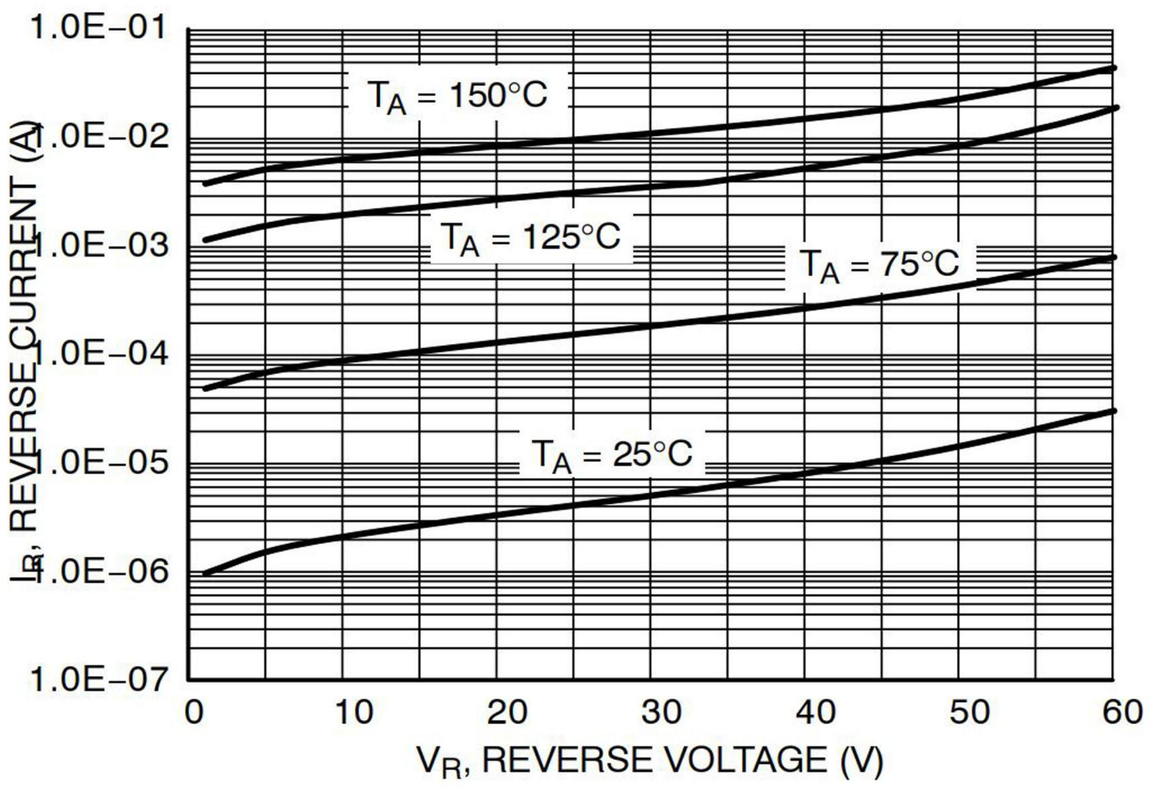

Figure 3. Typical Reverse Current

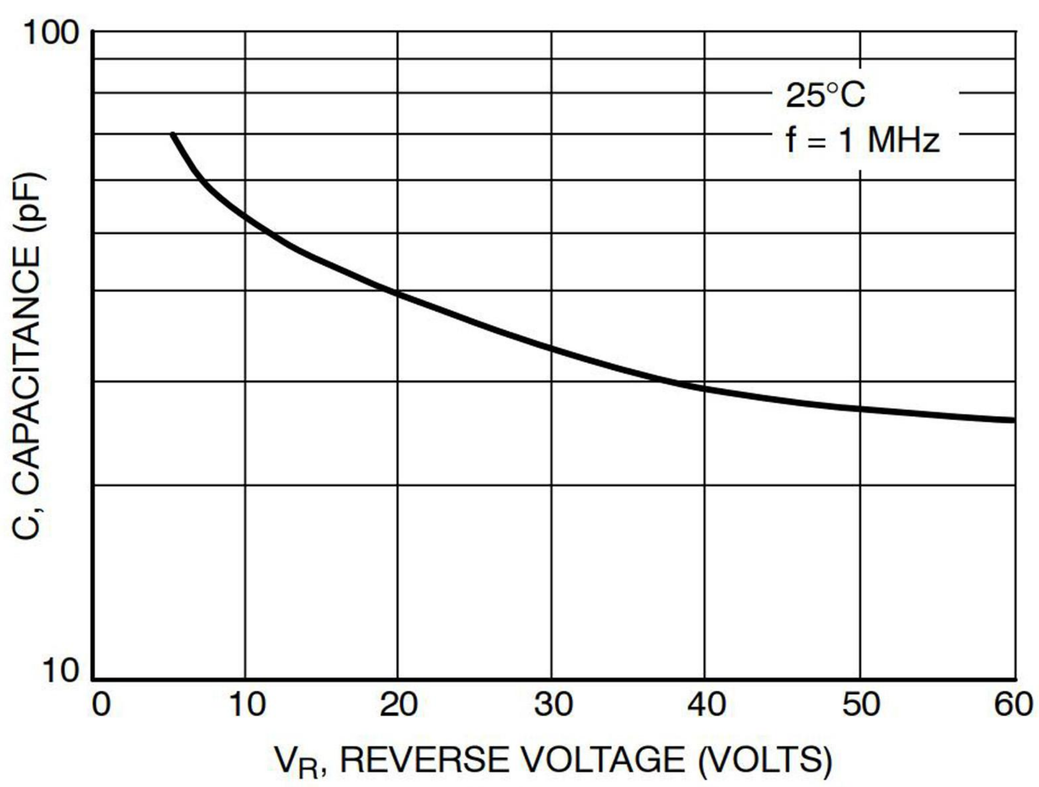

Figure 4. Typical Capacitance

