

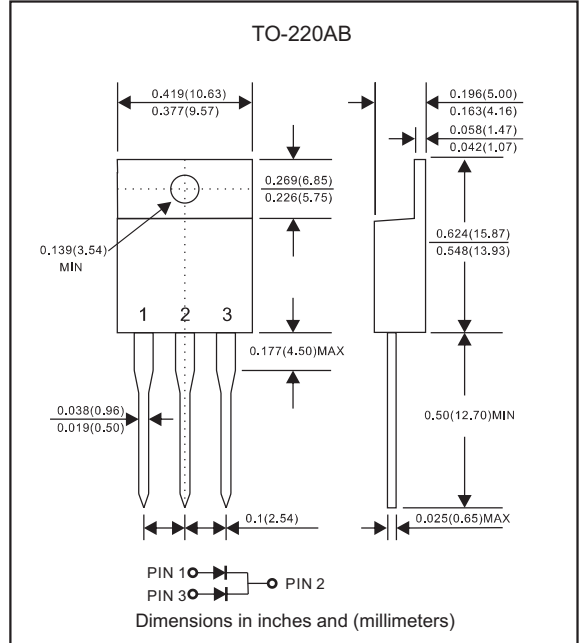
Features

- Low power loss, high efficiency.
- High current capability
- High surge capability.
- Guardring for overvoltage protection.
- Low stored charge majority carrier conduction
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Suffix "-H" indicates Halogen-free parts, ex. MBR4040CT-H.

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

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_o			40.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			220	A
Reverse current	$V_R = V_{RRM} T_J = 25^{\circ}\text{C}$	I_R			0.5	mA
	$V_R = V_{RRM} T_J = 125^{\circ}\text{C}$				50	
Thermal resistance (1)	Junction to case	$R_{\theta JC}$		2		$^{\circ}\text{C}/\text{W}$
Storage temperature		T_{STG}	-55		+150	$^{\circ}\text{C}$

NOTE : (1) Device mounted on additional heatsink, (50mm x 50mm x 23mm Al heatsink).

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating temperature T_J , ($^{\circ}\text{C}$)
MBR4040CT	40	28	40	0.65	
MBR4045CT	45	31.5	45		
MBR4060CT	60	42	60	0.75	
MBR40100CT	100	70	100	0.85	
MBR40150CT	150	105	150	0.95	
MBR40200CT	200	140	200		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage
 $I_F = 20.0\text{A}$

Rating and characteristic curves (MBR4040CT THRU MBR40200CT)

