

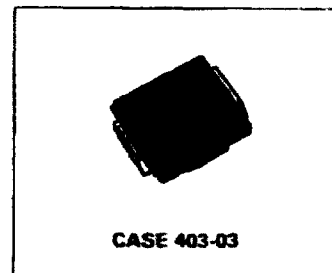
# Surface Mount Schottky Power Rectifiers

**MBRS320T3**  
**MBRS330T3**  
**MBRS340T3**

... 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.

**SCHOTTKY BARRIER  
RECTIFIERS**  
**3.0 AMPERES**  
**20, 30, 40 VOLTS**

- Small Compact Surface Mountable Package with J-Bend Leads
- Rectangular Package for Automated Handling
- Packaged in 16 mm Pocket Tape and Reel
- Highly Stable Oxide Passivated Junction
- Very Low Forward Voltage Drop (0.5 Volts Max @ 3.0 A, T<sub>J</sub> = 25°C)
- Excellent Ability to Withstand Reverse Avalanche Energy Transients
- Guardring for Stress Protection



### MECHANICAL CHARACTERISTICS

**CASE:** Transfer Molded Plastic Package

**LEAD FINISH:** Plated Leads, Readily Solderable in Surface Mount Applications

**POLARITY IDENTIFICATION:** Notch in Plastic Body indicates Cathode Lead

**DEVICE MARKING:** MBR320T3.....B32

MBRS330T3.....B33

MBRS340T3.....B34

### MAXIMUM RATINGS

Rating	Symbol	MBRS320T3	MBRS330T3	MBRS340T3	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	20	30	40	Volts
Working Peak Reverse Voltage	V <sub>RWM</sub>				
DC Blocking Voltage	V <sub>R</sub>				
Average Rectified Forward Current	I <sub>F(AV)</sub>		3.0 @ T <sub>L</sub> = 100°C 4.0 @ T <sub>L</sub> = 90°C		Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	I <sub>FSM</sub>		80		Amps
Operating Junction Temperature	T <sub>J</sub>	- 65 to + 125			°C

### THERMAL CHARACTERISTICS

Thermal Resistance — Junction to Lead	R <sub>θJL</sub>	11	°C/W
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### ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (1) (I <sub>F</sub> = 3.0 A, T <sub>J</sub> = 25°C)	V <sub>F</sub>	0.5	0.5	0.525	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, T <sub>J</sub> = 25°C) (Rated dc Voltage, T <sub>J</sub> = 100°C)	I <sub>R</sub>		2.0 20		mA

