

# MBR340

Preferred Device

## Axial Lead 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 overlap contact. Ideally suited for use as rectifiers in low-voltage, high-frequency inverters, free wheeling diodes, and polarity protection diodes.

- Extremely Low  $V_F$
- Low Power Loss/High Efficiency
- Highly Stable Oxide Passivated Junction
- Low Stored Charge, Majority Carrier Conduction

### Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 1.1 gram (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 220°C Max. for 10 Seconds, 1/16" from case
- Shipped in plastic bags, 500 per bag
- Available Tape and Reeled, 1500 per reel, by adding a "RL" suffix to the part number
- Polarity: Cathode indicated by Polarity Band
- Marking: B340

### MAXIMUM RATINGS

Rating	Symbol	Max	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	40	V
Average Rectified Forward Current $T_A = 65^\circ\text{C}$ ( $R_{\theta JA} = 28^\circ\text{C/W}$ , P.C. Board Mounting)	$I_O$	3.0	A
Non-Repetitive Peak Surge Current (Note 1) (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz, $T_L = 75^\circ\text{C}$ )	$I_{FSM}$	80	A
Operating and Storage Junction Temperature Range (Reverse Voltage Applied)	$T_J, T_{stg}$	-65 to +150	°C
Peak Operating Junction Temperature (Forward Current Applied)	$T_{J(pk)}$	150	°C

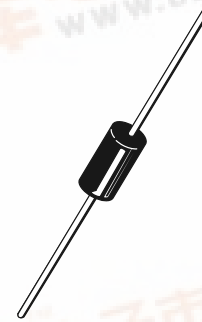
1. Lead Temperature reference is cathode lead 1/32" from case.



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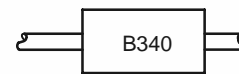
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**SCHOTTKY BARRIER  
RECTIFIER  
3.0 AMPERES  
40 VOLTS**



AXIAL LEAD  
CASE 267-05  
(DO-201AD)  
STYLE 1

### MARKING DIAGRAM



B340 = Device Code

### ORDERING INFORMATION

Device	Package	Shipping
MBR340	Axial Lead	500 Units/Bag
MBR340RL	Axial Lead	1500/Tape & Reel

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



# MBR340

## THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient (see Note 4, Mounting Method 3)	$R_{\theta JA}$	28	$^{\circ}\text{C}/\text{W}$

## ELECTRICAL CHARACTERISTICS ( $T_L = 25^{\circ}\text{C}$ unless otherwise noted) (Note 2)

Characteristic	Symbol	Max	Unit
Maximum Instantaneous Forward Voltage (Note 3) ( $i_F = 1.0$ Amp) ( $i_F = 3.0$ Amp) ( $i_F = 9.4$ Amp)	$V_F$	0.500 0.600 0.850	V
Maximum Instantaneous Reverse Current @ Rated dc Voltage (Note 3) $T_L = 25^{\circ}\text{C}$ $T_L = 100^{\circ}\text{C}$	$i_R$	0.60 20	mA

- Lead Temperature reference is cathode lead 1/32" from case.
- Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle = 2.0%.