FIG. 1 - FORWARD DERATING CURVE

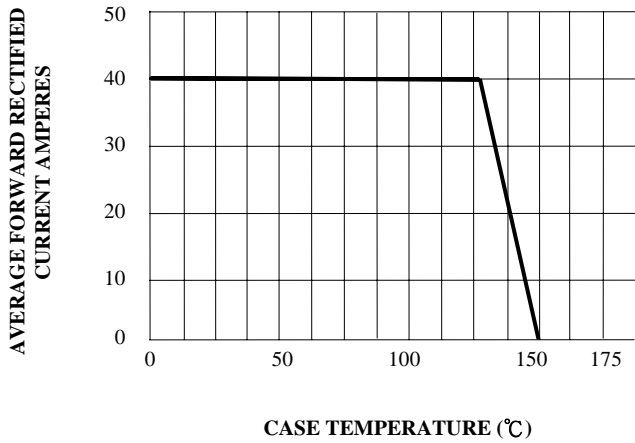


FIG. 2 - PEAK FORWARD SURGE CURRENT

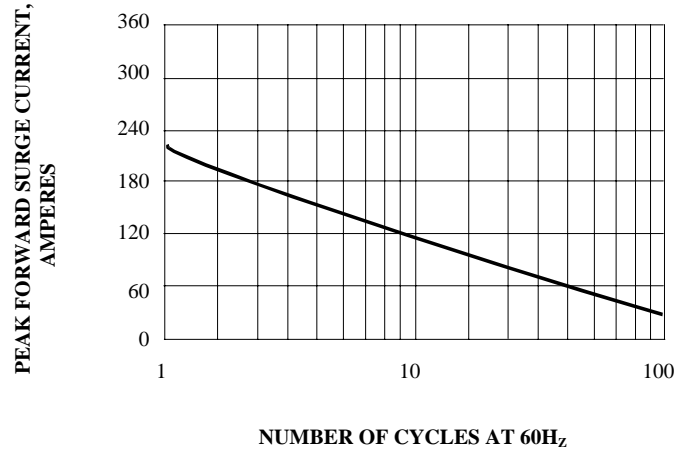


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

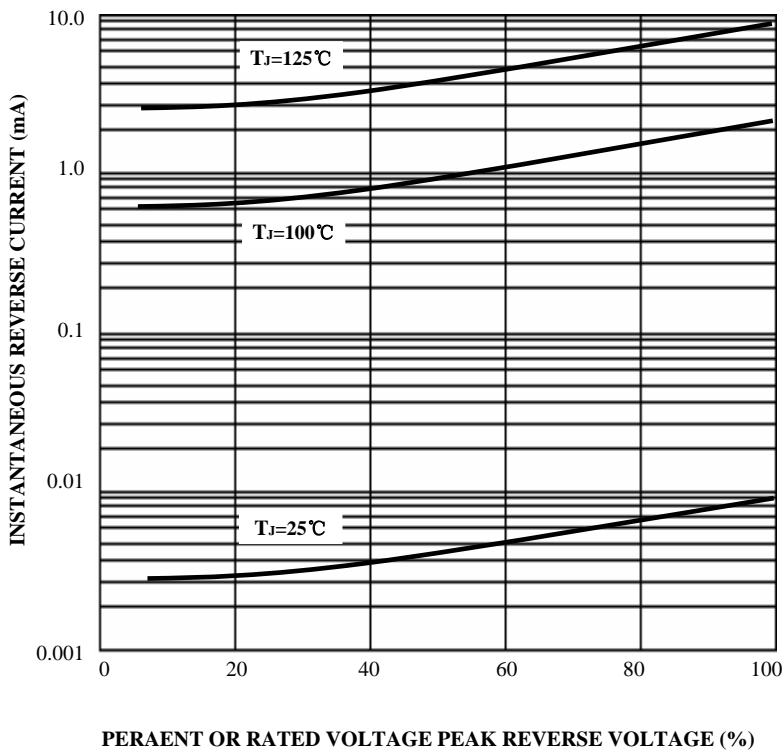
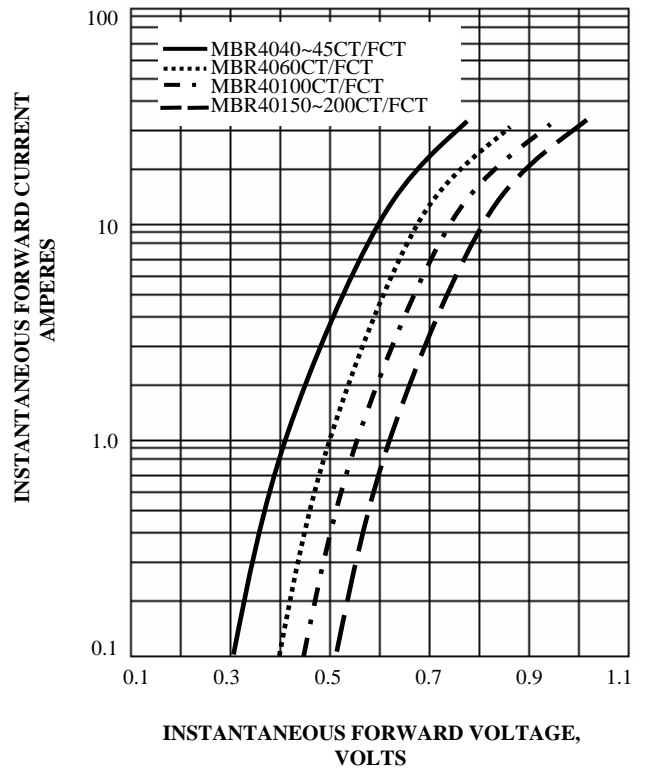
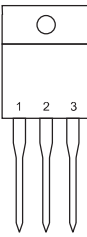
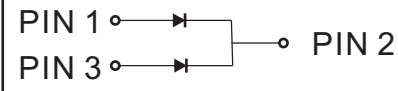


FIG. 4 - TYPICAL FORWARD CHARACTERISTIC PER LEG



Pinning information

Pin	Simplified outline	Symbol
Pin1 anode Pin2 cathode Pin3 anode		

Marking

Type number	Marking code
MBR4040CT	MBR4040CT
MBR4045CT	MBR4045CT
MBR4060CT	MBR4060CT
MBR40100CT	MBR40100CT
MBR40150CT	MBR40150CT
MBR40200CT	MBR40200CT