

# MBRS360T3

Preferred Devices

## Surface Mount Schottky Power Rectifier

...employing the Schottky Barrier principle in a large area metal-to-silicon power diode. State-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes, in surface mount applications where compact size and weight are critical to the system.

- Small Compact Surface Mountable Package with J-Bend Leads
- Rectangular Package for Automated Handling
- Highly Stable Oxide Passivated Junction
- Excellent Ability to Withstand Reverse Avalanche Energy Transients
- Guardring for Stress Protection

### Mechanical Characteristics:

- Case: Epoxy, Molded, Epoxy Meets UL94, VO
- 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
- Shipped in 16 mm Tape and Reel, 2500 units per reel
- Polarity: Notch in Plastic Body Indicates Cathode Lead
- Device Meets MSL 1 Requirements
- ESD Ratings: Machine Model, A  
Human Body Model, 1B
- Marking: B36

### MAXIMUM RATINGS

Please See the Table on the Following Page



ON Semiconductor®

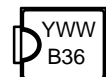
<http://onsemi.com>

**SCHOTTKY BARRIER  
RECTIFIERS  
3.0 AMPERES  
60 VOLTS**



SMC  
CASE 403  
PLASTIC

### MARKING DIAGRAM



B36 = Device Code  
Y = Year  
W = Work Week

### ORDERING INFORMATION

Device	Package	Shipping†
MBRS360T3	SMC	2500/Tape & Reel

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

Preferred devices are recommended choices for future use and best overall value.

# MBRS360T3

## MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	60	Volts
Average Rectified Forward Current	$I_{F(AV)}$	3.0 @ $T_L = 137^\circ\text{C}$ 4.0 @ $T_L = 127^\circ\text{C}$	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	$I_{FSM}$	125	Amps
Storage Temperature Range	$T_{stg}$	- 65 to +150	$^\circ\text{C}$
Operating Junction Temperature	$T_J$	- 65 to +150	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

Thermal Resistance — Junction to Lead (Note 1.)	$R_{\theta JL}$	11	$^\circ\text{C/W}$
Thermal Resistance — Junction to Ambient (Note 1.)	$R_{\theta JA}$	164	$^\circ\text{C/W}$
Thermal Resistance — Junction to Ambient (Note 2.)	$R_{\theta JA}$	71	$^\circ\text{C/W}$

## ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (Note 3.) ( $i_F = 3.0\text{ A}$ , $T_J = 25^\circ\text{C}$ )	$V_F$	0.740	Volts
Maximum Instantaneous Reverse Current (Note 3.) (Rated dc Voltage, $T_J = 25^\circ\text{C}$ ) (Rated dc Voltage, $T_J = 100^\circ\text{C}$ )	$i_R$	0.15 10	mA

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.
3. Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .

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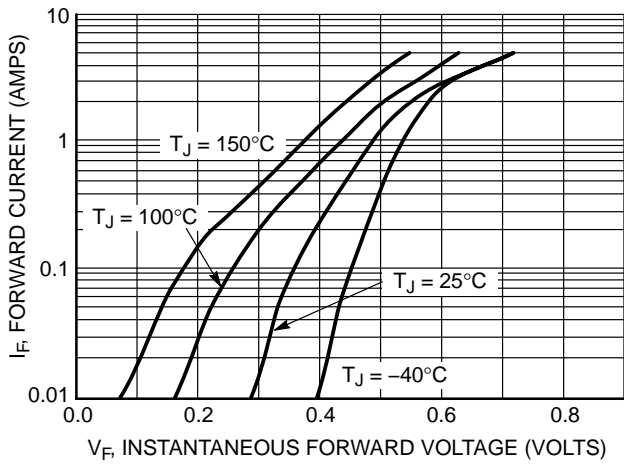