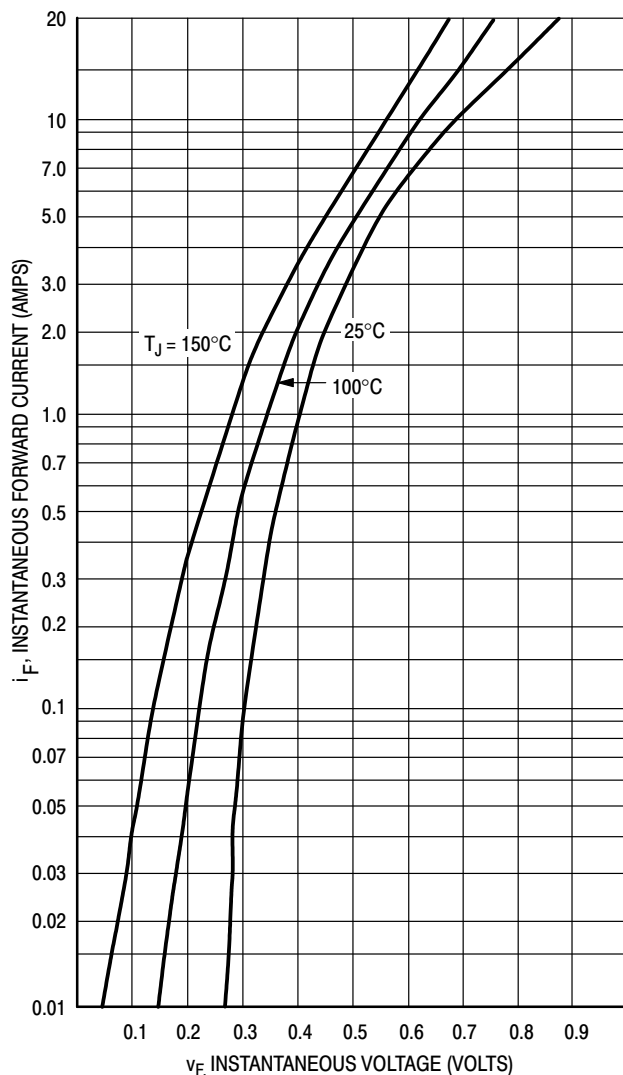


Figure 1. Typical Forward Voltage

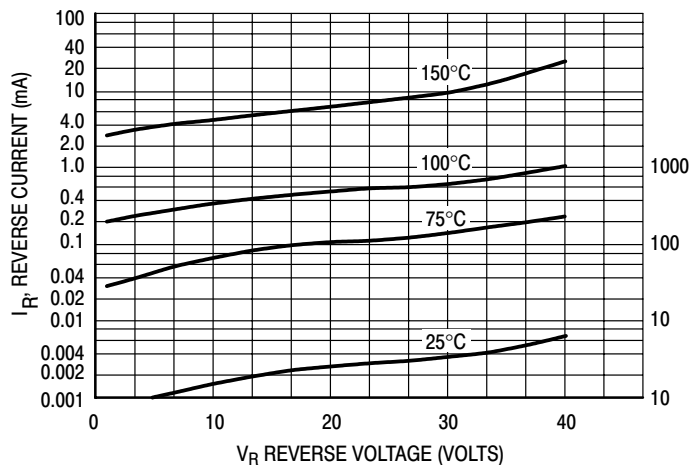


Figure 2. Typical Reverse Current\*

\*The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if  $V_R$  is sufficiently below rated  $V_R$ .

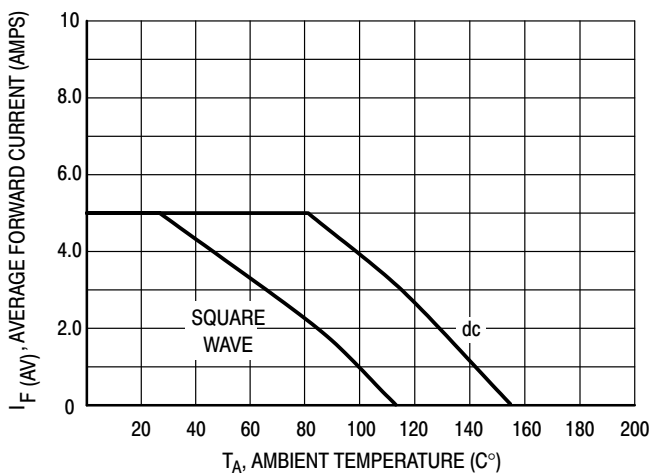


Figure 3. Current Derating  
(Mounting Method #3 per Note 4)

