TAIWAN SEMICONDUCTOR

The Smartest Choice

MBR30H100CT

30.0AMPS. Schottky Barrier Rectifiers

TO-220AB

Features

- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ✧ High surge current capability
- ✧ Guard-ring for overvoltage protection
- ✧ For use in low voltage - high frequency inverter, free wheeling, and polarity protection application
- ✧ High temperature soldering guaranteed: 260℃/10 seconds
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode



AEC-Q101 Qualified

Pb-Free

RoHS COMPLIANT

Mechanical Data

- ✧ Case: TO-220AB
- ✧ Terminals: Pure tin plated leads, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ Weight: 1.92 grams
- ✧ Mounting torque: 5 in- lbs, max
- ✧ Mounting position:Any

Ordering Information(example)

Part No.	Package	Packing	Packing code	Packing code (Green)
MBR30H100CT	TO-220AB	50 / TUBE	C0	C0G

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.

Parameter	Symbol	MBR30H100CT	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Maximum RMS Voltage	V_{RMS}	70	V
Maximum DC Blocking Voltage	V_{DC}	100	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	30	A
Peal Repetitive Forward Current (Rated VR, Square Wave, 20KHz)	$I_{F(RMS)}$	30	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load	I_{FSM}	150	A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1	A
Maximum Instantaneous Forward Voltage (Note 2) IF=15A, T_A=25℃ IF=15A, T_A=125℃ IF=30A, T_A=25℃ IF=30A, T_A=125℃	V_F	 0.85 0.75 0.98 0.85	V
Maximum Reverse Current @ Rated V_R T_A=25 ℃ T_A=125 ℃	I_R	10 2	uA mA
Voltage Rate of Change,(Rated V_R)	dV/dt	10000	V/us
Typical Junction Capacitance (Note 3)	Cj	400	pF
Typical Thermal Resistance	$R_{\theta JC}$	2	^{O}C/W
Operating Temperature Range	T_J	- 55 to + 175	^{O}C
Storage Temperature Range	T_{STG}	- 55 to + 175	^{O}C

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

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

Note 3: Measure at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

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RATINGS AND CHARACTERISTIC CURVES (MBR30H100CT)

