



MBR1020 THRU MBR10100

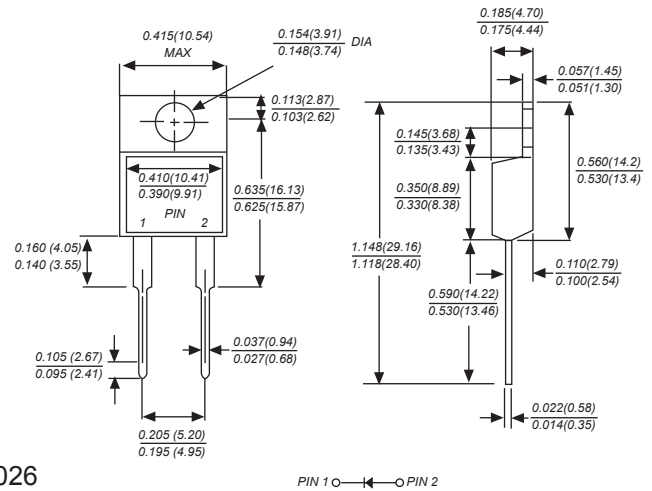
Reverse Voltage - 20 to 100 Volts Forward Current - 20.0 Ampere

SCHOTTKY BARRIER RECTIFIER

Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Construction utilizes void-free molded plastic technique
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C, 0.25" (6.35mm) from case for 10 seconds

TO-220AC



Dimensions in inches and (millimeters)

Mechanical Data

Case : JEDEC TO-220AC Molded plastic body

Terminals : Solder plated, solderable per MIL-STD-750, Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

Weight : 0.064 ounce, 1.81 grams

Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	SYMBOLS	MBR 1020	MBR 1030	MBR 1040	MBR 1045	MBR 1050	MBR 1060	MBR 1070	MBR 1080	MBR 1090	MBR 10100	UNITS
		MDD MBR 1020	MDD MBR 1030	MDD MBR 1040	MDD MBR 1045	MDD MBR 1050	MDD MBR 1060	MDD MBR 1070	MDD MBR 1080	MDD MBR 1090	MDD MBR 10100	
Maximum repetitive peak reverse voltage	V_{RMM}	20	30	40	45	50	60	70	80	90	100	V
Maximum RMS voltage	V_{RMS}	14	21	28	32	35	42	49	56	63	70	V
Maximum DC blocking voltage	V_{DC}	20	30	40	45	50	60	70	80	90	100	V
Maximum average forward rectified current (see fig.1)	$I_{(AV)}$	10.0										A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	200										A
Maximum instantaneous forward voltage at 10.0A	V_F	0.65			0.75			0.85			V	
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	I_R	1.0					50.0					mA
Typical junction capacitance (NOTE 1)	C_J	550					450					pF
Typical thermal resistance (NOTE 2)	$R_{\theta JC}$	3.0										$^\circ\text{C/W}$
Operating junction temperature range	T_J	-65 to +125					-65 to +150					$^\circ\text{C}$
storage temperature range	T_{STG}	-65 to +150										$^\circ\text{C}$

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2. Thermal resistance from junction to case.



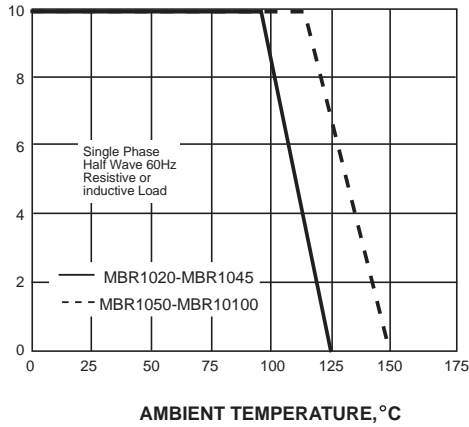
MBR1020 THRU MBR10100

Reverse Voltage - 20 to 100 Volts Forward Current - 20.0 Ampere

Ratings And Characteristic Curves

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

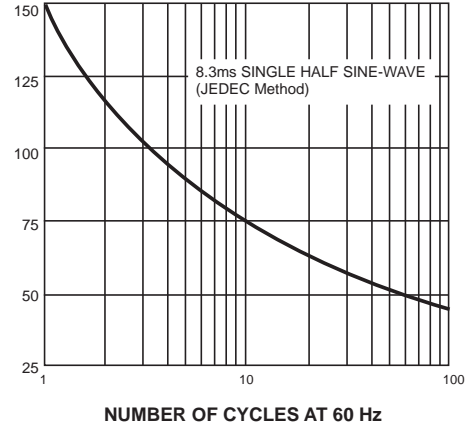
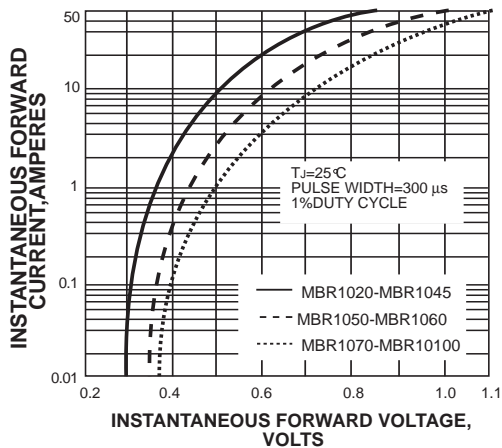


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

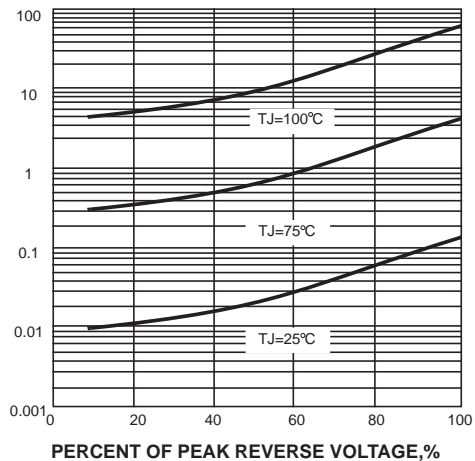
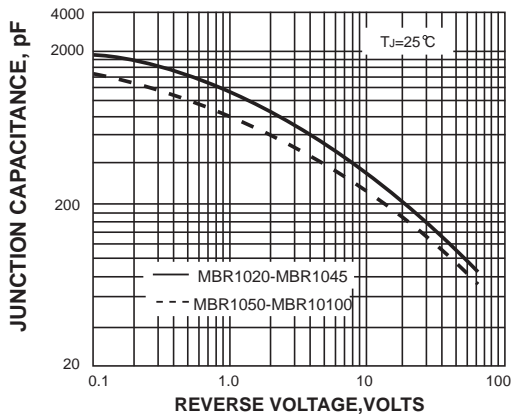
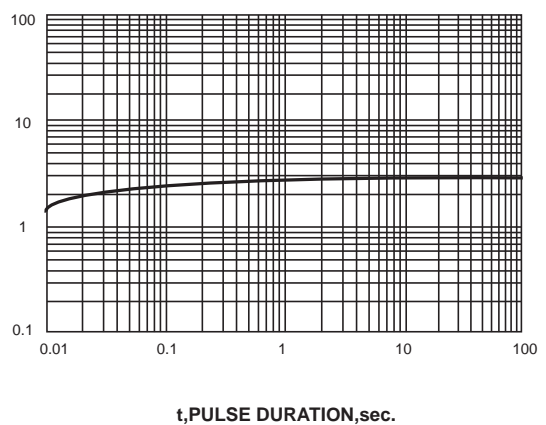


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.