# MBR340

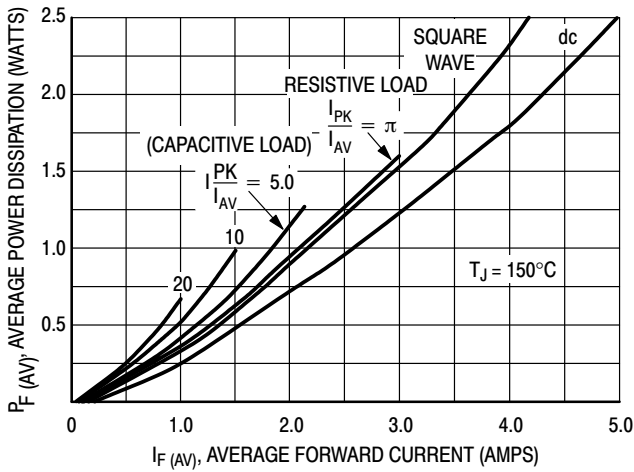


Figure 4. Power Dissipation

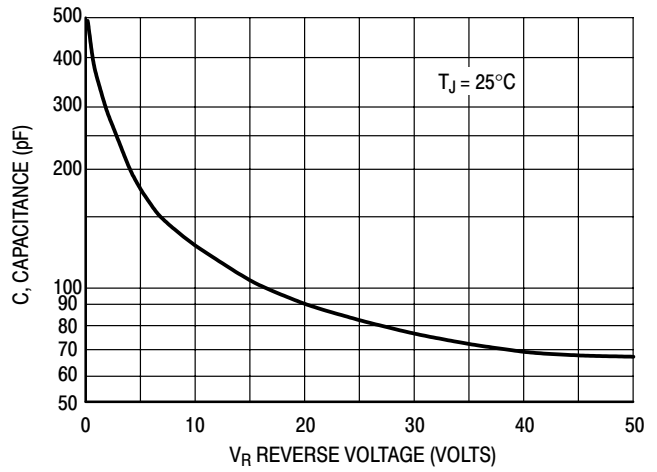


Figure 5. Typical Capacitance

### NOTE 4 — MOUNTING DATA

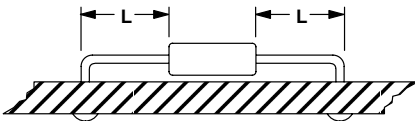
Data shown for thermal resistance junction-to-ambient ( $R_{\theta JA}$ ) for the mountings shown is to be used as typical guideline values for preliminary engineering, or in case the tie point temperature cannot be measured.

#### TYPICAL VALUES FOR $R_{\theta JA}$ IN STILL AIR

Mounting Method	Lead Length, L (in)				$R_{\theta JA}$
	1/8	1/4	1/2	3/4	
1	50	51	53	55	$^{\circ}C/W$
2	58	59	61	63	$^{\circ}C/W$
3	28				$^{\circ}C/W$

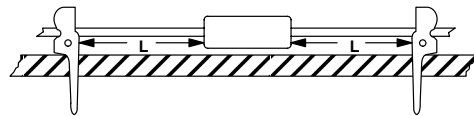
#### Mounting Method 1

P.C. Board where available copper surface is small.



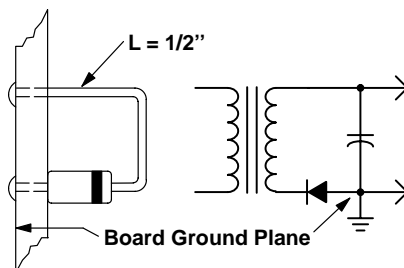
#### Mounting Method 2

Vector Push-In Terminals T-28



#### Mounting Method 3

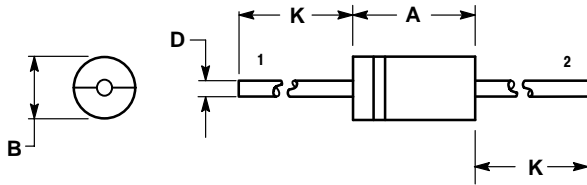
P.C. Board with 2-1/2" X 2-1/2" copper surface.



# MBR340

## PACKAGE DIMENSIONS

AXIAL LEAD  
CASE 267-05  
(DO-201AD)  
ISSUE G




NOTES:

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

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.287	0.374	7.30	9.50
B	0.189	0.209	4.80	5.30
D	0.047	0.051	1.20	1.30
K	1.000	---	25.40	---

STYLE 1:

- PIN 1. CATHODE (POLARITY BAND)
- ANODE

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