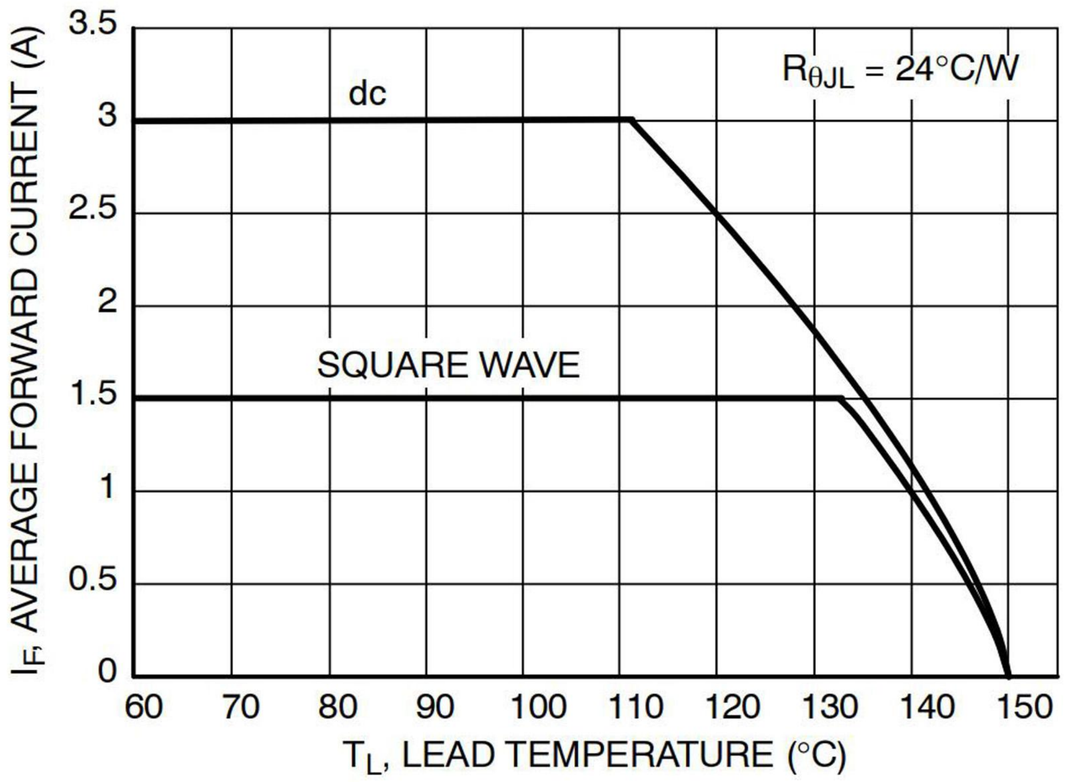

Figure 5. Current Derating – Junction to Lead

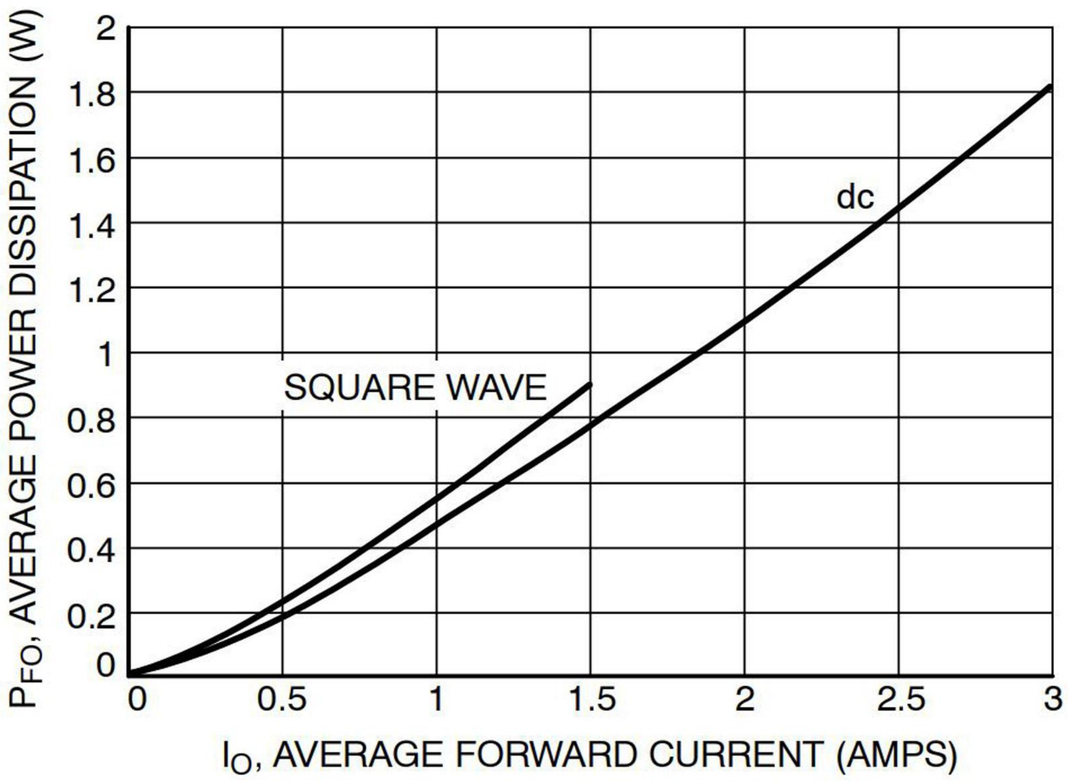

Figure 6. Forward Power Dissipation

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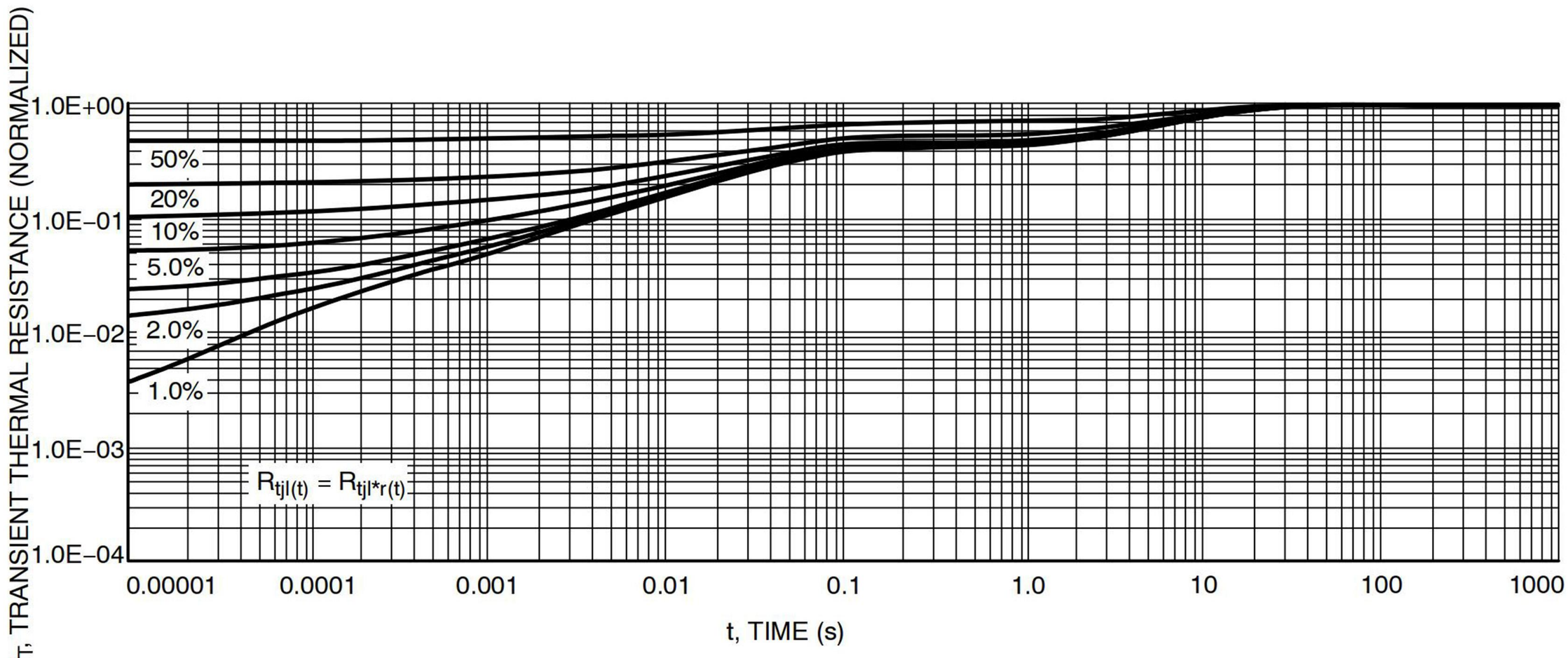