(1) Pulse Test: Pulse Width = 300 μs, Duty Cycle = 2.0%



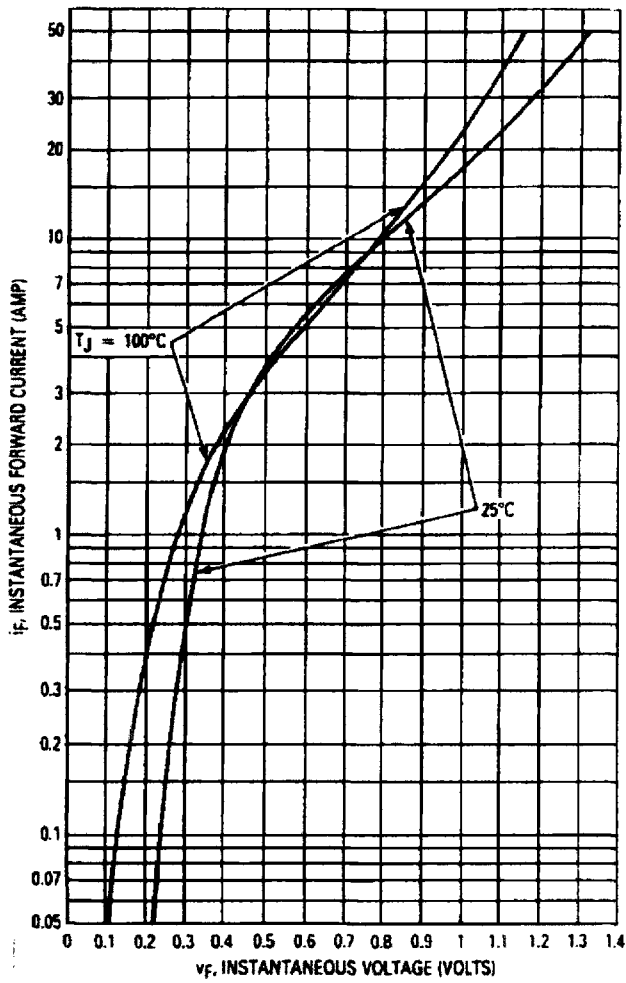


Figure 1. Typical Forward Voltage

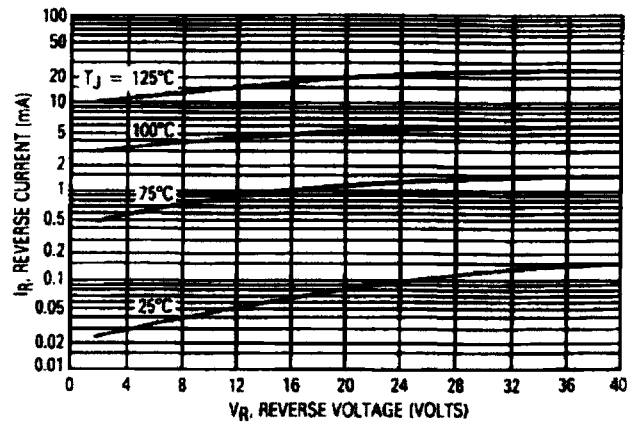


Figure 2. Typical Reverse Current

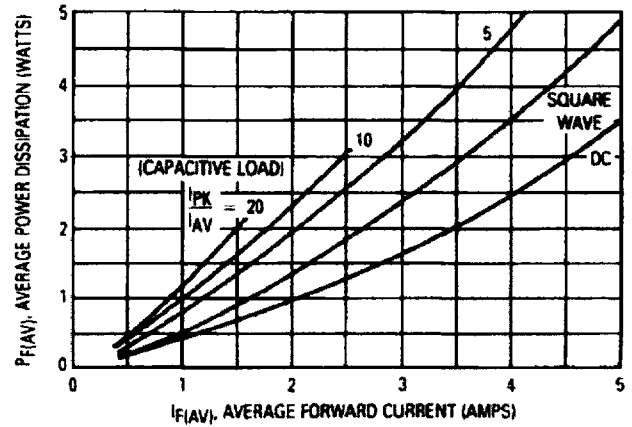


Figure 3. Power Dissipation

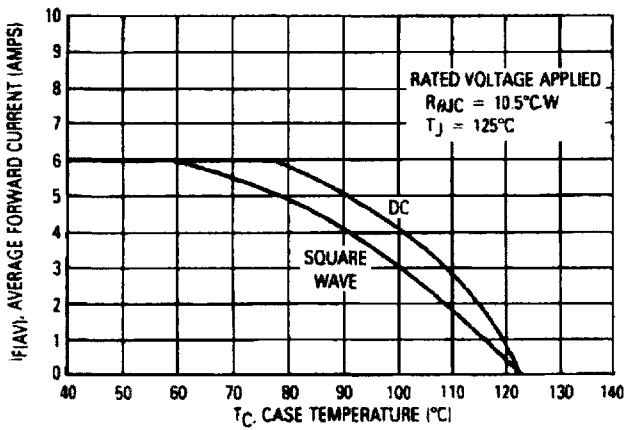


Figure 4. Current Derating (Case)

