

MRS1504T3

Surface Mount Standard Recovery Power Rectifier

SMB Power Surface Mount Package

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 and/or band 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 , $T_1 = 118^\circ\text{C}$)	I_O	1.5	A
Peak Repetitive Forward Current (At Rated V_R , Square Wave, 20 kHz, $T_1 = 118^\circ\text{C}$)	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 Range	T_{stg}, T_C	-55 to 150	$^\circ\text{C}$
Operating Junction Temperature Range	T_J	-55 to 150	$^\circ\text{C}$



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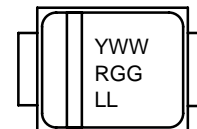
<http://onsemi.com>

**STANDARD RECOVERY
RECTIFIER
1.5 AMPERES
400 VOLTS**



**SMB
CASE 403A
PLASTIC**

MARKING DIAGRAM



Y = Year
WW = Work Week
RGG = Device Code
LL = Location Code

ORDERING INFORMATION

Device	Package	Shipping
MRS1504T3	SMB	2500/Tape & Reel

MRS1504T3

THERMAL CHARACTERISTICS

Rating	Symbol	Value	Unit
Thermal Resistance – Junction–to–Lead (Note 2.)	R_{tjl}	18	$^{\circ}\text{C}/\text{W}$
Thermal Resistance – Junction–to–Ambient (on 1" sq. Cu. PCB pattern)	R_{tja}	79	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (Note 1.), see Figure 2 ($I_F = 1.5 \text{ A}$) ($I_F = 2.25 \text{ A}$)	V_F	$T_J = 25^{\circ}\text{C}$	$T_J = 100^{\circ}\text{C}$	V
		1.04 1.10	0.96 1.02	
Maximum Instantaneous Reverse Current, see Figure 4 ($V_R = 400 \text{ V}$) ($V_R = 200 \text{ V}$)	I_R	$T_J = 25^{\circ}\text{C}$	$T_J = 100^{\circ}\text{C}$	μA
		1.0 0.5	340 180	

