

## Advance Information

### SWITCHMODE RECTIFIERS

... designed for use in switching power supplies, inverters, and as free wheeling diodes, these devices have the following features:

- Low Forward Voltage
- Low Leakage Current
- DO-204AH (DO-35) Glass Package

### MAXIMUM RATINGS

Rating	Symbol	MBR030	MBR040	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	30	40	Volts
Average Rectified Forward Current (Rated $V_F$ ) $T_L = 90^\circ\text{C}$ , $L = 3/8"$ $T_A = 60^\circ\text{C}$ , $L = 3/8"$ , (Mt. Method #1)	$I_F(AV)$	$\longleftrightarrow 0.5 \longleftrightarrow$ $\longleftrightarrow 0.5 \longleftrightarrow$		Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	$I_{FSM}$	$\longleftrightarrow 15.0 \longleftrightarrow$		Amps
Operating Junction and Storage Temperature	$T_J$ , $T_{stg}$	- 65 to + 150		

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Lead = $3/8"$	$R_{\theta JL}$	180	190	$^\circ\text{C/W}$

### ELECTRICAL CHARACTERISTICS

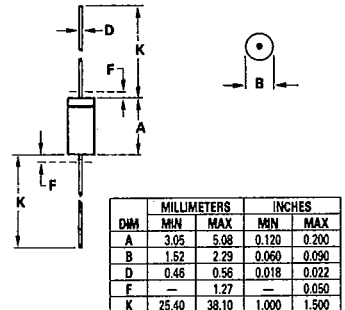
Characteristic	Symbol	Typ	Max	Unit
Instantaneous Forward Voltage (1) ( $I_F = 0.1\text{ A}$ , $T_J = 25^\circ\text{C}$ ) ( $I_F = 0.5\text{ A}$ , $T_J = 25^\circ\text{C}$ )	$V_F$	0.460 0.610	0.500 0.750	Volts
Reverse Current (Rated dc Voltage, $T_J = 150^\circ\text{C}$ ) (Rated dc Voltage, $T_J = 25^\circ\text{C}$ )	$I_R$	0.6 0.003	1.0 0.001	mA

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

This document contains information on a new product. Specifications and information herein are subject to change without notice.

### SCHOTTKY RECTIFIERS

**0.5 AMPERE**  
**30-40 VOLTS**



ALL JEDEC dimensions and notes apply.

#### NOTES:

1. PACKAGE CONTOUR OPTIONAL WITHIN A AND B. HEAT SLUGS, IF ANY, SHALL BE INCLUDED WITHIN THIS CYLINDER, BUT NOT SUBJECT TO THE MINIMUM LIMIT OF B.
2. LEAD DIAMETER NOT CONTROLLED IN ZONE F TO ALLOW FOR FLASH, LEAD FINISH BUILDUP AND MINOR IRREGULARITIES OTHER THAN HEAT SLUGS.
3. POLARITY DENOTED BY CATHODE BAND.
4. DIMENSIONING AND TOLERANCING PER ANSI Y14.5, 1973.

### MECHANICAL CHARACTERISTICS

**CASE:** Glass

**FINISH:** External leads are plated and are readily solderable

**POLARITY:** Cathod indicated by polarity band.

**WEIGHT:** 0.2 Gram (approximately).

**MAXIMUM LEAD TEMPERATURE FOR SOLDERING PURPOSES:** 230 $^\circ\text{C}$ ,  $1/8"$  from case for 10 seconds.

# MBR030, MBR040

FIGURE 1 — TYPICAL FORWARD VOLTAGE

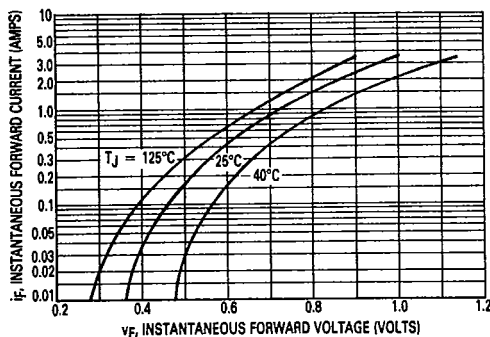


FIGURE 3 — TYPICAL CAPACITANCE

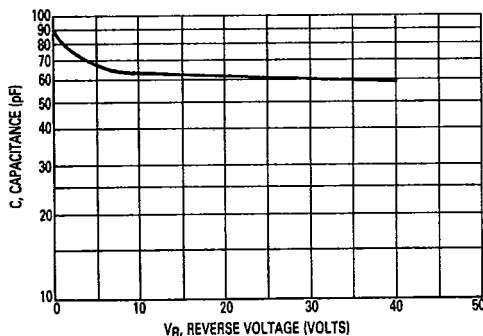


FIGURE 5 — FORWARD POWER DISSIPATION

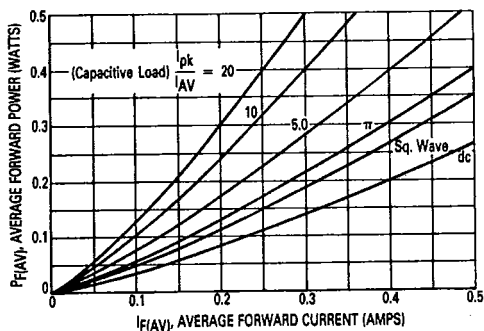


FIGURE 2 — CURRENT DERATING, PRINTED CIRCUIT BOARD MOUNTING

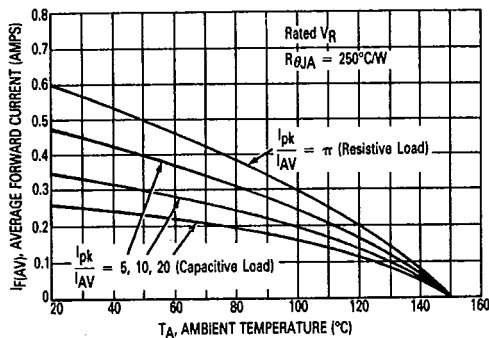
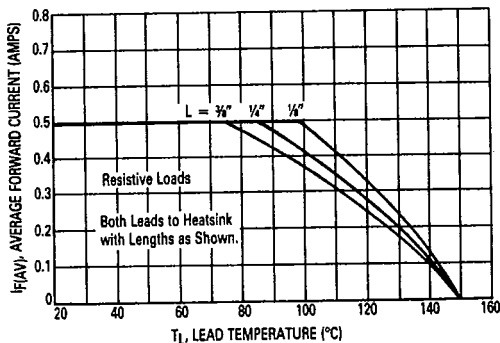


FIGURE 4 — CURRENT DERATING, LEAD TEMPERATURE



NOTE 1

Data shown for thermal resistance junction-to-ambient ( $\theta_{JA}$ ) 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.

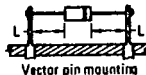
TYPICAL VALUES FOR  $\theta_{JA}$  IN STILL AIR

MOUNTING METHOD	1/8"	1/4"	3/8"	$R_{\theta JA}$
1	200	225	250	$^\circ\text{C/W}$
2	210	235	260	$^\circ\text{C/W}$
3		150		$^\circ\text{C/W}$

MOUNTING METHOD 1



MOUNTING METHOD 2



MOUNTING METHOD 3

