TAIWAN SEMICONDUCTOR
The Smartest Choice

MBRF10100D - MBRF10200D

10.0AMPS Isolated Schottky Barrier Rectifier

ITO-220AB

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
- ✧ Guarding 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

Pb-Free

RoHS COMPLIANT

Mechanical Data

- ✧ Case: ITO-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: 1.74 grams

Ordering Information (example)

Part No.	Package	Packing	Packing code	Packing code (Green)
MBRF10100D	ITO-220AB	50 / TUBE	C0	C0G

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.

Parameter	Symbol	MBRF 10100D	MBRF 10150D	MBRF 10200D	Unit
Maximum Repetitive 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	$I_{F(AV)}$	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	I_{RRM}	0.5			A
Maximum Instantaneous Forward Voltage at (Note 1) IF = 5A, T_A=25℃ IF = 5A, T_A=125℃ IF = 10A, T_A=25℃ IF = 10A, T_A=125℃	V_F	 0.85 0.75 0.95 0.85	 0.88 0.78 0.98 0.88		V
Maximum Reverse Current at Rated DC Blocking Voltage T_A=25 ℃ T_A=125 ℃	I_R	 0.1 5			 mA mA
Voltage rate of change (Rated V_R)	dV/dt	10,000			V/uS
Maximum Thermal Resistance Per Leg (Note 2)	$R_{\theta JC}$	3.5			^{O}C/W
Operating Temperature Range	T_J	-65 to + 150			^{O}C
Storage Temperature Range	T_{STG}	-65 to + 150			^{O}C

Note1: Pulse Test : 300us Pulse Width, 1% Duty cycle

Note2: Thermal Resistance from Junction to Case Per Leg

RATINGS AND CHARACTERISTIC CURVES (MBRF10100D THRU MBRF10150D)

