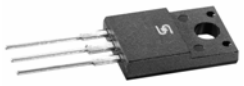
MBRF10H100CT - MBRF10H200CT

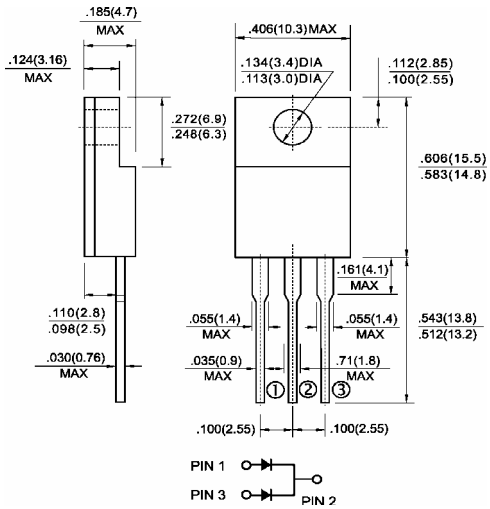
Isolated 10.0 AMPS. Schottky Barrier Rectifiers

TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE



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 10H100CT	MBRF 10H150CT	MBRF 10H200CT	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=125°C	$I_{(AV)}$	10			A
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20KHz) at Tc=133°C	I_{FRM}	10			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	120			A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1.0		0.5	A
Maximum Instantaneous Forward Voltage at (Note 2) I_F= 5A, Tc=25°C I_F= 5A, Tc=125°C I_F=10A, Tc=25°C I_F=10A, Tc=125°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 @Tc=25 °C @ Tc=125 °C	I_R	5.0 1.0			uA mA
Voltage Rate of Change, (Rated V_R)	dV/dt	10,000			V/uS
RMS Isolation Voltage (t=1.0 second, R.H. ≦30%, T_A=25 °C) (Note 4) (Note 5) (Note 6)	V_{ISO}	4500 3500 1500			V
Typical Thermal Resistance Per Leg (Note3)	$R_{\theta JC}$	3.5			°C/W
Operating Junction Temperature Range	T_J	-65 to +175			°C
Storage Temperature Range	T_{STG}	-65 to +175			°C

Notes: 1. 2.0 us Pulse Width, f=1.0 KHz 2. Pulse Test: 300us Pulse Width, 1% Duty Cycle
3. Thermal Resistance from Junction to Case Per Leg.
4. Clip Mounting (on case), where lead does not overlap heatsink with 0.110" offset.
5. Clip mounting (on case), where leads do overlap heatsink.
6. Screw mounting with 4-40 screw, where washer diameter is ≦4.9 mm (0.19")

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RATINGS AND CHARACTERISTIC CURVES (MBRF10H100CT - MBRF10H200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

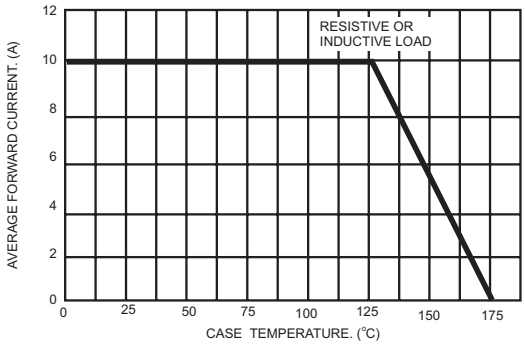

FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

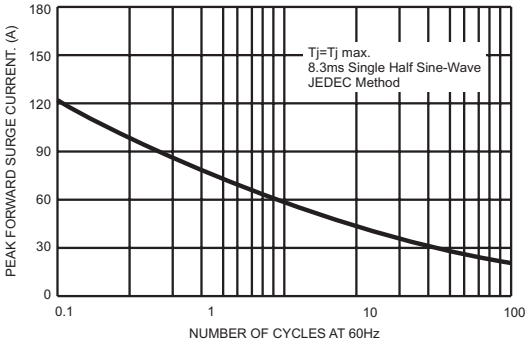

FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

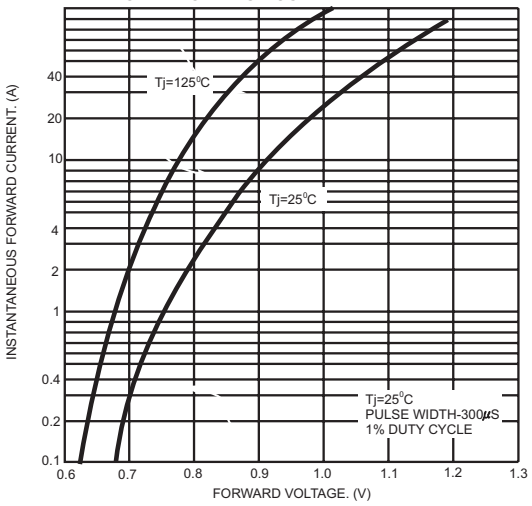

FIG.4- TYPICAL REVERSE CHARACTERISTICS

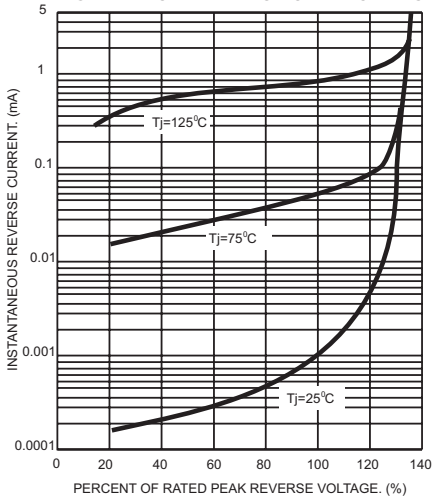

FIG.5- TYPICAL JUNCTION CAPACITANCE

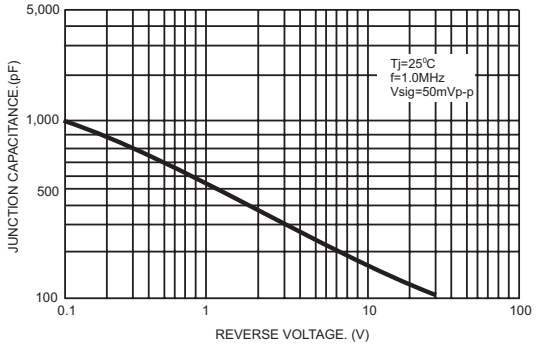

FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG