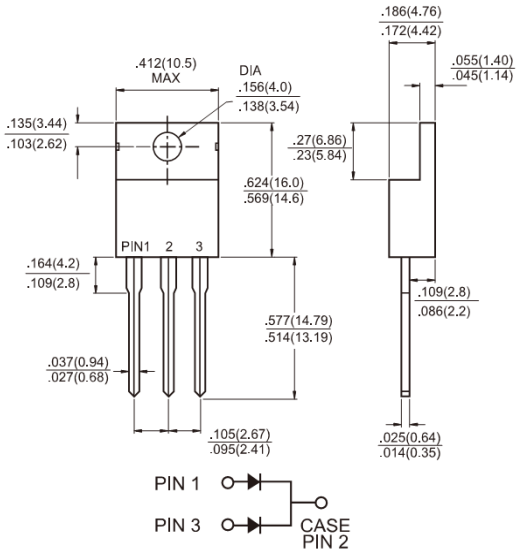
TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE

MBR20H100CT - MBR20H200CT

20.0AMPS. Schottky Barrier Rectifiers

TO-220AB



Features

- ✧ Plastic material used carriers Underwriters Laboratory Classification 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 power supply - output rectification, power management, instrumentation
- ✧ Guard-ring for overvoltage protection
- ✧ High temperature soldering guaranteed: 260℃/10 seconds 0.25", (6.35mm) from case
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode

Mechanical Data

- ✧ Cases: JEDEC TO-220AB molded plastic body
- ✧ 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: 1.82 grams

Dimensions in inches and (millimeters)

Marking Diagram

MBR20HXXCT	= Specific Device Code
G	= Green Compound
Y	= Year
WW	= Work Week

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ 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	MBR 20H100CT	MBR 20H150CT	MBR 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	$I_{F(AV)}$	20			A
Peak Repetitive Surge Current (Rated V_R, Square Wave, 20KHz)	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) IF=10A, T_A=25℃ IF=10A, T_A=125℃ IF=20A, T_A=25℃ IF=20A, T_A=125℃	V_F	 0.85 0.75 0.95 0.85	 0.88 0.75 0.97 0.85		V
Maximum Instantaneius Reverse @ T_A=25 ℃ Current at Rated DC Blocking Voltage @ T_A=125 ℃	I_R	5 2			uA mA
Voltage Rate of Change,(Rated V_R)	dV/dt	10,000			V/us
Maximum Typical Thermal Resistance	$R_{\theta JC}$	1.5			^{O}C/W
Operating Junction Temperature Range	T_J	- 65 to + 175			^{O}C
Storage Temperature Range	T_{STG}	- 65 to + 175			^{O}C

Note 1: 2.0uS Pulse Width, f=1.0KHz

Note 2: Pulse Test : 300uS Pulse Width, 1% Duty Cycle

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RATINGS AND CHARACTERISTIC CURVES (MBR20H100CT THRU MBR20H200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

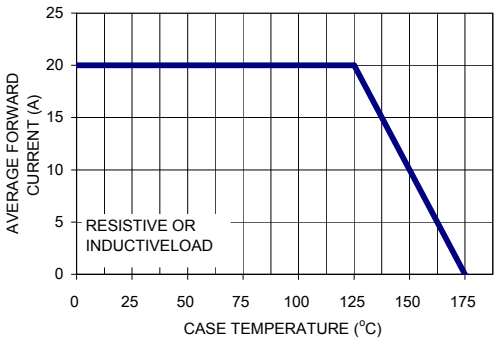


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

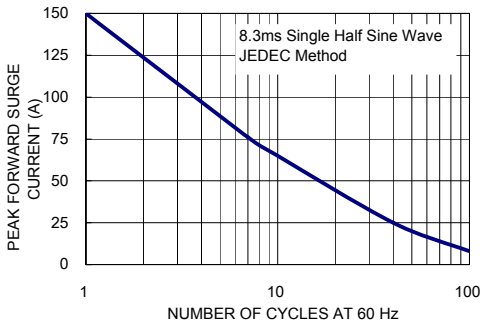


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISRICS PER LEG

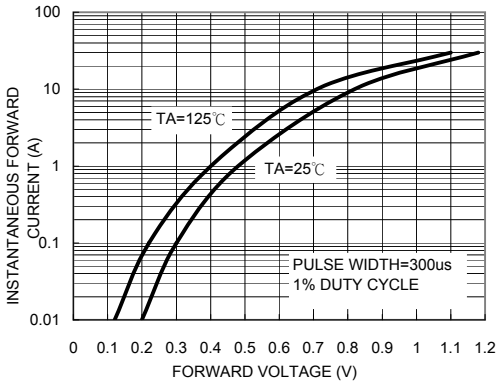


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

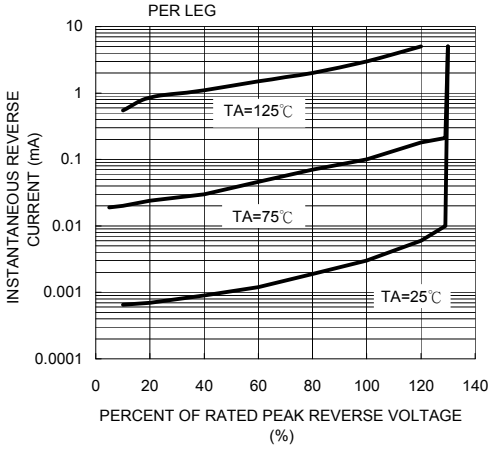


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

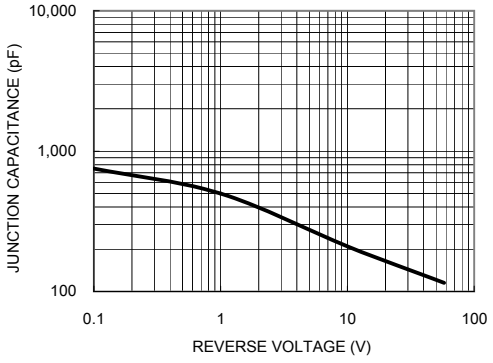
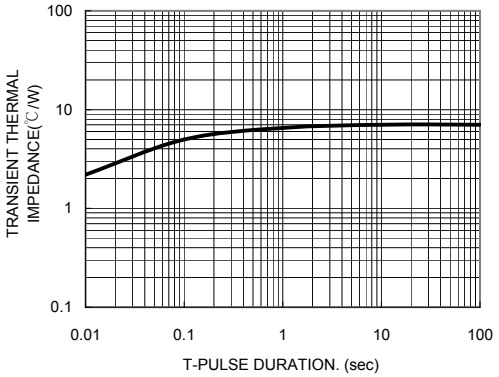


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



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