FIG.1 FORWARD CURRENT DERATING CURVE

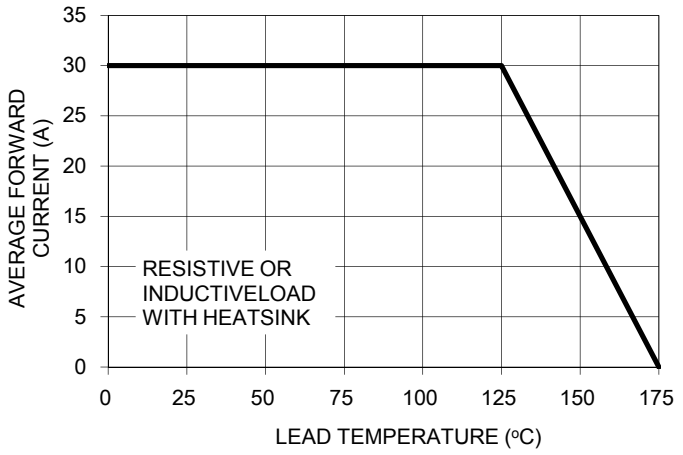


FIG. 2 MAXIMUM FORWARD SURGE CURRENT PER LEG

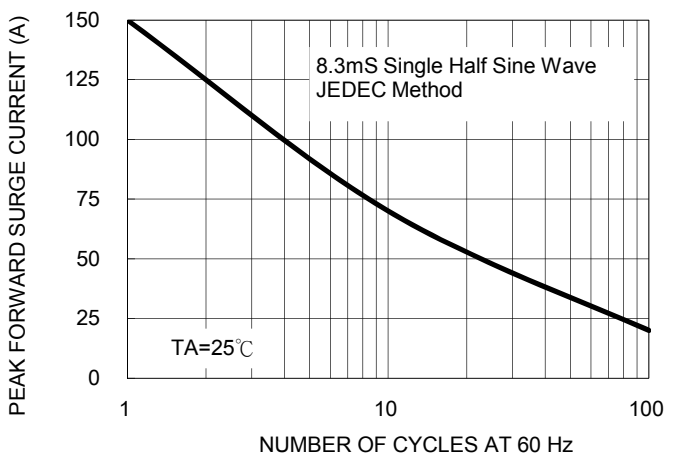


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

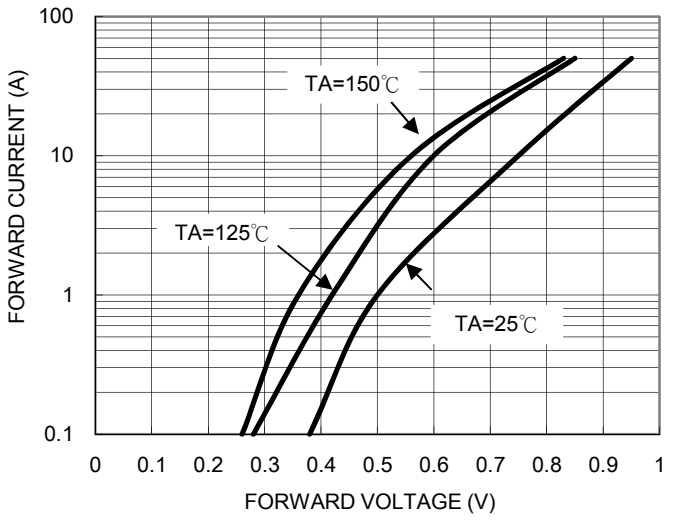


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

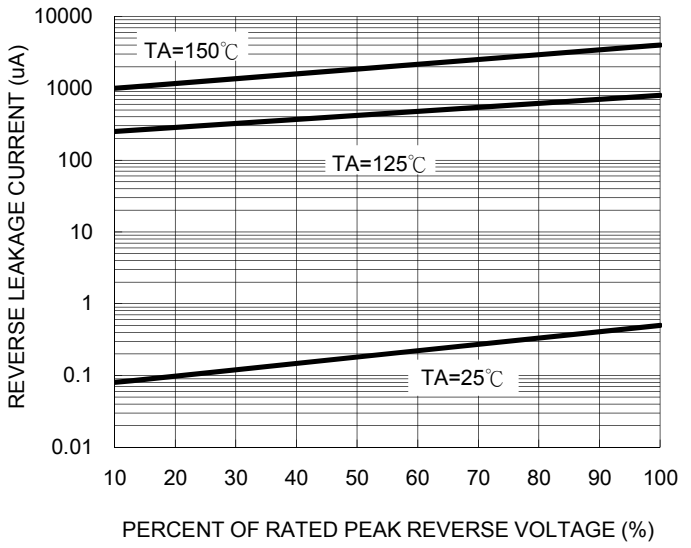


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

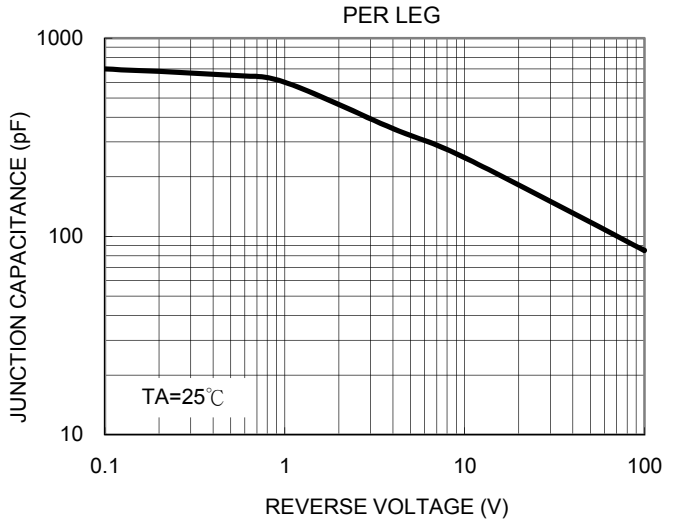
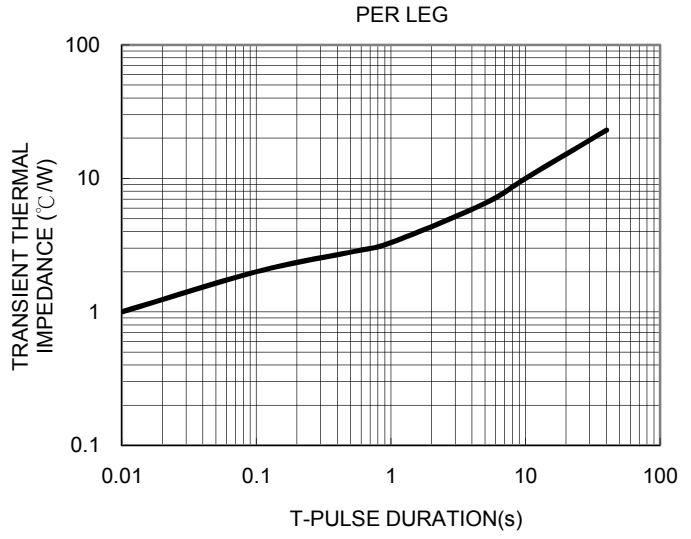


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

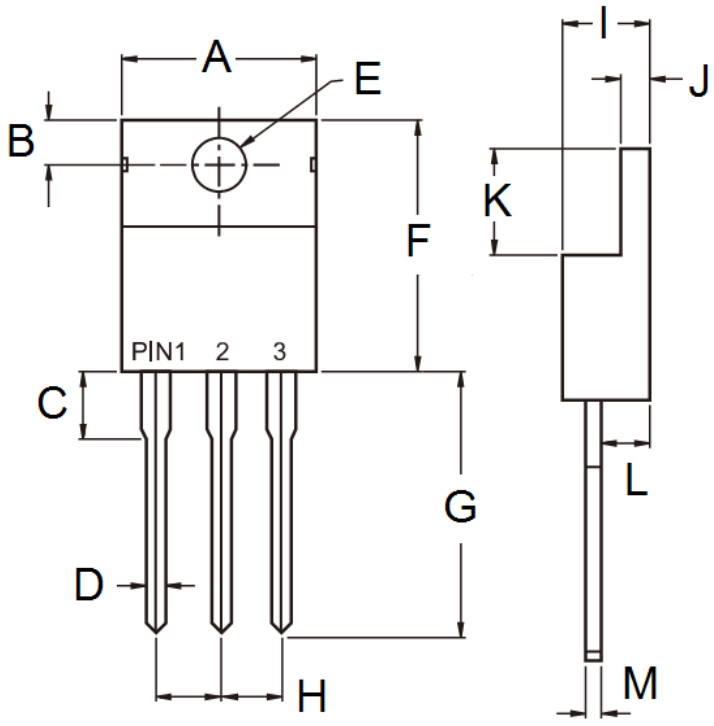


Version:H13

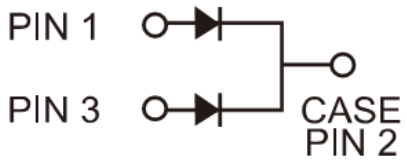
Ordering information

Part No.	Package	BULK Packing	Packing code	Packing code (Green)
MBR30H100CT	TO-220AB	50 / TUBE	C0	C0G

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	-	10.50	-	0.413
B	2.62	3.44	0.103	0.135
C	2.80	4.20	0.110	0.165
D	0.68	0.94	0.027	0.037
E	3.54	4.00	0.139	0.157
F	14.60	16.00	0.575	0.630
G	13.19	14.79	0.519	0.582
H	2.41	2.67	0.095	0.105
I	4.42	4.76	0.174	0.187
J	1.14	1.40	0.045	0.055
K	5.84	6.86	0.230	0.270
L	2.20	2.80	0.087	0.110
M	0.35	0.64	0.014	0.025



Marking Diagram



P/N = Specific Device Code
G = Green Compound
YWW = Date Code
F = Factory Code