MRA4003T3 SERIES

Surface Mount Standard Recovery Power Rectifier

SMA Power Surface Mount Package

Features construction with glass passivation. Ideally suited for surface mounted Automotive application.

- 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: 70 mg (Approximately)
- Finish: All External Surfaces are Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 seconds in Solder Bath
- Polarity: Notch and Band in Plastic Body Indicates Cathode Lead
- Available in 12 mm Tape, 5000 Units per 13 inch Reel,
  Add "T3" Suffix to Part Number
- Marking: MRA4003T3 — R13
  MRA4004T3 — R14
  MRA4005T3 — R15
  MRA4006T3 — R16
  MRA4007T3 — R17

ON Semiconductor
Formerly a Division of Motorola
http://onsemi.com

STANDARD RECOVERY RECTIFIERS
1 AMPERES
300 – 1000 VOLTS

SMA
CASE 403B

ORDERING INFORMATION

Device	Package	Shipping
MRA4003T3	SMA	5000/Tape & Reel
MRA4004T3	SMA	5000/Tape & Reel
MRA4005T3	SMA	5000/Tape & Reel
MRA4006T3	SMA	5000/Tape & Reel
MRA4007T3	SMA	5000/Tape & Reel

MAXIMUM RATINGS

Rating	Symbol	Value					Unit
		MRA4003T3	MRA4004T3	MRA4005T3	MRA4006T3	MRA4007T3	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	300	400	600	800	1000	Volts
Avg. Rectified Forward Current (At Rated V_R, T_L = 150°C)	I_O	1					Amp
Peak Repetitive Forward Current (At Rated V_R, Square Wave, 20 kHz, T_L = 150°C)	I_{FRM}	2					Amps
Non–Repetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	I_{FSM}	30					Amps
Storage/Operating Case Temperature	T_{stg}, T_C	–55 to 150					°C
Operating Junction Temperature	T_J	–55 to 175					°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Lead (1) Thermal Resistance, Junction to Ambient (2)	$R_{\theta JL}$ $R_{\theta JA}$	16.2 88.3	°C/W

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Value		Unit
		T_J = 25°C	T_J = 100°C	
Maximum Instantaneous Forward Voltage (3) (I_F = 1 A) (I_F = 2 A)	V_F	 1.1 1.18	 1.04 1.12	Volts
Maximum Instantaneous Reverse Current (at rated DC voltage)	I_R	10	50	μA

(1) Minimum Pad Size
(2) 1 inch Pad Size
(3) Pulse Test: Pulse Width ≤ 250 μs, Duty Cycle ≤ 2%.

