

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
- Very Low Forward Voltage Drop (0.5 Volts Max @ 3.0 A, $T_J = 25^\circ\text{C}$)
- Excellent Ability to Withstand Reverse Avalanche Energy Transients
- Guardring for Stress Protection

Mechanical Characteristics:

- Case: Epoxy, Molded
- 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
- Marking: B34, B36

MAXIMUM RATINGS

Rating	Symbol	MBRS340T3	MBRS360T3	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	40	60	Volts
Average Rectified Forward Current	$I_F(AV)$	3.0 @ $T_L = 100^\circ\text{C}$ 4.0 @ $T_L = 90^\circ\text{C}$		Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	80		Amps
Operating Junction Temperature	T_J	- 65 to +125		$^\circ\text{C}$

THERMAL CHARACTERISTICS

Thermal Resistance — Junction to Lead	$R_{\theta JL}$	11	11	$^\circ\text{C/W}$
---------------------------------------	-----------------	----	----	--------------------

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (1) ($i_F = 3.0\text{ A}$, $T_J = 25^\circ\text{C}$)	V_F	0.525	0.740	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, $T_J = 25^\circ\text{C}$) (Rated dc Voltage, $T_J = 100^\circ\text{C}$)	i_R	2.0 20	0.5 20	mA

(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.