FIG.1 MAXIMUM FORWARD CURRENT
DERATING CURVE

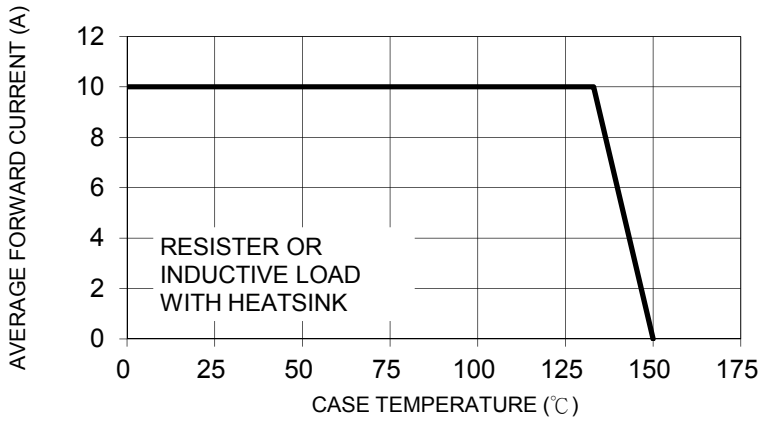


FIG. 2 MAXIMUM NON-REPETITIVE
FORWARD SURGE CURRENT PER LEG

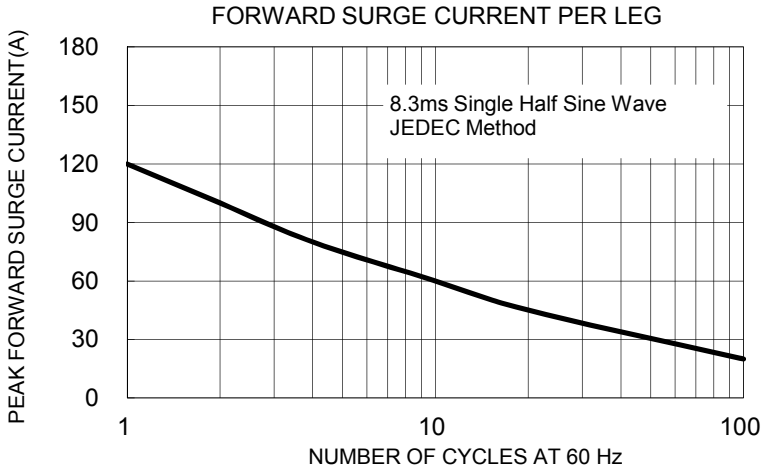


FIG. 3 TYPICAL FORWARD CHARACTERISTICS
PER LEG

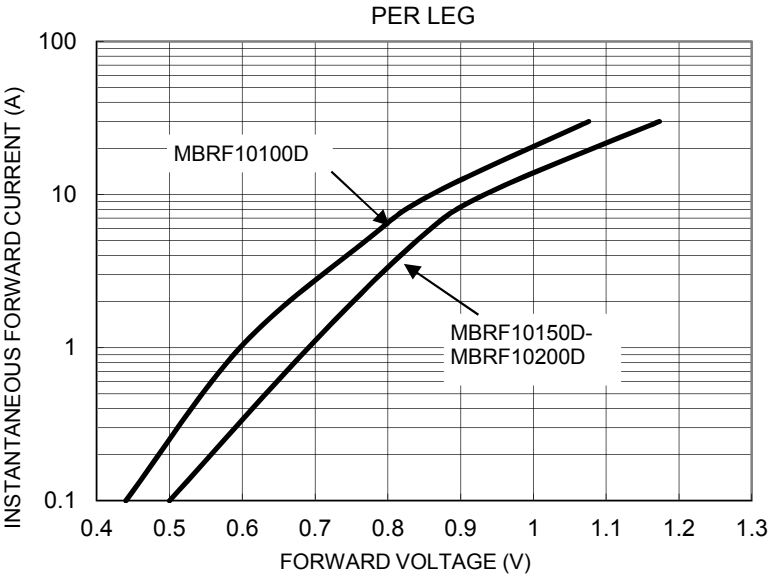


FIG. 4 TYPICAL REVERSE CHARACTERISTICS
PER LEG

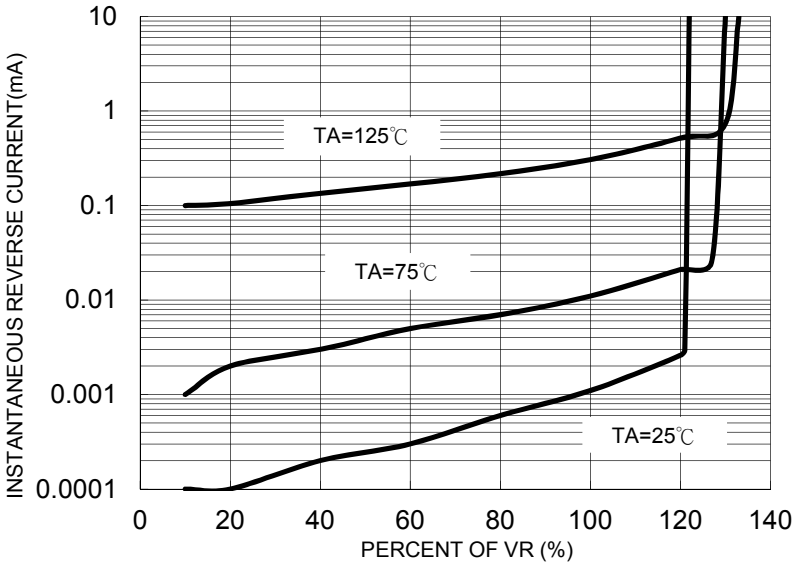


FIG. 5 TYPICAL JUNCTION CAPACITANCE
PER LEG

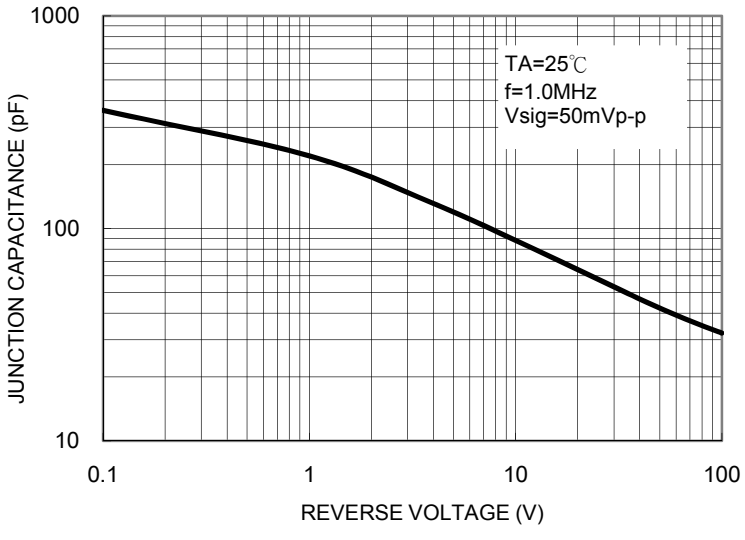
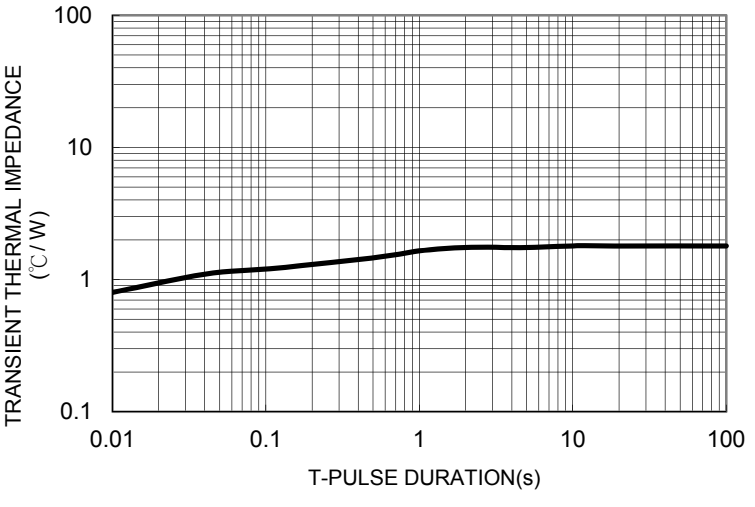


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE
PER LEG



Version:B13

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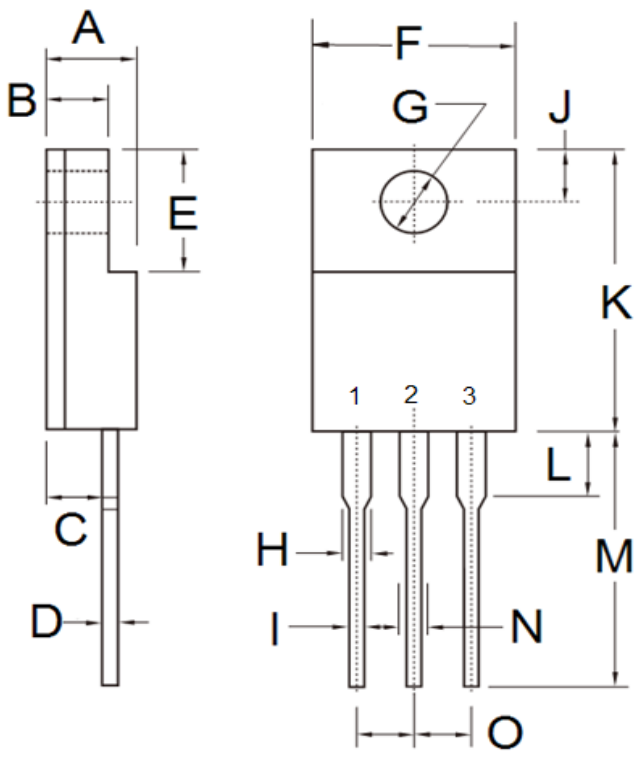
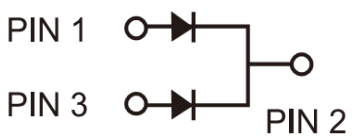
Ordering information

Part No.	Package	BULK Packing	Packing code	Packing code (Green)
MBRF10xxD	ITO-220AB	50 / TUBE	C0	C0G

Note: "xx" is Device Code from "100" thru "200".

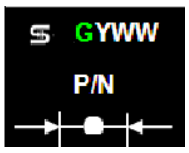
Dimensions





DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	4.30	4.70	0.169	0.185
B	2.50	3.16	0.098	0.124
C	2.30	2.96	0.091	0.117
D	0.46	0.76	0.018	0.030
E	6.30	6.90	0.248	0.272
F	9.60	10.30	0.378	0.406
G	3.00	3.40	0.118	0.134
H	0.95	1.45	0.037	0.057
I	0.50	0.90	0.020	0.035
J	2.40	3.20	0.094	0.126
K	14.80	15.50	0.583	0.610
L	-	4.10	-	0.161
M	12.60	13.80	0.496	0.543
N	-	1.80	-	0.071
O	2.41	2.67	0.095	0.105

Marking Diagram



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