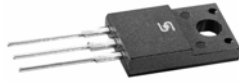
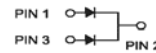
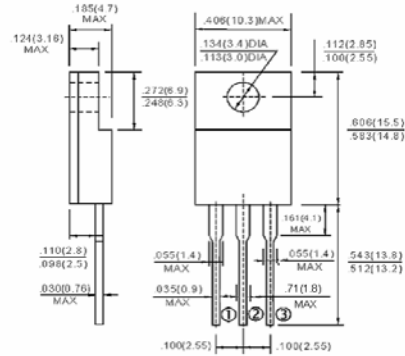


# MBRF20H100CT – MBRF20H200CT

## Isolated 20.0 AMPS. Schottky Barrier Rectifiers



### ITO-220AB



Dimensions in inches and (millimeters)

### Features

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

### Mechanical Data

- ◆ Cases: ITO-220AB molded plastic
- ◆ Terminals: Pure tin plated, lead free. solderable per MIL-STD-750, Method 2026
- ◆ Polarity: As marked
- ◆ Mounting position: Any
- ◆ Mounting torque: 5 in. - lbs. max
- ◆ Weight: 0.08 ounce, 2.24 grams

### Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	MBRF 20H100CT	MBRF 20H150CT	MBRF 20H200CT	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	100	150	200	V
Maximum RMS Voltage	$V_{RMS}$	70	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	100	150	200	V
Maximum Average Forward Rectified Current at $T_c=133^\circ\text{C}$	$I_{(AV)}$	20			A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_c=133^\circ\text{C}$	$I_{FRM}$	20			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	$I_{FSM}$	150			A
Peak Repetitive Reverse Surge Current (Note 1)	$I_{RRM}$	1.0		0.5	A
Maximum Instantaneous Forward Voltage at (Note 2) $I_F=10\text{A}, T_c=25^\circ\text{C}$ $I_F=10\text{A}, T_c=125^\circ\text{C}$ $I_F=20\text{A}, T_c=25^\circ\text{C}$ $I_F=20\text{A}, T_c=125^\circ\text{C}$	$V_F$	0.85 0.75 0.95 0.85	0.88 0.75 0.97 0.85		V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage @ $T_c=25^\circ\text{C}$ @ $T_c=125^\circ\text{C}$	$I_R$	5.0 2.0			$\mu\text{A}$ mA
Voltage Rate of Change, (Rated $V_R$ )	$dV/dt$	10,000			V/ $\mu\text{S}$
RMS Isolation Voltage ( $t=1.0$ second, R.H. $\leq 30\%$ , $T_A=25^\circ\text{C}$ ) (Note 4) (Note 5) (Note 6)	$V_{ISO}$	4500 3500 1500			V
Typical Thermal Resistance Per Leg (Note3)	$R_{\theta JC}$	3.5			$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_J$	-65 to +175			$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +175			$^\circ\text{C}$

- Notes:
- 2.0  $\mu\text{s}$  Pulse Width,  $f=1.0$  KHz
  - Pulse Test: 300 $\mu\text{s}$  Pulse Width, 1% Duty Cycle
  - Thermal Resistance from Junction to Case Per Leg.
  - Clip Mounting (on case), where lead does not overlap heatsink with 0.110" offset.
  - Clip mounting (on case), where leads do overlap heatsink.
  - Screw mounting with 4-40 screw, where washer diameter is  $\leq 4.9$  mm (0.19")

## RATINGS AND CHARACTERISTIC CURVES(MBRF20H100CT - MBRF20H200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

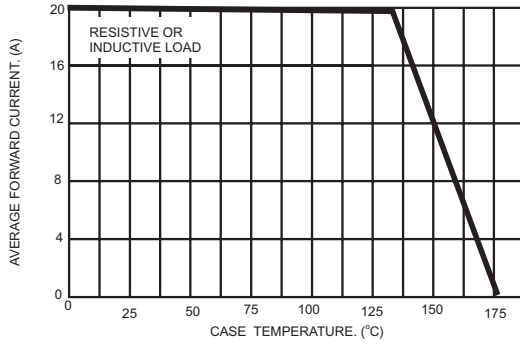


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

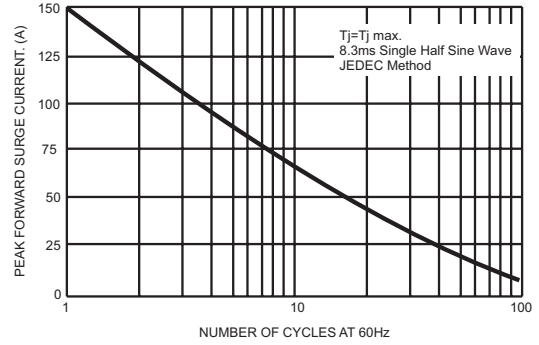


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

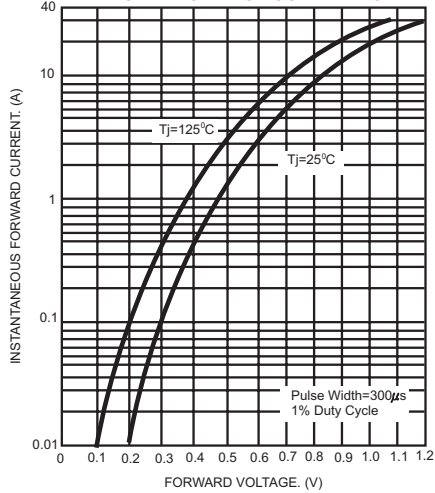


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

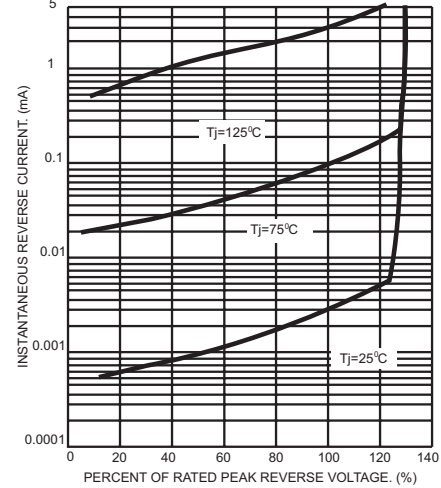


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

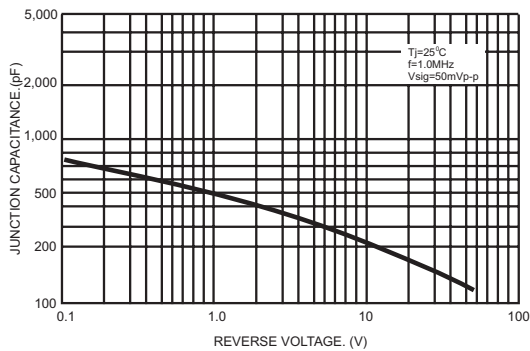


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