1. Pulse Test: Pulse Width $\leq 250 \mu\text{s}$, Duty Cycle $\leq 2.0\%$.
2. Minimum pad size

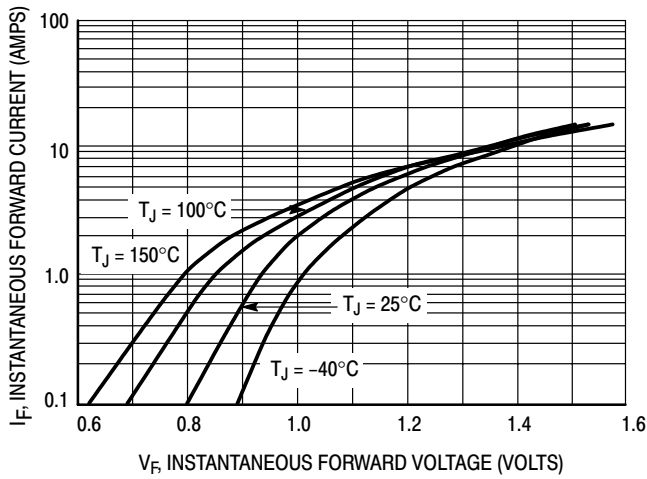


Figure 1. Typical Forward Voltage

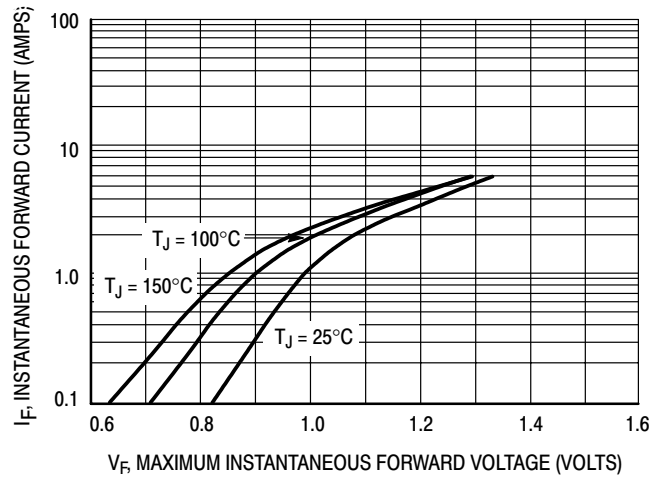


Figure 2. Maximum Forward Voltage

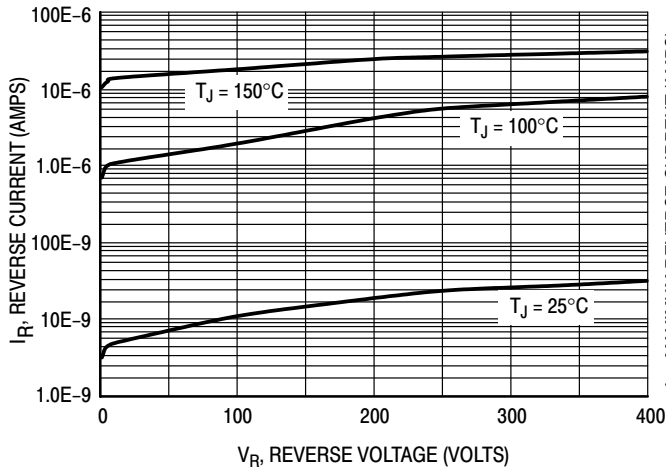


Figure 3. Typical Reverse Current

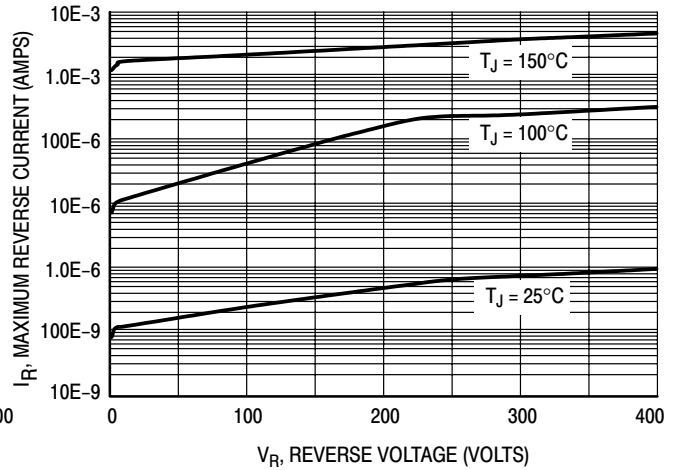


Figure 4. Maximum Reverse Current

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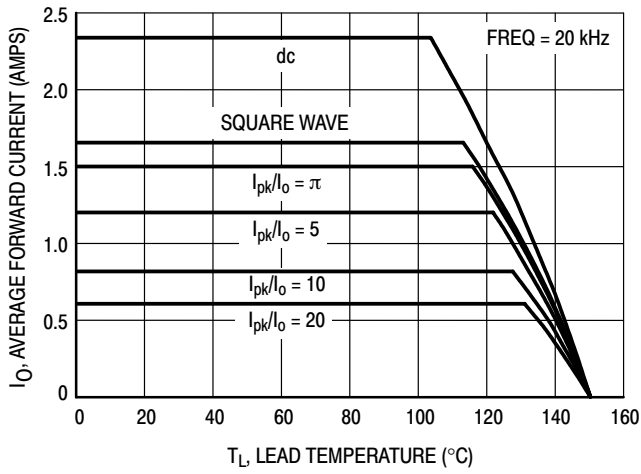