Figure 1. Typical Forward Voltage

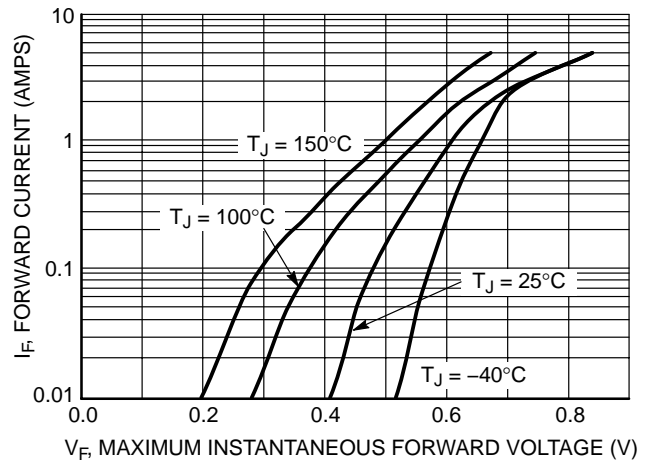


Figure 2. Maximum Forward Voltage

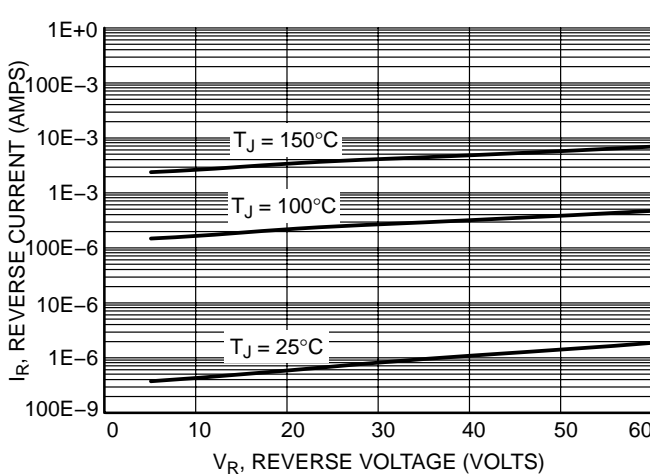


Figure 3. Typical Reverse Current

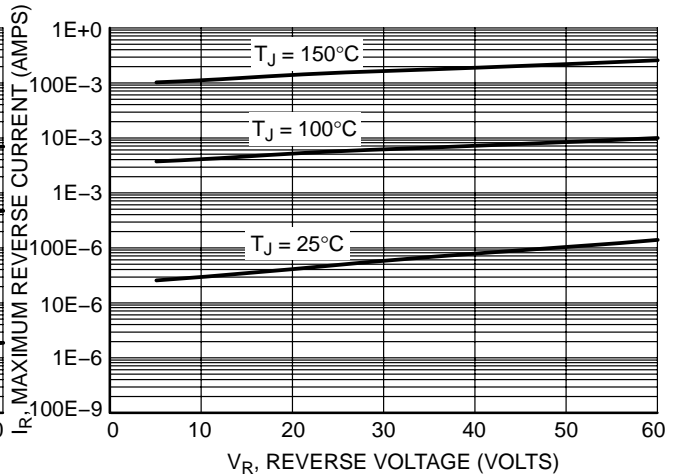


Figure 4. Maximum Reverse Current

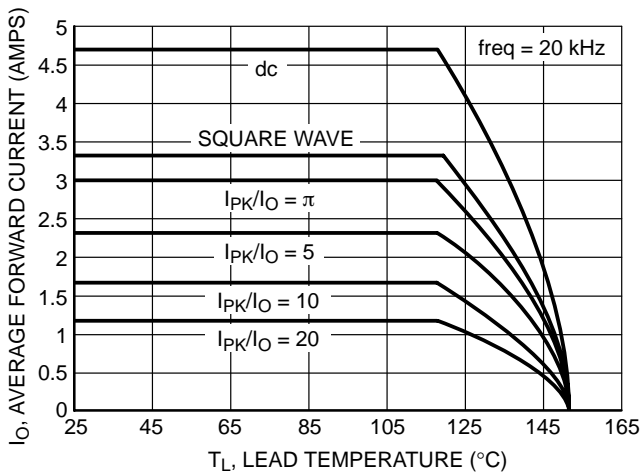


Figure 5. Current Derating

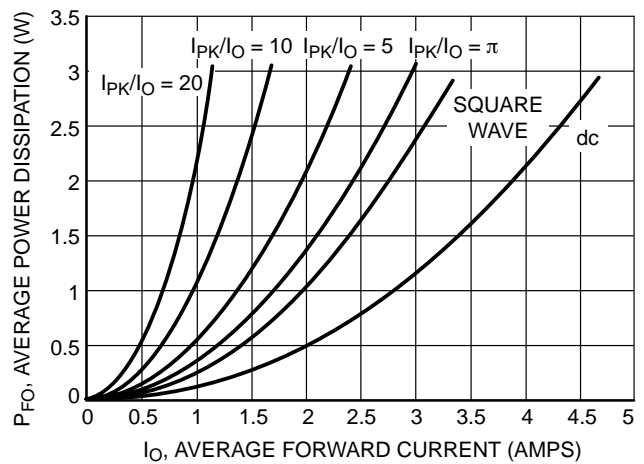


Figure 6. Forward Power Dissipation

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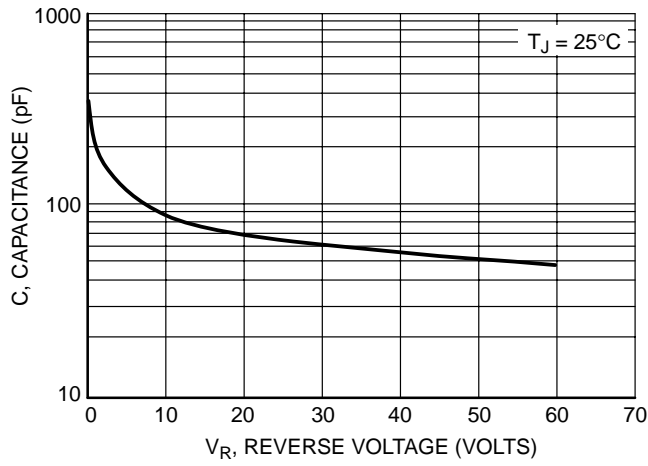


Figure 7. Typical Capacitance