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

MBRS340T3
MBRS360T3

Motorola Preferred Device

**SCHOTTKY BARRIER
RECTIFIERS**
3.0 AMPERES
40, 60 VOLTS



CASE 403-03



MBRS340T3 MBRS360T3

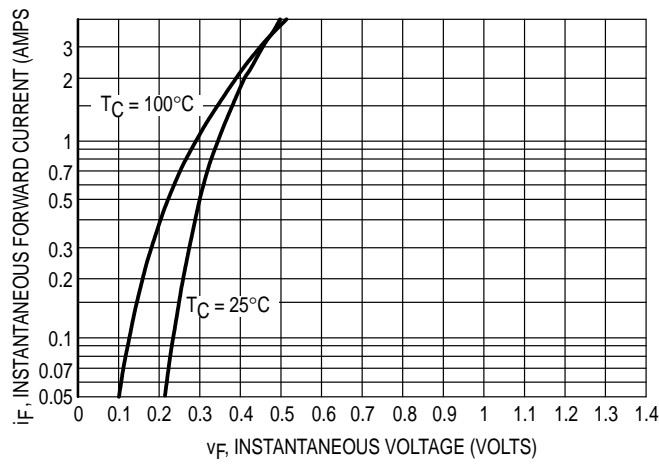


Figure 1. Typical Forward Voltage

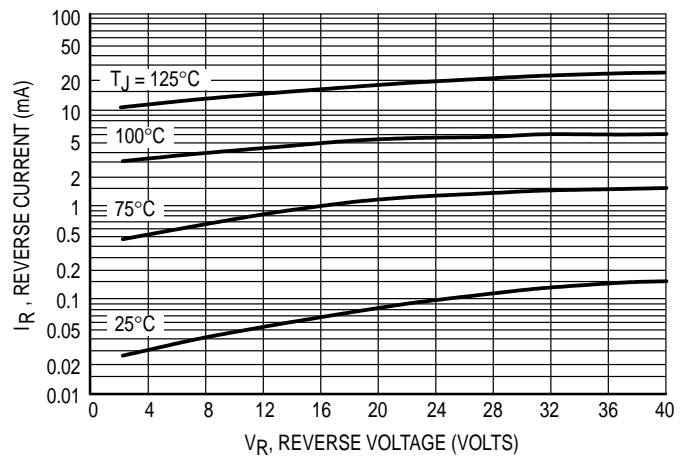


Figure 2. Typical Reverse Current

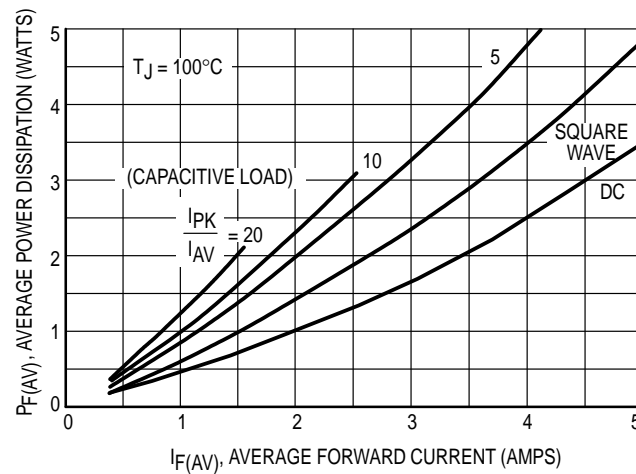


Figure 3. Power Dissipation

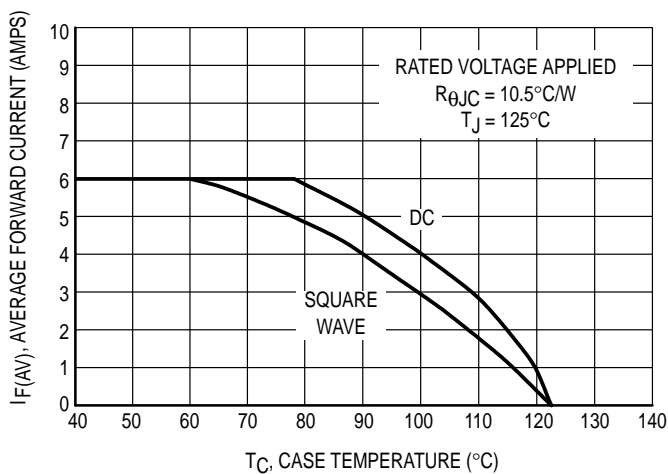


Figure 4. Current Derating (Case)

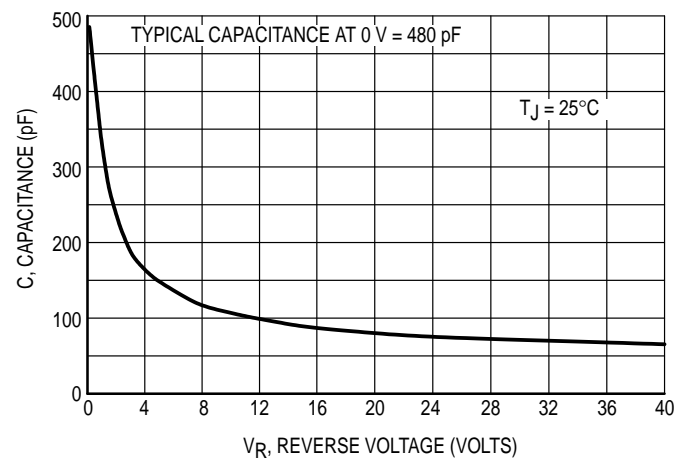
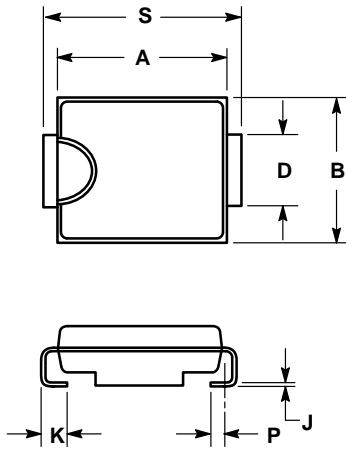


Figure 5. Typical Capacitance

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.

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

**CASE 403-03
ISSUE B**

Motorola reserves the right to make changes without further notice to any products herein. Motorola makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Motorola assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters which may be provided in Motorola data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Motorola does not convey any license under its patent rights nor the rights of others. Motorola products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Motorola product could create a situation where personal injury or death may occur. Should Buyer purchase or use Motorola products for any such unintended or unauthorized application, Buyer shall indemnify and hold Motorola and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Motorola was negligent regarding the design or manufacture of the part. Motorola and  are registered trademarks of Motorola, Inc. Motorola, Inc. is an Equal Opportunity/Affirmative Action Employer.

Mfax is a trademark of Motorola, Inc.

How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution;
P.O. Box 5405, Denver, Colorado 80217. 303-675-2140 or 1-800-441-2447

Mfax™: RMFAX0@email.sps.mot.com – TOUCHTONE 602-244-6609
INTERNET: <http://Design-NET.com>

JAPAN: Nippon Motorola Ltd.; Tatsumi-SPD-JLDC, 6F Seibu-Butsuryu-Center,
3-14-2 Tatsumi Koto-Ku, Tokyo 135, Japan. 81-3-3521-8315

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852-26629298

**MOTOROLA**

◇ CODELINE TO BE PLACED HERE

MBRS340T3/D