Figure 5. Current Derating

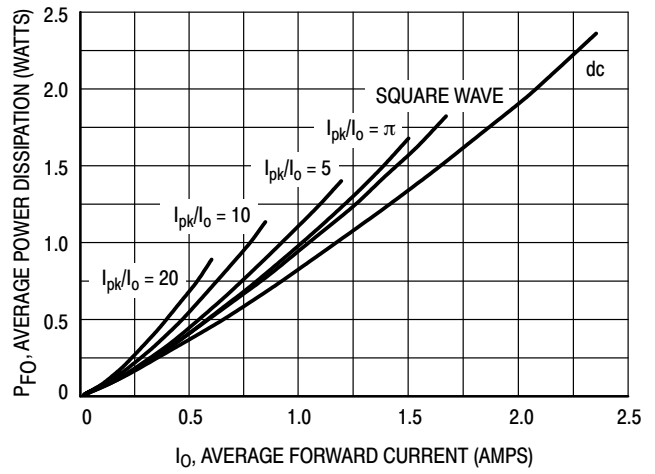


Figure 6. Forward Power Dissipation

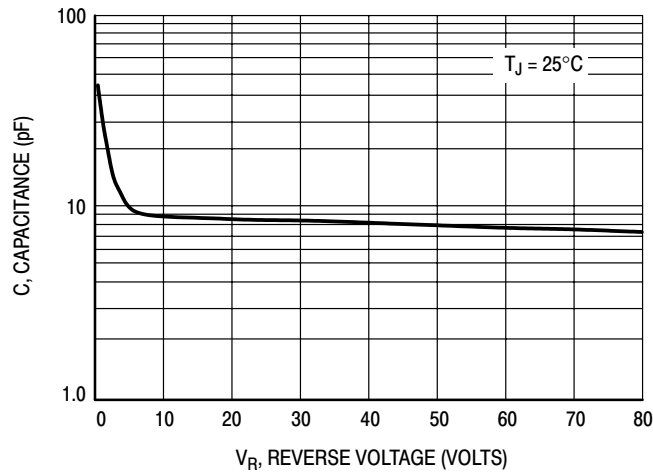


Figure 7. Capacitance

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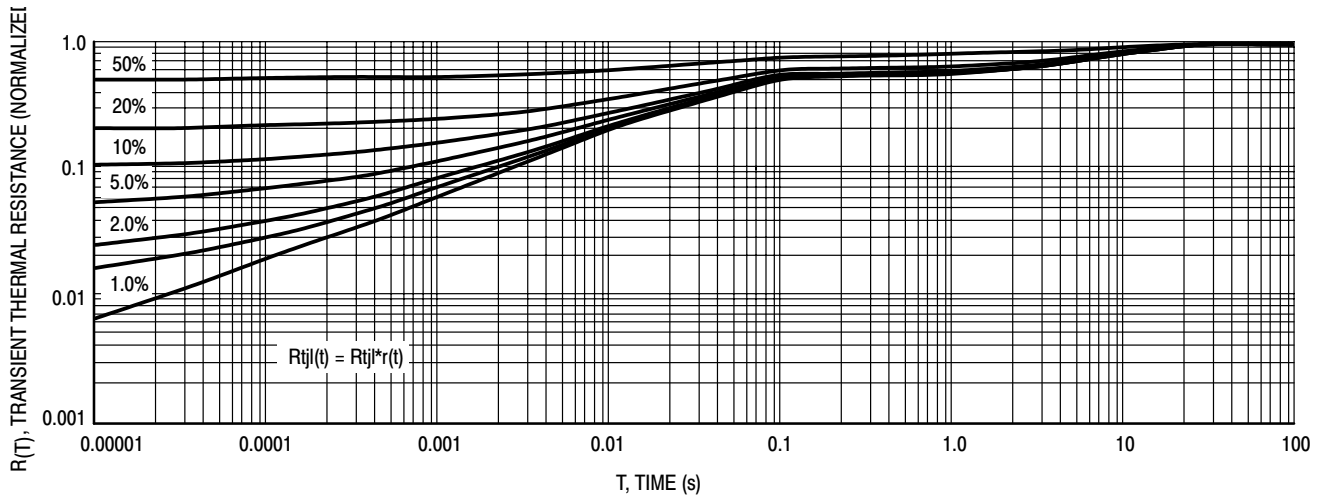


