Advance Information

Surface Mount Standard Recovery Power Rectifier

SMB Power Surface Mount Package

MRS1504T3

STANDARD RECOVERY RECTIFIER 1.5 AMPERES 400 VOLTS



CASE 403A–03 SMB

Features mesa epitaxial construction with glass passivation. Ideally suited for high frequency switching power supplies; free wheeling diodes and polarity protection diodes.

- Compact Package with J–Bend Leads Ideal for Automated Handling
- Stable, High Temperature, Glass Passivated Junction

Mechanical Characteristics:

- Case: Molded Epoxy
- Epoxy Meets UL94, VO at 1/8″
- Weight: 95 mg (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Maximum Temperature of 260°C / 10 Seconds for Soldering
- Available in 12 mm Tape, 2500 Units per 13 inch Reel, Add “T3” Suffix to Part Number
- Polarity: Notch in Plastic Body Indicates Cathode Lead
- Marking: RGG

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	400	V
Average Rectified Forward Current (At Rated V_R, T_l = 118°C)	I_O	1.5	A
Peak Repetitive Forward Current (At Rated V_R, Square Wave, 20 kHz, T_l = 118°C)	I_{FRM}	3.0	A
Non–Repetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	I_{FSM}	50	A
Storage / Operating Case Temperature	T_{stg}, T_C	–55 to 150	°C
Operating Junction Temperature	T_J	–55 to 150	°C

THERMAL CHARACTERISTICS

Thermal Resistance – Junction–to–Lead (2) Thermal Resistance – Junction–to–Ambient (on 1″ sq. Cu. PCB pattern)	R_{tjl} R_{tja}	18 79	°C/W

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (1), see Figure 2	V_F	**T_J = 25°C**	**T_J = 100°C**	V
(I_F = 1.5 A) (I_F = 2.25 A)		1.04 1.10	0.96 1.02	
Maximum Instantaneous Reverse Current, see Figure 4	I_R	**T_J = 25°C**	**T_J = 100°C**	μA
(V_R = 400 V) (V_R = 200 V)		1.0 0.5	340 180	

(1) Pulse Test: Pulse Width ≤ 250 μs, Duty Cycle ≤ 2.0%.

(2) Minimum pad size

This document contains information on a new product. Specifications and information herein are subject to change without notice.

REV 1

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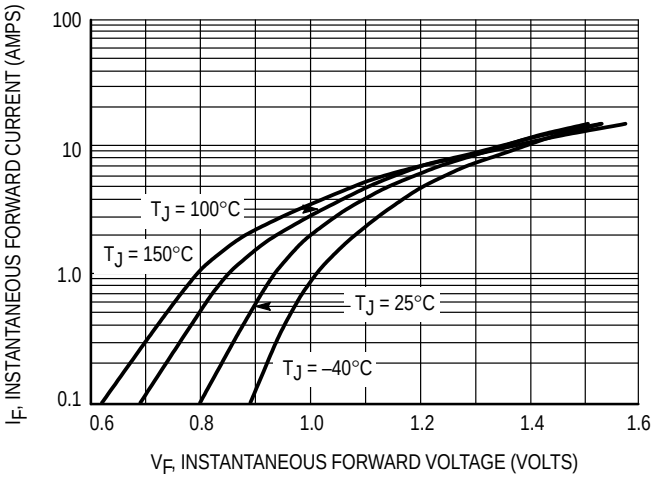


