

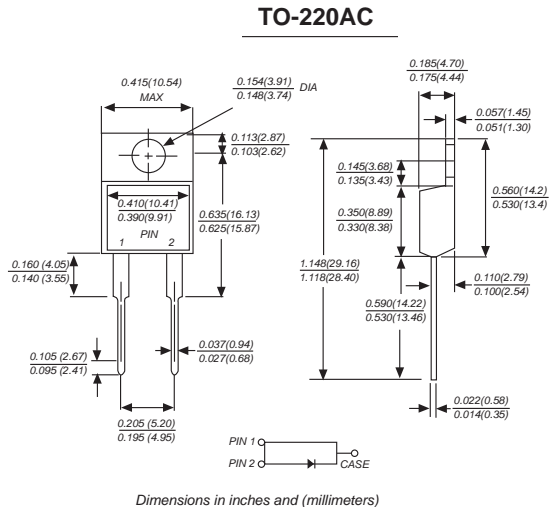
**VOLTAGE RANGE: 20 - 100V**  
**CURRENT: 20.0 A**

### 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

### Mechanical Data

- Case: TO-220AC molded plastic body
- Terminals: Leads solderable per MIL-STD-750,
- Method 2026
- Polarity: As marked
- Mounting Position: Any
- Weight: 0.064 ounce, 1.81 grams



### Maximum Ratings and Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise specified

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

MDD Catalog Number	SYMBOLS	MBR 2020	MBR 2030	MBR 2040	MBR 2045	MBR 2050	MBR 2060	MBR 2070	MBR 2080	MBR 2090	MBR 20100	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	45	50	60	70	80	90	100	VOLTS
Maximum RMS voltage	$V_{RMS}$	14	21	28	32	35	42	49	56	63	70	VOLTS
Maximum DC blocking voltage	$V_{DC}$	20	30	40	45	50	60	70	80	90	100	VOLTS
Maximum average forward rectified current at $T_c$ (see fig.1)	$I_{(AV)}$	20.0										Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150.0										Amps
Maximum instantaneous forward voltage at 10.0A	$V_F$	0.55			0.75		0.85					Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	1.0					50.0					mA
Typical junction capacitance (NOTE 1)	$C_J$	550					450					pF
Typical thermal resistance (NOTE 2)	$R_{\theta JC}$	2.0										$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-50 to +125					-50 to +150					$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-50 to +150										$^\circ\text{C}$

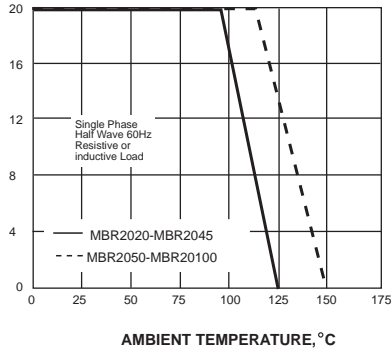
**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2. Thermal resistance from junction to case

## RATINGS AND CHARACTERISTIC CURVES MBR2020 THRU MBR20100

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

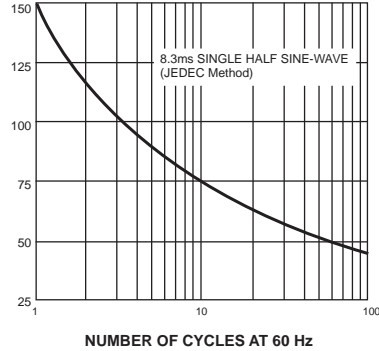
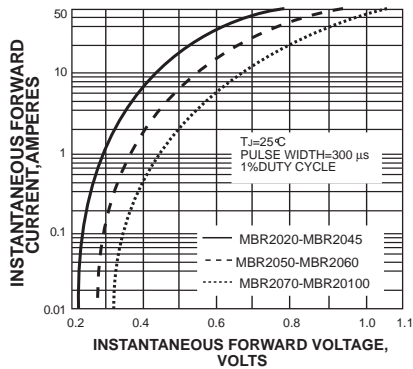


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

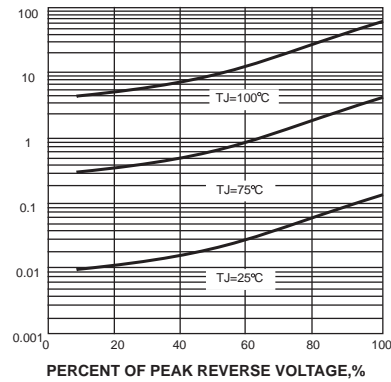
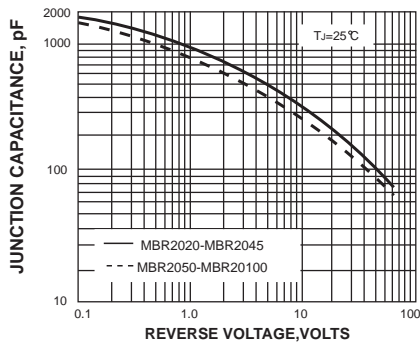


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