Figure 7. Thermal Response – Junction to Case

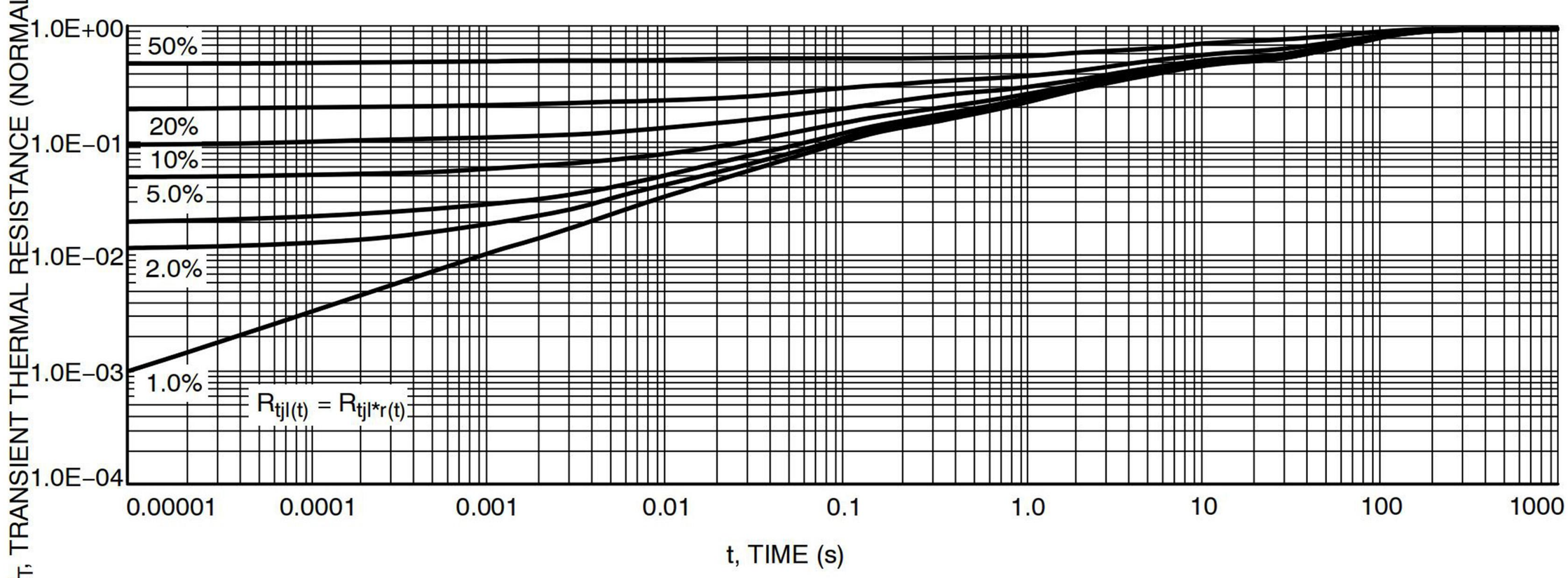

Figure 8. Thermal Response – Junction to Ambient

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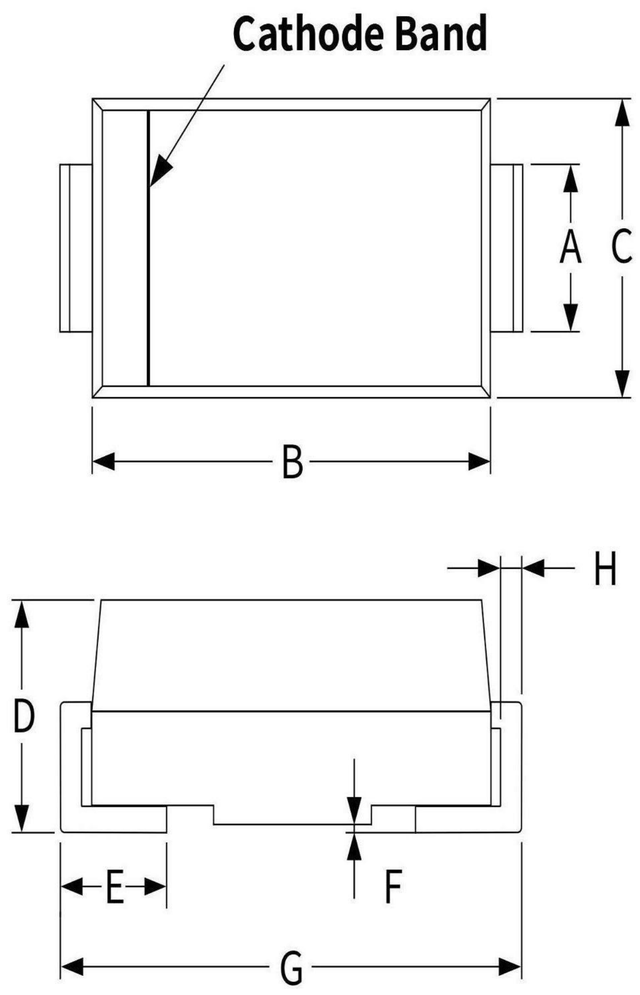
Ordering Information

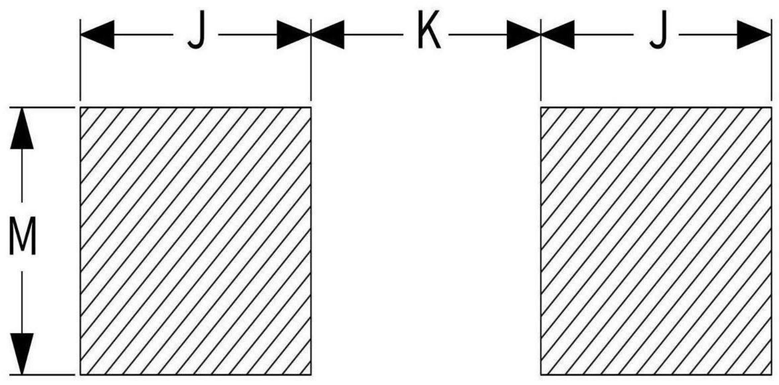
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMB	R3	0.098	2500	5000	25000	13

Package Outline Dimensions (SMB/DO-214AA)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.85	2.21	0.073	0.087
B	4.25	4.85	0.167	0.191
C	3.30	3.94	0.130	0.155
D	2.15	2.65	0.085	0.104
E	0.75	1.52	0.030	0.060
F	-	0.203	-	0.008
G	5.08	5.59	0.200	0.220
H	0.15	0.31	0.006	0.012

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
M	2.26	-	0.089	-
J	2.10	-	0.085	-
K	-	2.74	-	0.107