Figure 1. Typical Forward Voltage

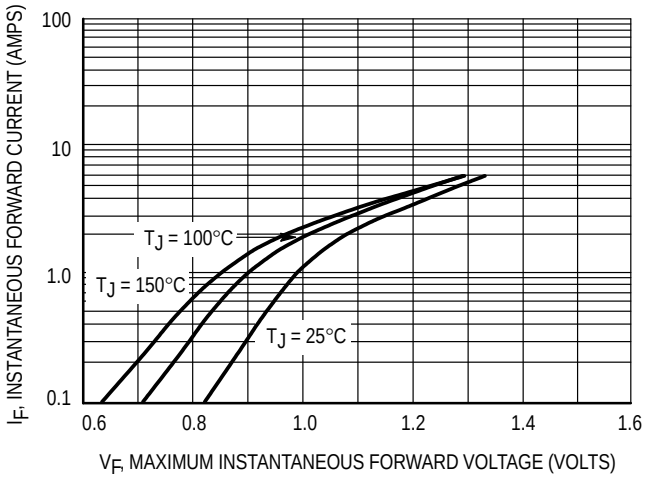


Figure 2. Maximum Forward Voltage

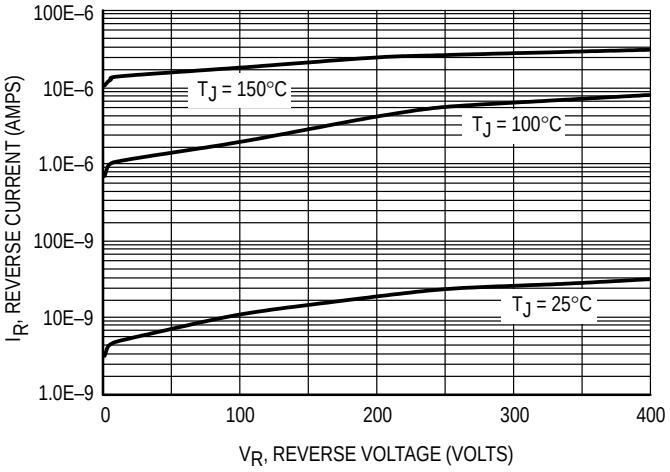


Figure 3. Typical Reverse Current

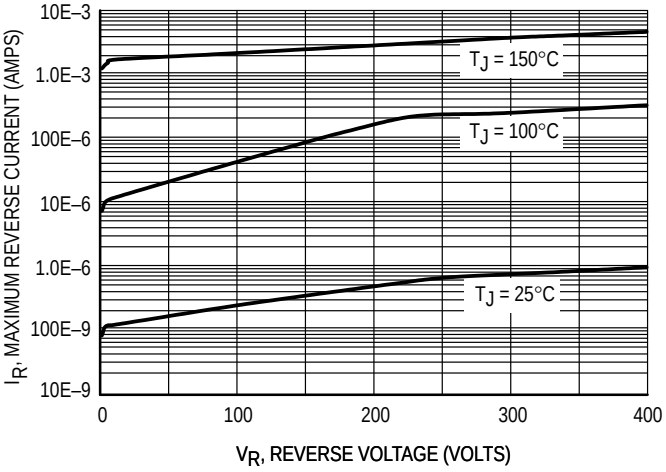


Figure 4. Maximum Reverse Current

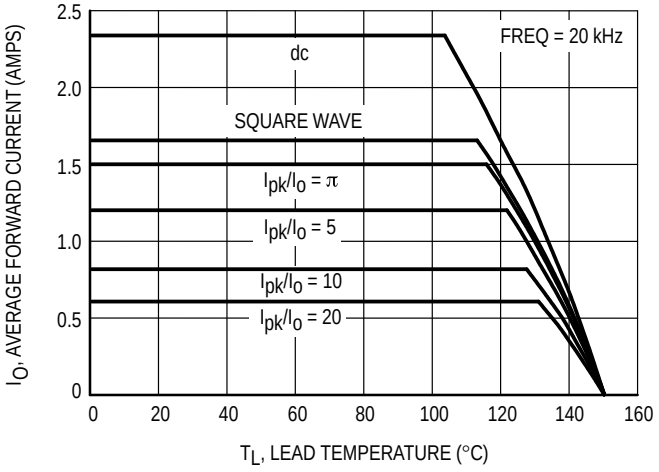


Figure 5. Current Derating

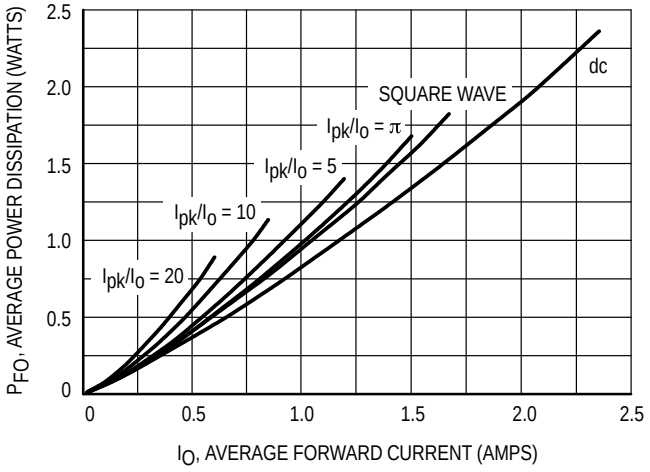


Figure 6. Forward Power Dissipation

