

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 over voltage protection
- ✧ High temperature soldering guaranteed:
260°C / 10 seconds at terminals
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode



Mechanical Data

- ✧ Case: JEDEC I²PAK molded plastic
- ✧ Terminals: Leads solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Weight: 1.41 grams

Ordering Information

Part No.	Package	Packing	Packing code	Green Compound Packing code
MBRI20100CT	I2PAK	50 pcs / Tube	C0	C0G

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	MBRI20100CT	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)}	20	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	150	A
Maximum Instantaneous Forward Voltage at (Note 1) I _F = 10A, T _A =25°C I _F = 10A, T _A =125°C I _F = 20A, T _A =25°C I _F = 20A, T _A =125°C	V _F	0.85 0.75 0.95 0.85	V
Maximum Reverse Current T _A =25 °C T _A =125 °C	I _R	0.1 5	mA mA
Voltage rate of change (Rated V _R)	dV/dt	10,000	V/μS
Maximum Thermal Resistance Per Leg (Note 2)	R _{θJC}	2	°C/W
Operating Temperature Range	T _J	-65 to + 150	°C
Storage Temperature Range	T _{STG}	-65 to + 175	°C

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

Note2: Thermal Resistance from Junction to Case Per Leg

RATINGS AND CHARACTERISTIC CURVES (MBRI20100CT)

