

■ 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 "H" indicates Halogen-free part, ex.MBR2040CTH-J. Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Mechanical data

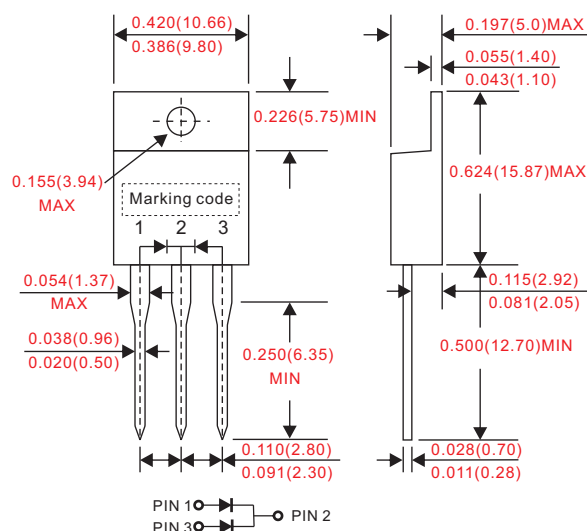
- Epoxy : UL94-V0 rated flame retardant.
- Case : JEDEC TO-220AB molded plastic body over passivated chip.
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed.
- Polarity: Color band denotes cathode end.
- Mounting Position : Any.
- Weight : Approximated 2.25 gram.

■ 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



Parameter			Conditions		Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current			See Fig.1		I _O			20	A
Forward surge current			8.3ms single half sine-wave superimposed on rate load (JEDEC method)		I _{FSM}			150	A
Reverse current			V _R = V _{RRM} T _A = 25°C		I _R			0.1	mA
			V _R = V _{RRM} T _A = 125°C					10	
Diode junction capacitance			f=1MHz and applied 4V DC reverse voltage		C _J		150		pF
Thermal resistance			Junction to ambient		R _{θJA}		30		°C/W
Storage temperature					T _{STG}	-55		+175	°C
Symbol	Marking code	Max. repetitive peak reverse voltage V _{RRM} (V)	Max. RMS voltage V _{RMS} (V)	Max. DC blocking voltage V _R (V)	Max. forward voltage @10A, T _A = 25°C V _F (V)	Max. forward voltage @10A, T _A = 125°C V _F (V)		Operating temperature T _J (°C)	
MBR2040CT-J	MBR2040CT	40	28	40	0.70	0.57		-55 ~ +150	
MBR2045CT-J	MBR2045CT	45	31.5	45					
MBR2060CT-J	MBR2060CT	60	42	60	0.79	0.70			
MBR2065CT-J	MBR2065CT	65	45.5	65					
MBR20100CT-J	MBR20100CT	100	70	100	0.81	0.71		-55 ~ +175	
MBR20150CT-J	MBR20150CT	150	105	150	0.87	0.77			
MBR20200CT-J	MBR20200CT	200	140	200	0.90	0.80			

Rating and characteristic curves

Fig.1 - Forward Current Derating Curve

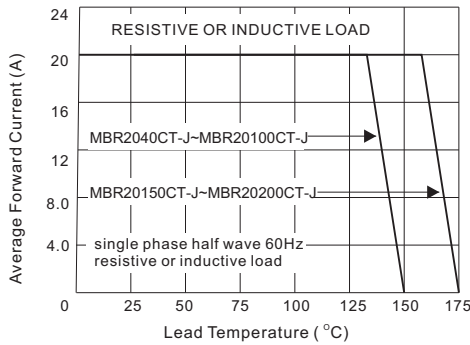


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

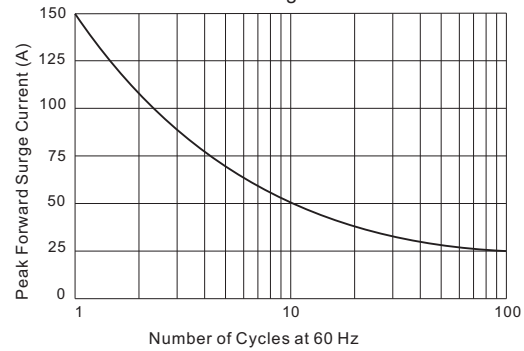


Fig. 3.1 - Instantaneous Forward Characteristics

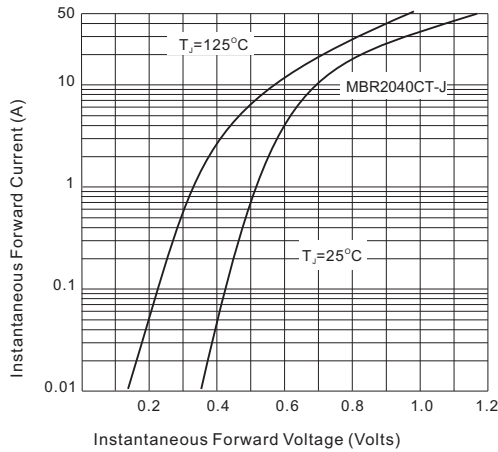


Fig. 3.2 - Instantaneous Forward Characteristics

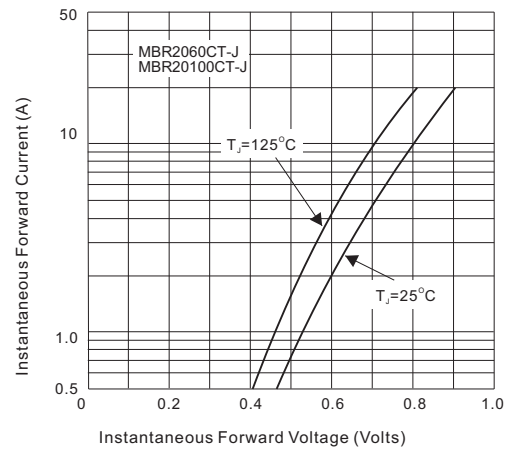


Fig. 3.3 - Instantaneous Forward Characteristics

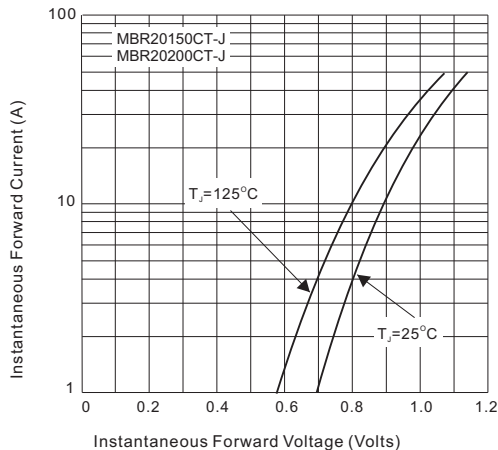
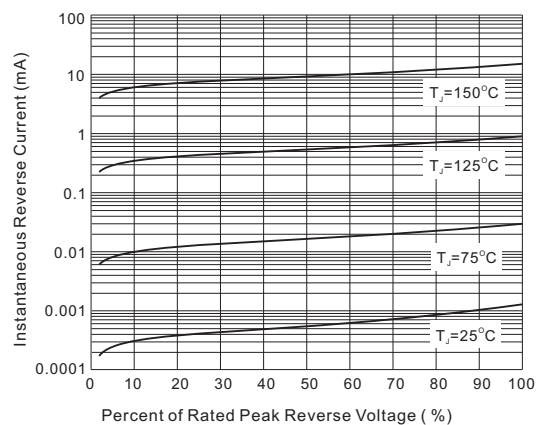


Fig. 4 - Reverse Characteristics



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
TO-220AB	50/tube;1000/BOX	5000	58X23.5X18	15.00	13.00