

### ■ Features

- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Suffix "G" indicates Halogen-free part, ex. MBR10100CTG-J.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### ■ Mechanical data

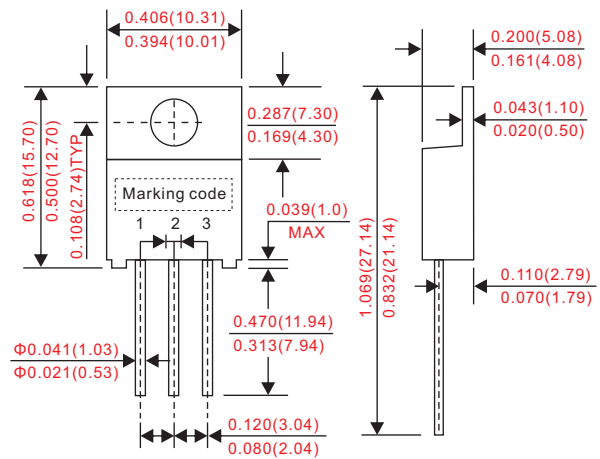
- Epoxy : UL94-V0 rated flame retardant.
- Case : JEDEC TO-220AB-J molded plastic body over passivated chip.
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed.
- Polarity: Color band denotes cathode end.
- Mounting Position : Any.
- Weight : Approximated 2.25 gram.

### ■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

### ■ Outline

TO-220AB-J



Dimensions in inches and (millimeters)

Parameter	Symbol	MBR10100CT-J	UNIT
Marking code		MBR10100CT	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	100	V
Maximum RMS Voltage	$V_{RMS}$	70	
Maximum DC Blocking Voltage	$V_{DC}$	100	
Maximum Forward Voltage	$V_F$	@5.0A, $T_A = 25^\circ\text{C}$ 0.81	V
		@5.0A, $T_A = 125^\circ\text{C}$ 0.71	
Operating Temperature	$T_J$	-50 ~ +150	°C

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	$I_O$			10	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$			125	A
Reverse current	$V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$	$I_R$			0.1	mA
	$V_R = V_{RRM}$ $T_A = 125^\circ\text{C}$				10	
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	$C_J$		150		pF
Thermal resistance	Junction to ambient	$R_{BJA}$		30		°C/W
Storage temperature		$T_{STG}$	-55		+175	°C

■ Rating and characteristic curves

Fig. 1 - Forward Current Derating Curve

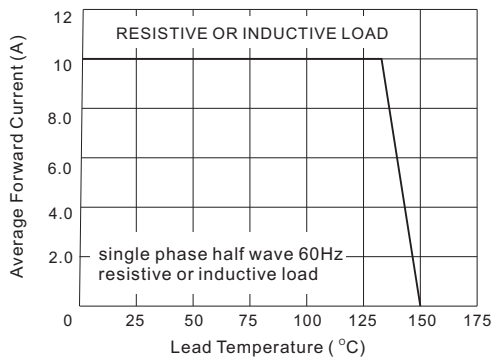


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

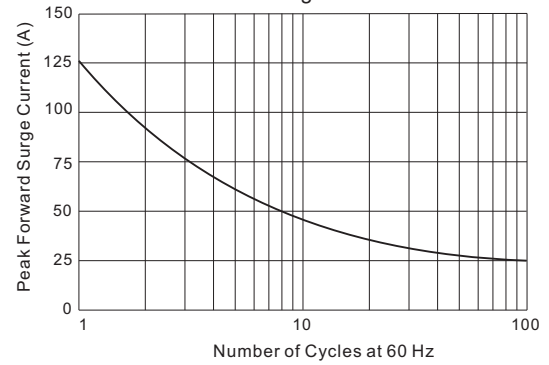


Fig. 3 - Instantaneous Forward Characteristics

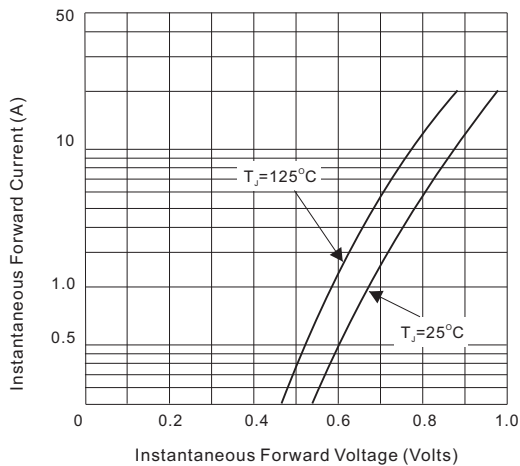
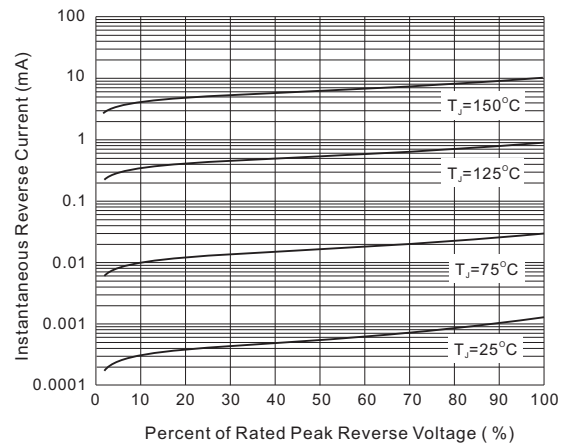


Fig. 4 - Reverse Characteristics



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