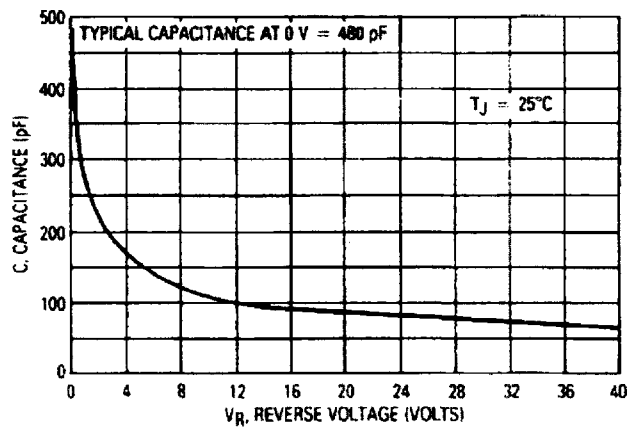
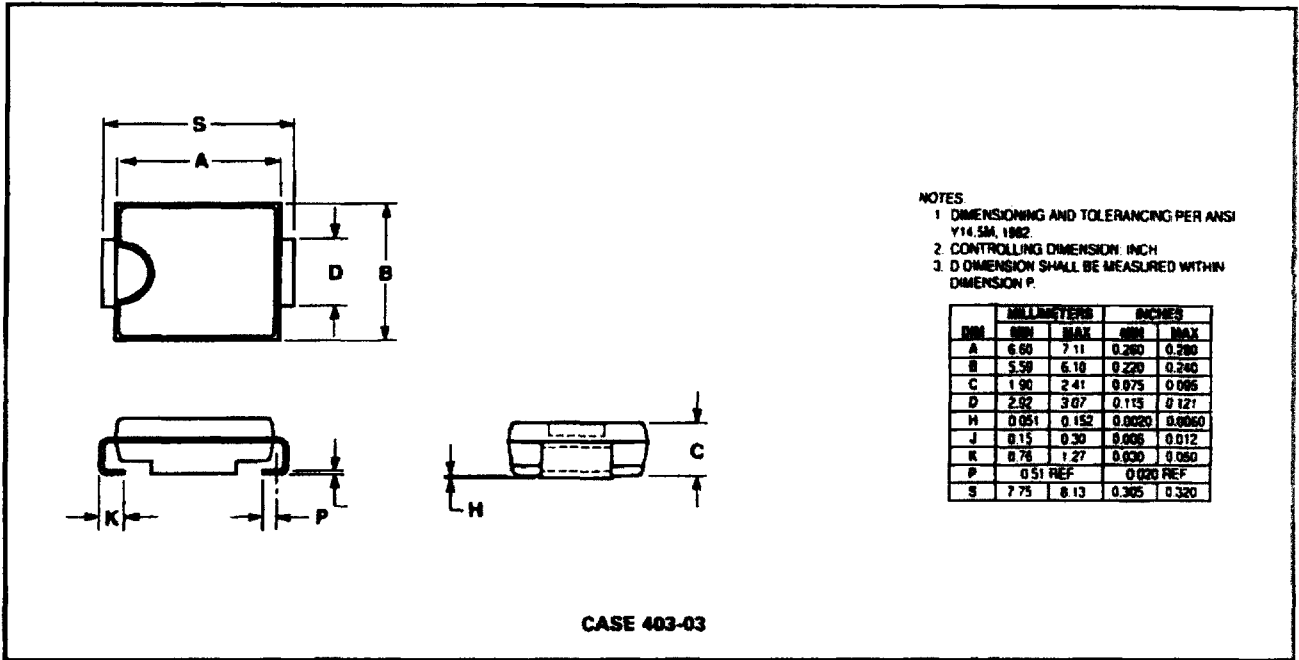


Figure 5. Typical Capacitance

## OUTLINE 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	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	6.60	7.11	0.260	0.280
B	5.59	6.10	0.220	0.240
C	1.90	2.41	0.075	0.095
D	2.92	3.07	0.115	0.121
H	0.051	0.152	0.0020	0.0060
J	0.15	0.30	0.006	0.012
K	0.76	1.27	0.030	0.050
P	0.51	REF	0.020	REF
S	7.75	8.13	0.305	0.320

CASE 403-03