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

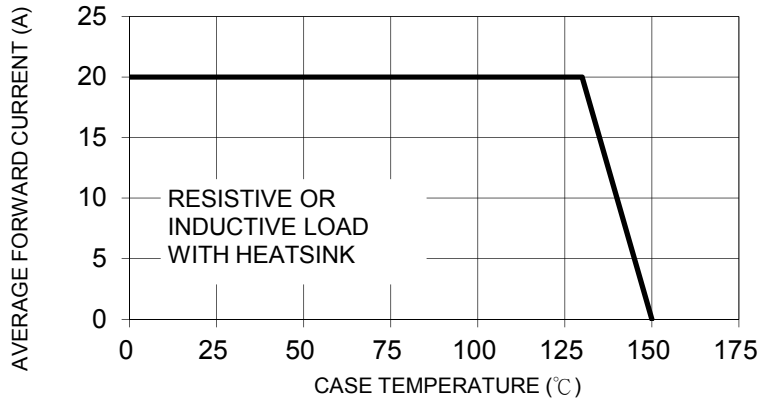


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

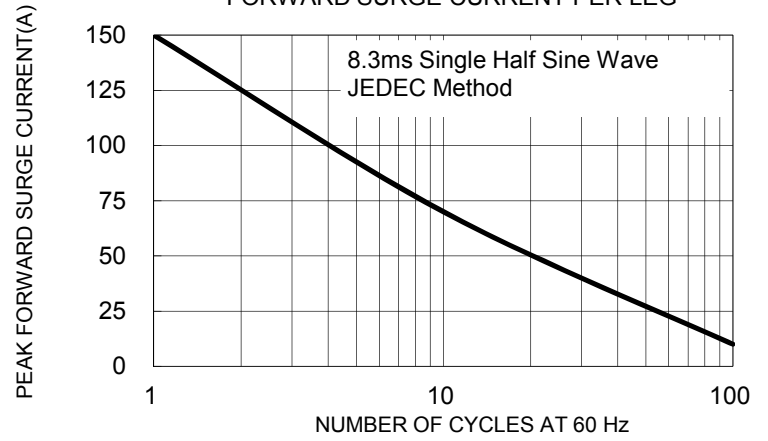


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

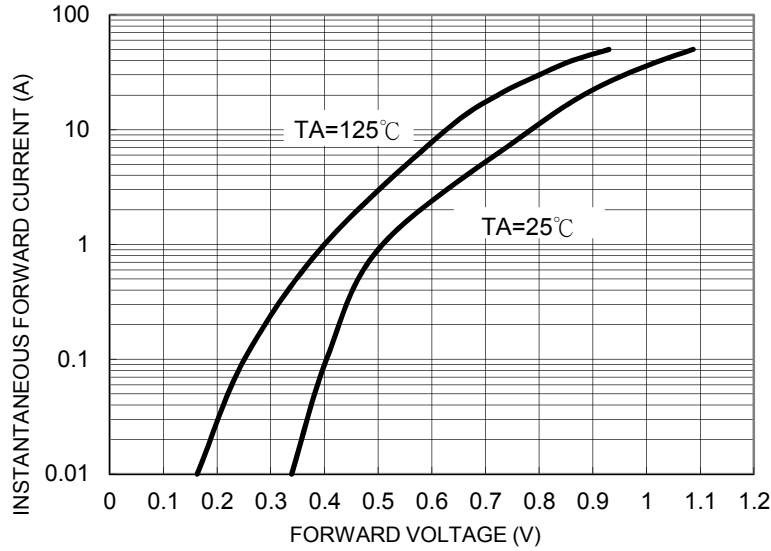


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

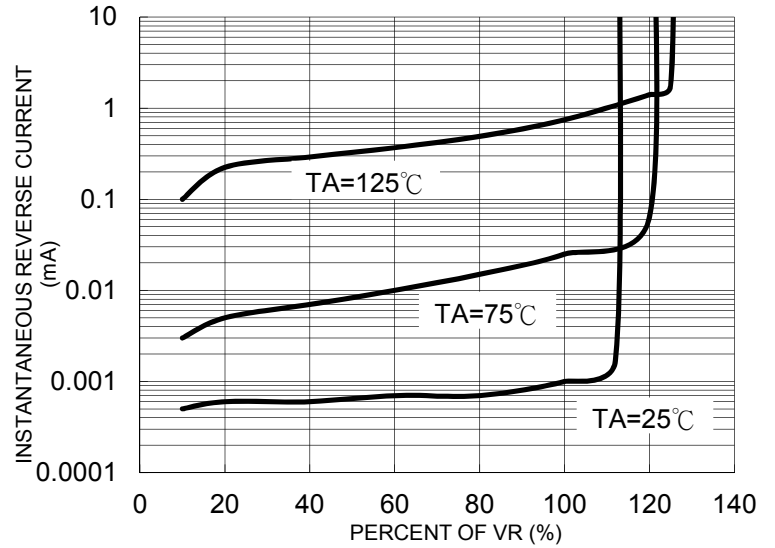


FIG. 5 TYPICAL JUNCTION CAPACITANCE

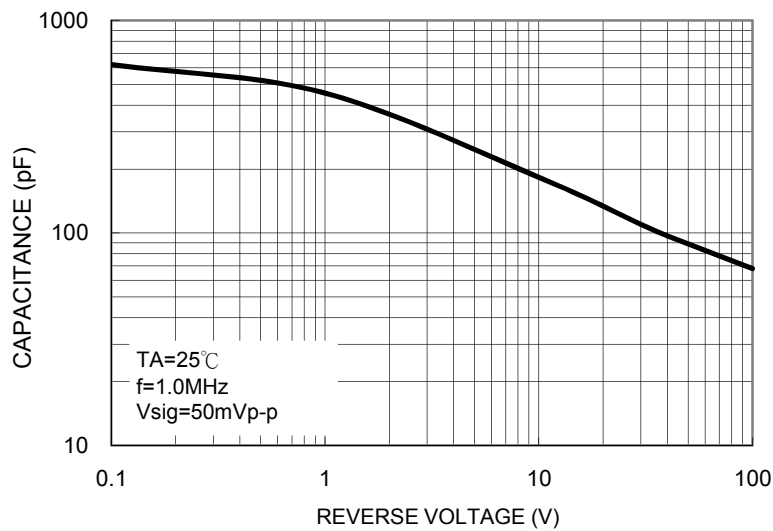
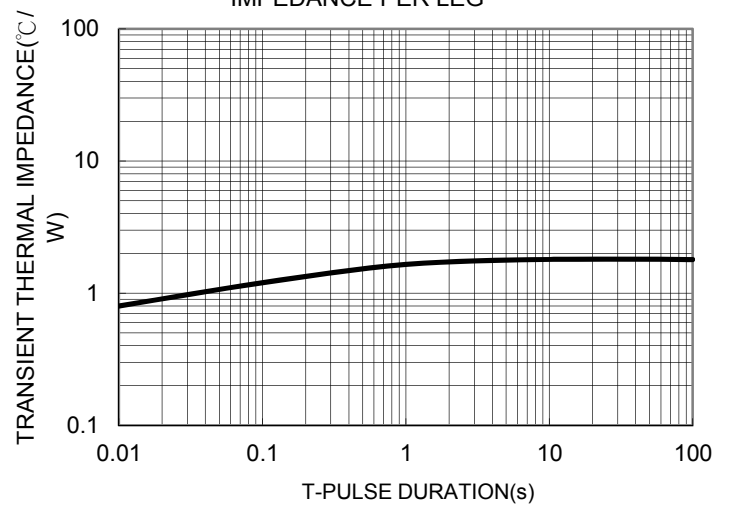
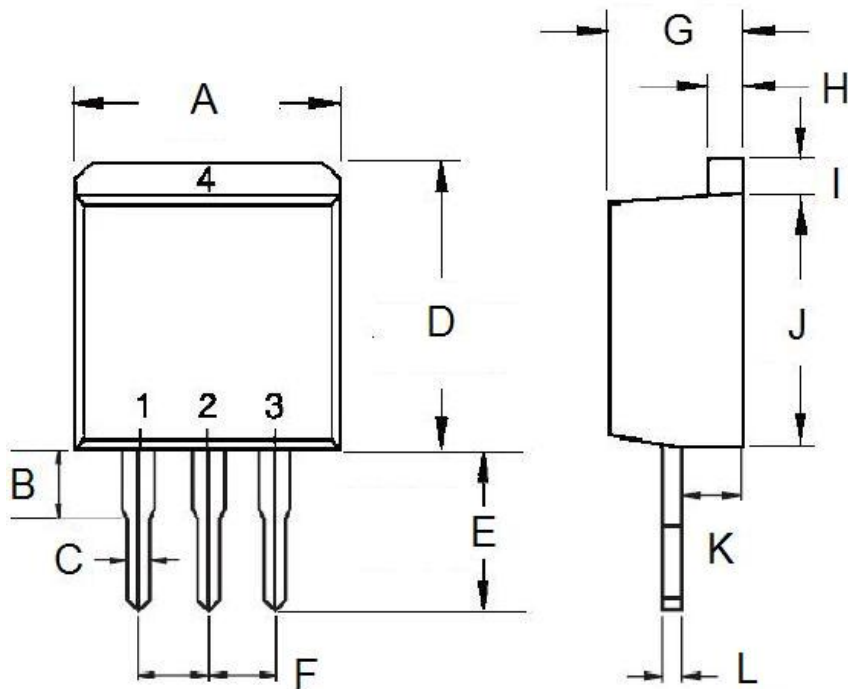


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

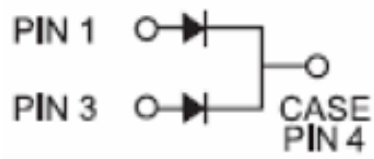


Ordering information

Part No.	Package	BULK Packing	Packing code	Green Compound Packing code
MBR120100CT	I2PAK	50 / TUBE	C0	C0G

Dimensions


DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	-	10.50	-	0.413
B	3.56	4.06	0.140	0.160
C	0.68	0.94	0.027	0.037
D	14.60	15.88	0.575	0.625
E	7.58	8.12	0.298	0.320
F	2.41	2.67	0.095	0.105
G	4.44	4.70	0.175	0.185
H	1.14	1.40	0.045	0.055
I	1.14	1.40	0.045	0.055
J	8.25	9.25	0.325	0.364
K	2.54	2.79	0.100	0.110
L	0.35	0.64	0.014	0.025


Marking Diagram


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