Figure 8. Thermal Response Junction to Lead

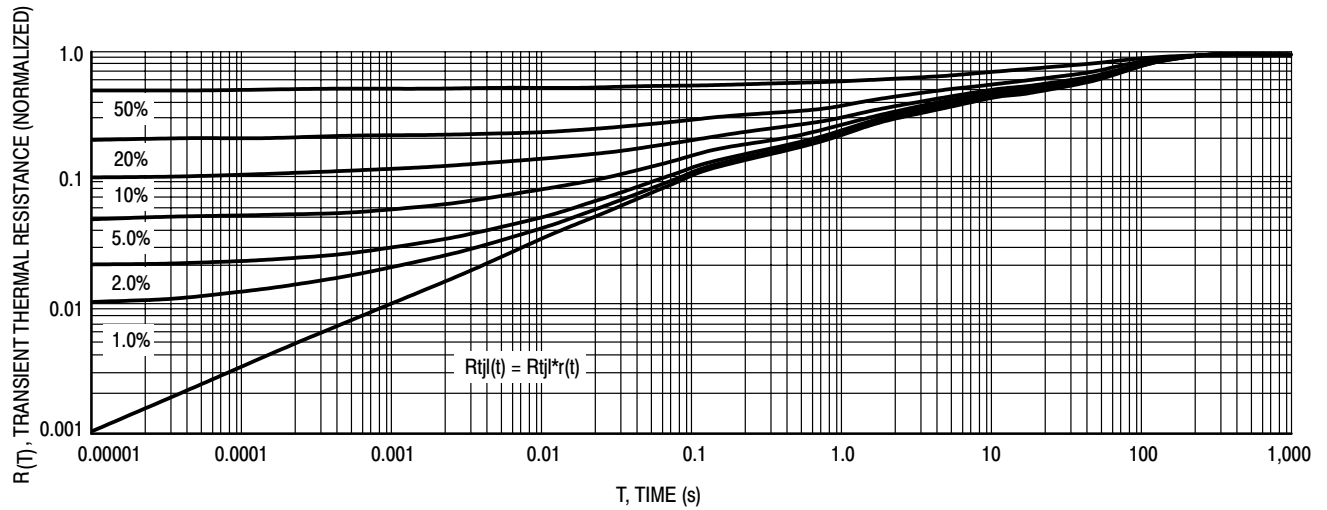
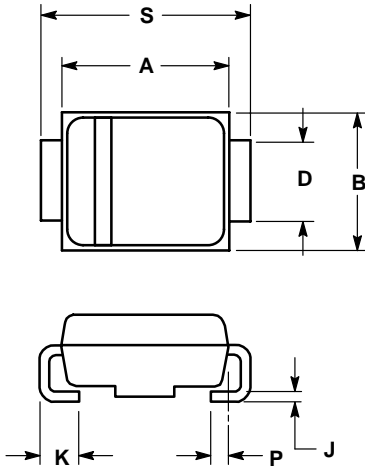


Figure 9. Thermal Response Junction to Ambient

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PACKAGE DIMENSIONS

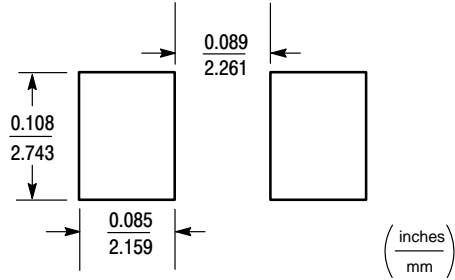
SMB PLASTIC PACKAGE CASE 403A-03 ISSUE D



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

DIM	INCHES		MILLIMETERS	
	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

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Notes

Notes

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