

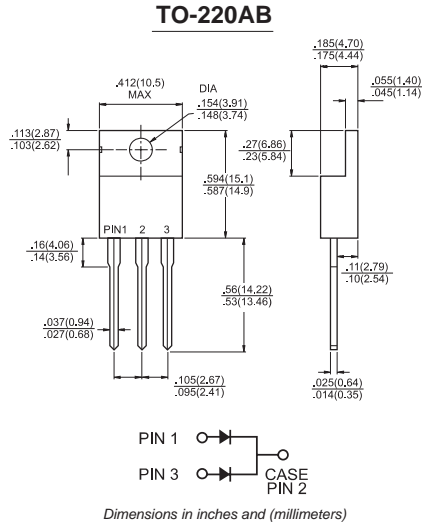
MBR2020CT THRU MBR20200CT

RoHS
COMPLIANT



SCHOTTKY BARRIER RECTIFIERS

Reverse Voltage - 20 to 200 Volts Forward Current - 20 Ampere



FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 260°C/10 seconds, 0.25" (6.35mm) from case
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

MECHANICAL DATA

Case: JEDEC TO-220AB molded plastic
Terminals: Leads, solderable per MIL-STD-750, Method 2026
Polarity: As marked
Mounting Position: Any
Weight: 0.08 ounce, 2.24 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%.

	SYMBOLS	MBR20 20CT	MBR20 30CT	MBR20 40CT	MBR20 50CT	MBR20 60CT	MBR20 70CT	MBR20 80CT	MBR20 90CT	MBR20 100CT	MBR20 150CT	MBR20 200CT	UNITS	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	70	80	90	100	150	200	VOLTS	
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	49	56	63	70	105	140	VOLTS	
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	70	80	90	100	150	200	VOLTS	
Maximum average forward rectified current 0.375" (9.5mm) lead length (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}	180.0											Amps	
Maximum instantaneous forward voltage at 5.0A	V_F	0.65		0.75		0.85			0.95				Volts	
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	0.2					1					mA		
		15					20							
Typical junction capacitance (NOTE 1)	C_J	400			320									pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	25.0											°C/W	
Operating junction temperature range	T_J	-65 to +150											°C	
Storage temperature range	T_{STG}	-65 to +150											°C	

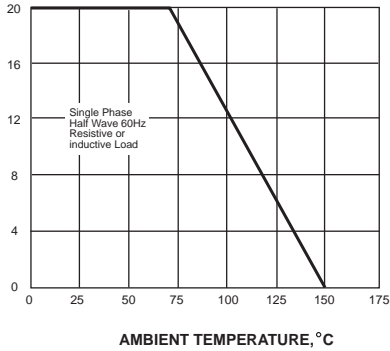
Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

RATINGS AND CHARACTERISTIC CURVES MBR2020CT THRU MBR20200CT

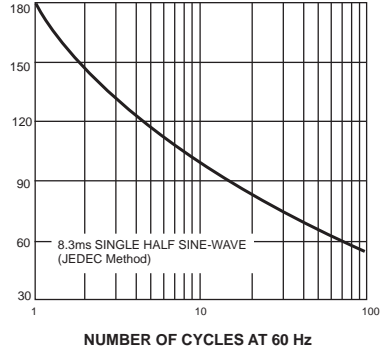
AVERAGE FORWARD RECTIFIED CURRENT,
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



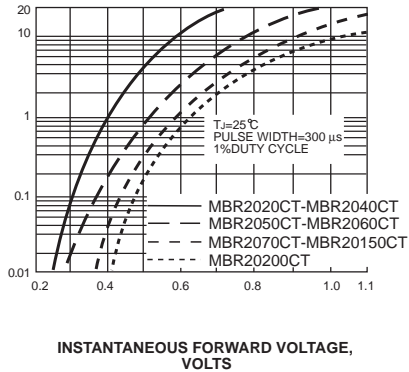
PEAK FORWARD SURGE CURRENT,
AMPERES

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



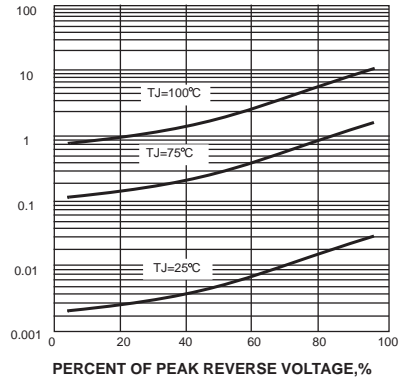
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



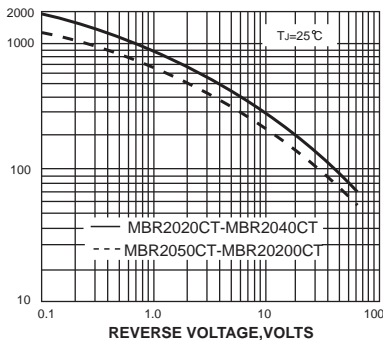
INSTANTANEOUS REVERSE CURRENT,
MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

