

MBR2020CT THRU MBR20100CT

SCHOTTKY BARRIER RECTIFIER

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

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center tap
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- Guardring for overvoltage protection
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

MECHANICAL DATA

- Case: JEDEC TO-220AB molded plastic body
- Terminals: Plated leads, solderable per MIL-STD-750, Method 2026
- High temperature soldering guaranteed:
- 250°C/10 seconds, 0.25" (6.35mm) from case Polarity: As marked
- Mounting Position: Any
- Mounting Torque: 10 in-lbs maximum
 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%.

Characteristic	Symbol	MBR 2020CT	MBR 2030CT	MBR 2040CT	MBR 2045CT	MBR 2050CT	MBR 2060CT	MBR 2080CT	MBR 20100CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	Vrrm Vrwm Vr	20	30	40	45	50	60	80	100	v
RMS Reverse Voltage	VR(RMS)	14	21	28	32	35	42	56	70	V
Average Rectified Output Current @T _c = 95° C	lo	20								А
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	150								A
Forward Voltage @I _F = 10A	Vfm	0.57				0.75		0.85		V
Peak Reverse Current $@T_A = 25^{\circ}C$ At Rated DC Blocking Voltage $@T_A = 100^{\circ}C$	IRM	0.1 100								mA
Typical Junction Capacitance (Note 1)	Cj	1100								pF
Operating and Storage Temperature Range	Tj, TSTG	-55 to +150								°C

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.



MBR2020CT THRU MBR20100CT RATINGS AND CHARACTERISTIC CURVES

FIG. 1 – FORWARD CURRENT DERATING CURVE FIG. 2 - MAXIMUM NON-REPETITIVE SURGE CURRENT 20.0 300 PEAK FORWARD SURGE CURRENT, AVERAGE FORWARD CURRENT Π PULSE WIDTH 8.3 ms 250 SINGLE HALF-SINE-WAVE 15.0 (JEDEC METHOD) AMPERES 200 AMPERES 10.0 150 100 5.0 SINGLE PHASE HALF WAVE 50 60Hz RESISTIVE OR INDUCTIVE LOAD 0 0 25 75 100 150 175 10 20 50 100 125 2 5 50 1 NUMBER OF CYCLES AT 60Hz CASE TEMPERATURE (℃) FIG.4-TYPICAL FORWARD CHARACTERISTICS FIG.3-TYPICAL REVER CHARACTERISTICS 1000 100 INSTANTANEOUS REVERSE CURRENT(mA) MBR2020CT~2060CT MBR2020CT INSTANTANEOUS FORWARD CURRENT, MBR2080CT~20100CT MBR2040CT 100 10 MBR2050CT~ 10 MBR2060CT TJ=125℃ € MBR2080CT 1.0 MBR20100CT 1.0 TJ = 25°C 0.1 PULSE WIDTH 300us TJ=25℃ 2% DUTY CYCLE 0.01 0.1 0 20 40 60 80 100 120 140 0.9 1.0 0.6 0.7 0.8 0.1 0.2 0.3 0.4 0.5 PERCENT OF RATED PEAK REVERSE VOLTAGE,(%) INSTANTANEOUS FORWARD VOLTAGE, VOLTS FIG.5 – TYPICAL JUNCTION CAPACITANCE 1000 MBR2020CT~ MBR2040CT MBR2050CT~ MBR20100CT