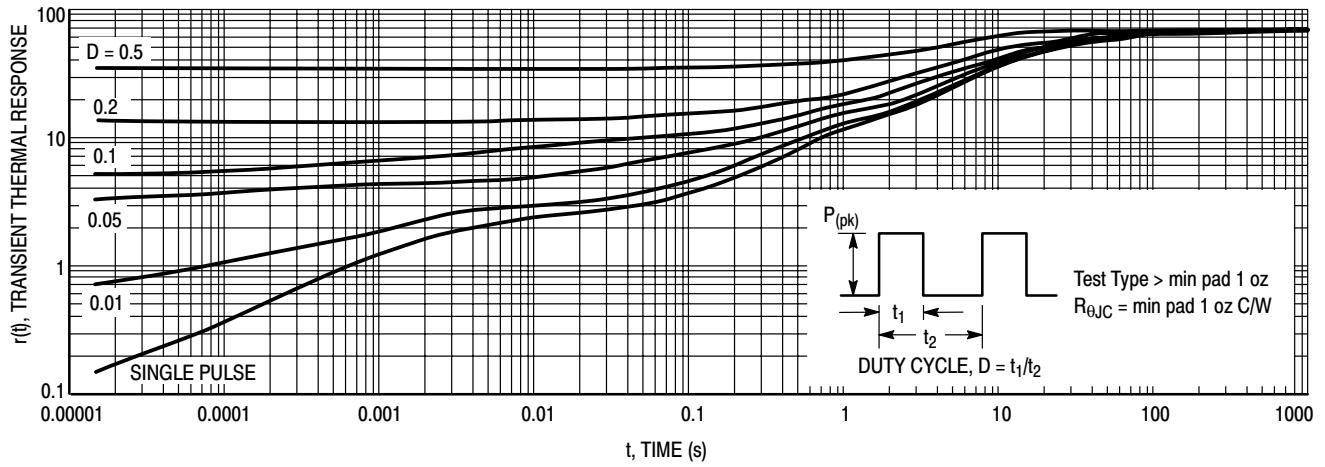
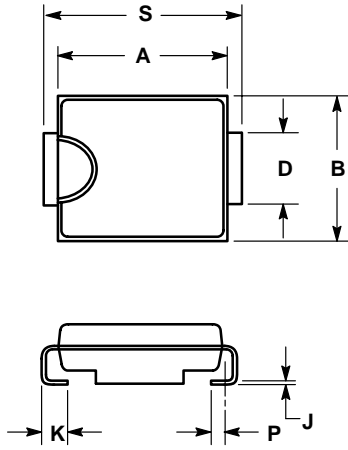


Figure 8. Thermal Response

# MBRS360T3

## PACKAGE DIMENSIONS

SMC  
 PLASTIC PACKAGE  
 CASE 403-03  
 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.
4. 403-01 THRU -02 OBSOLETE, NEW STANDARD 403-03.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.260	0.280	6.60	7.11
B	0.220	0.240	5.59	6.10
C	0.075	0.095	1.90	2.41
D	0.115	0.121	2.92	3.07
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	0.305	0.320	7.75	8.13

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