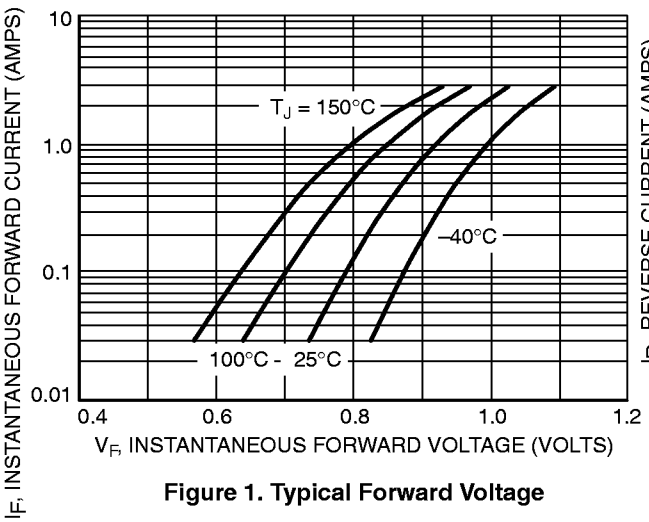


Figure 1. Typical Forward Voltage

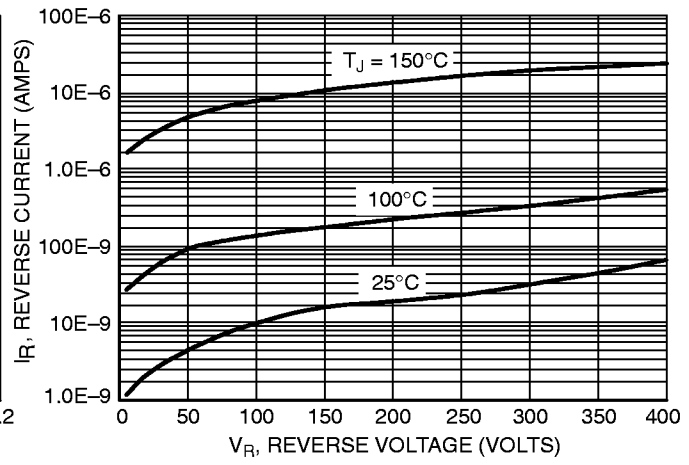


Figure 2. Typical Reverse Current

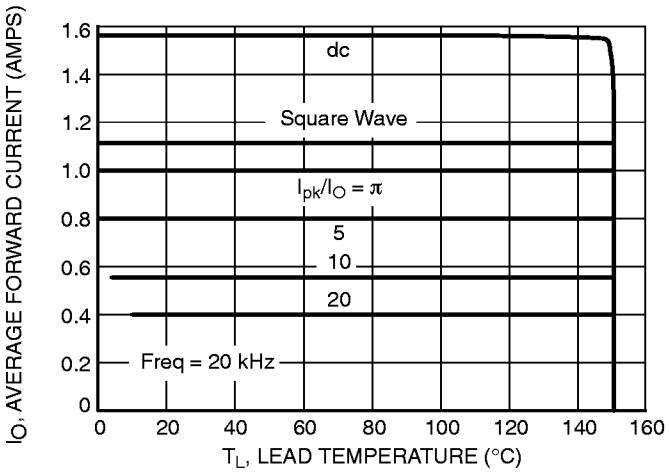


Figure 3. Current Derating per Leg

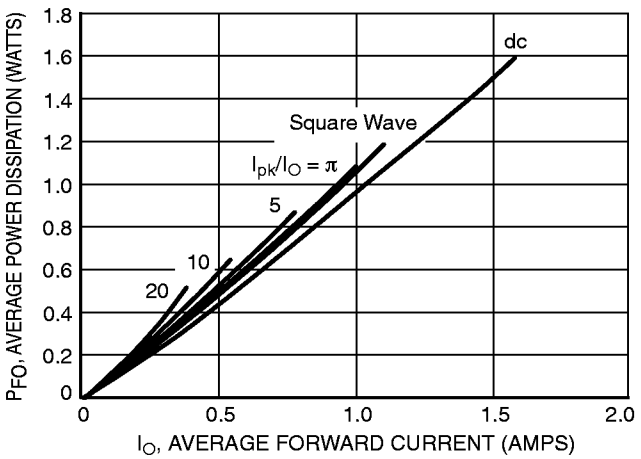


Figure 4. Forward Power Dissipation per Leg

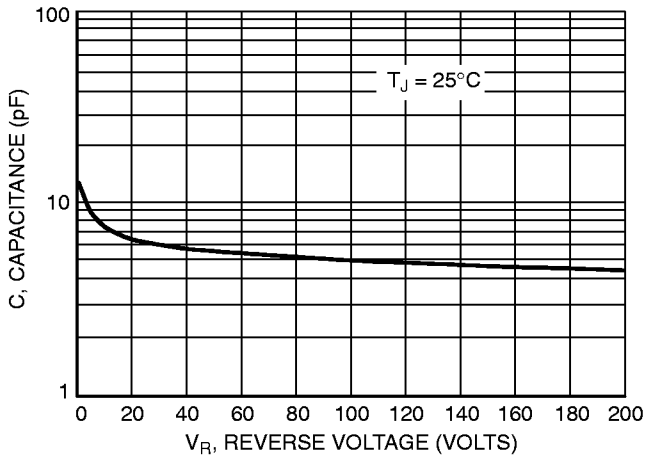


Figure 5. Capacitance

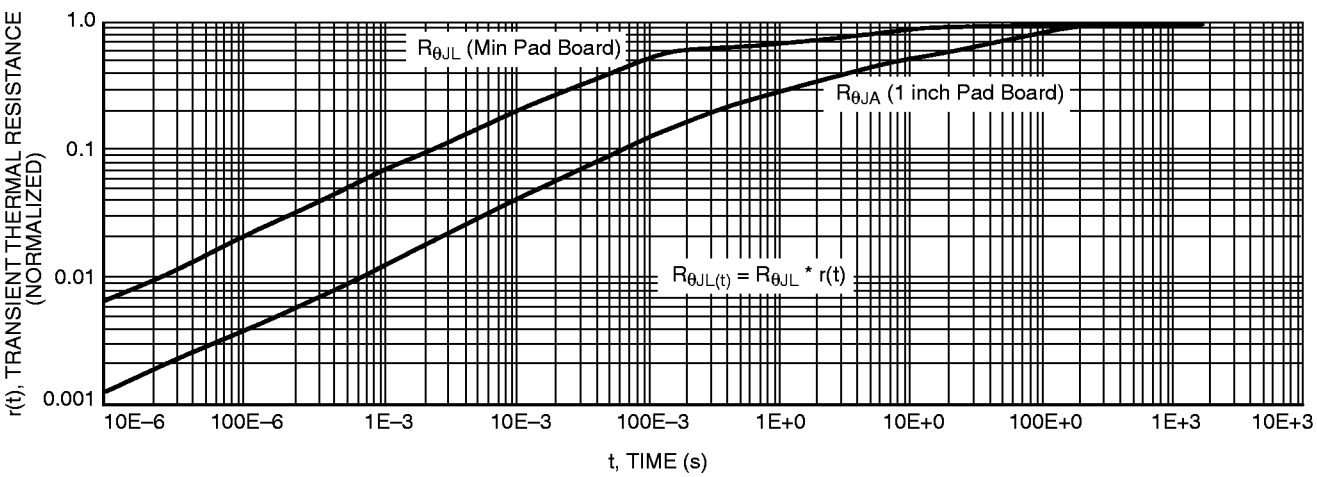
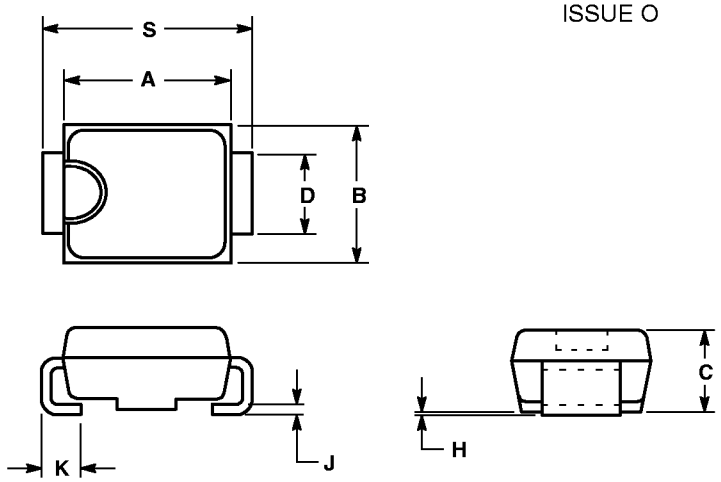


Figure 6. Thermal Response

MRA4003T3 SERIES

PACKAGE DIMENSIONS

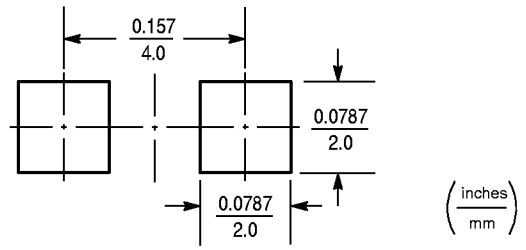
CASE 403B–01
ISSUE O



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.160	0.180	4.06	4.57
B	0.090	0.115	2.29	2.92
C	0.075	0.105	1.91	2.67
D	0.050	0.064	1.27	1.63
H	0.004	0.008	0.10	0.20
J	0.006	0.016	0.15	0.41
K	0.030	0.060	0.76	1.52
S	0.190	0.220	4.83	5.59

SMA Footprint



PUBLICATION ORDERING INFORMATION

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