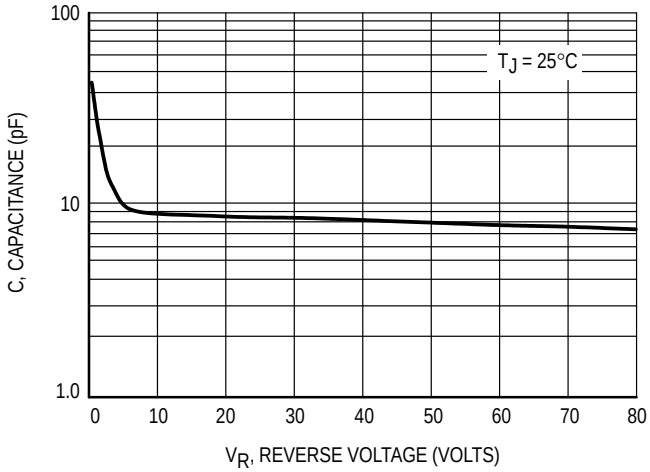


Figure 7. Capacitance

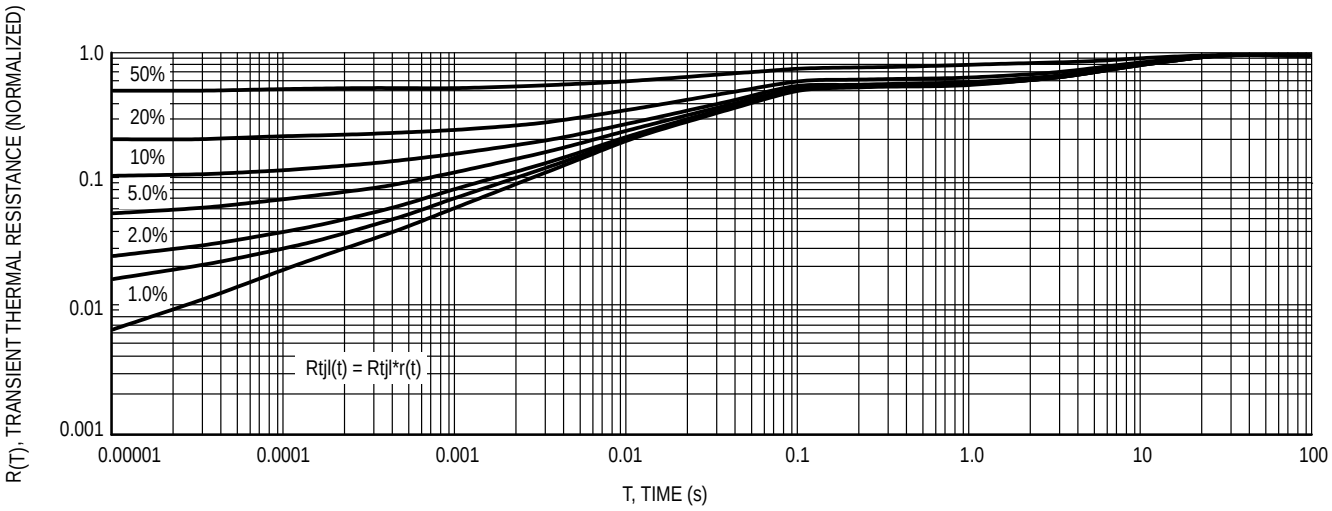


Figure 8. Thermal Response Junction to Lead

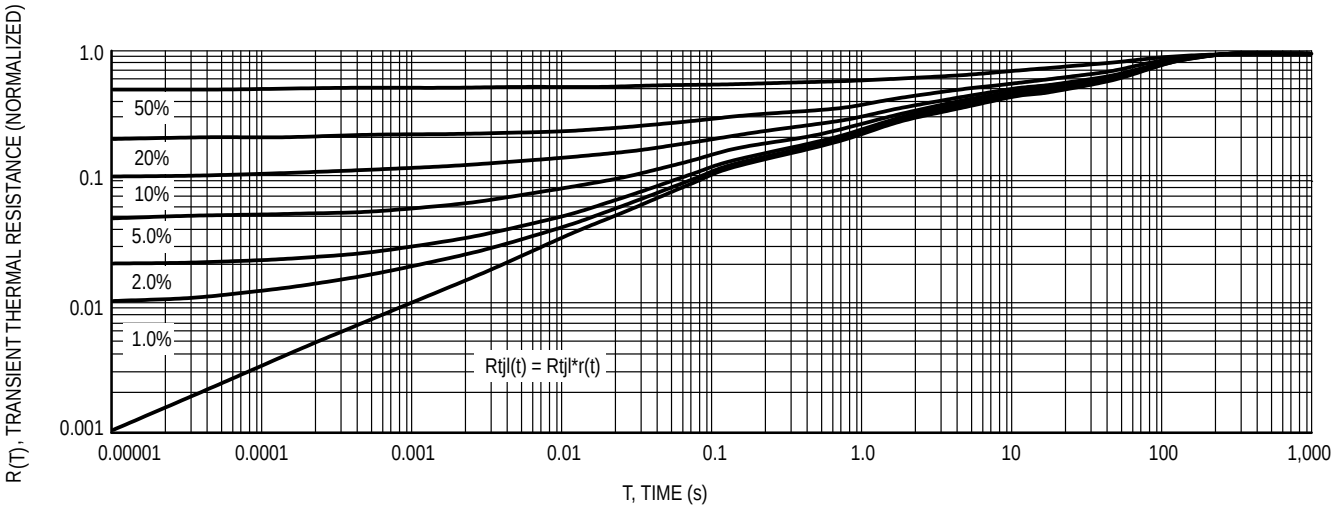
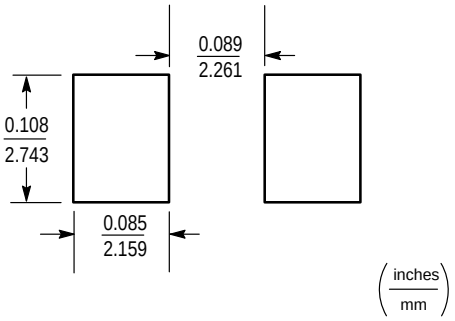
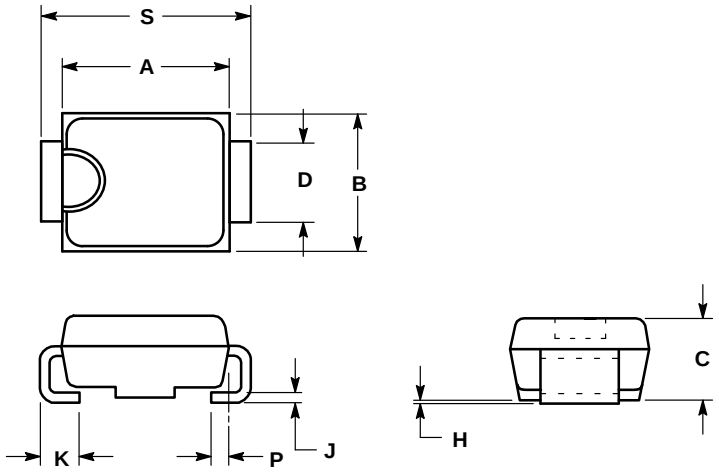


Figure 9. Thermal Response Junction to Ambient



SMB

PACKAGE DIMENSIONS



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. D DIMENSION SHALL BE MEASURED WITHIN DIMENSION P.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.160	0.180	4.06	4.57
B	0.130	0.150	3.30	3.81
C	0.075	0.095	1.90	2.41
D	0.077	0.083	1.96	2.11
H	0.0020	0.0060	0.051	0.152
J	0.006	0.012	0.15	0.30
K	0.030	0.050	0.76	1.27
P	0.020 REF		0.51 REF	
S	0.205	0.220	5.21	5.59

CASE 403A–03
ISSUE B

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