

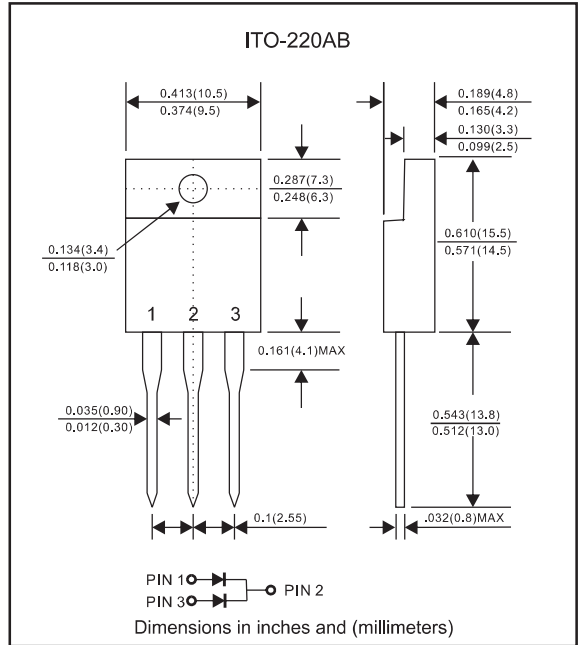
Features

- 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. MBR1040FCT-H.

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : JEDEC ITO-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			10.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			120	A
Reverse current	$V_R = V_{RRM}$ $T_J = 25^\circ\text{C}$	I_R			0.05	mA
	$V_R = V_{RRM}$ $T_J = 125^\circ\text{C}$				10	
Thermal resistance	Junction to case (1)	$R_{\theta JC}$		4		$^\circ\text{C}/\text{W}$
Storage temperature		T_{STG}	-65		+175	$^\circ\text{C}$

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 ($^\circ\text{C}$)
MBR1040FCT	40	28	40	0.70	-55 to +150
MBR1045FCT	45	31.5	45		
MBR1050FCT	50	35	50		
MBR1060FCT	60	42	60		
MBR1080FCT	80	56	80	0.85	-55 to +175
MBR10100FCT	100	70	100		
MBR10150FCT	150	105	150		
MBR10200FCT	200	140	200		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage
 $I_F = 5.0\text{A}$

Rating and characteristic curves (MBR1040FCT THRU MBR10200FCT)

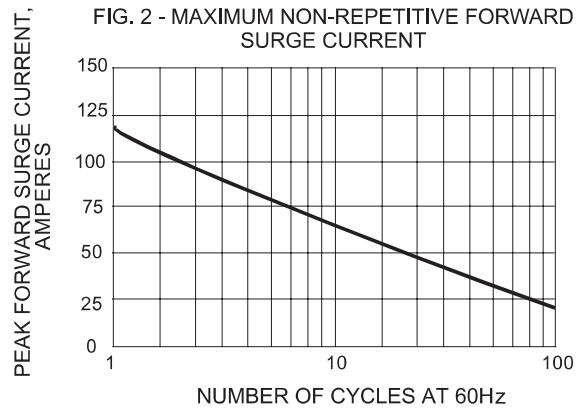
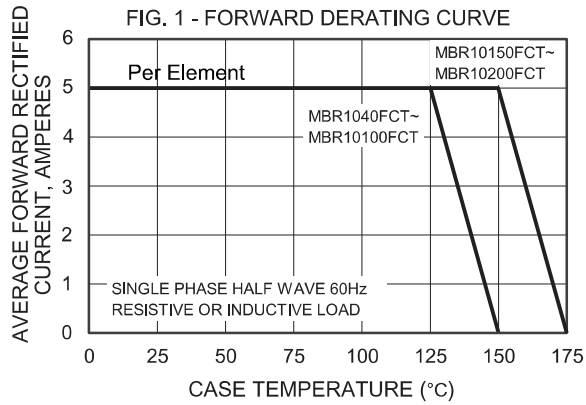


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

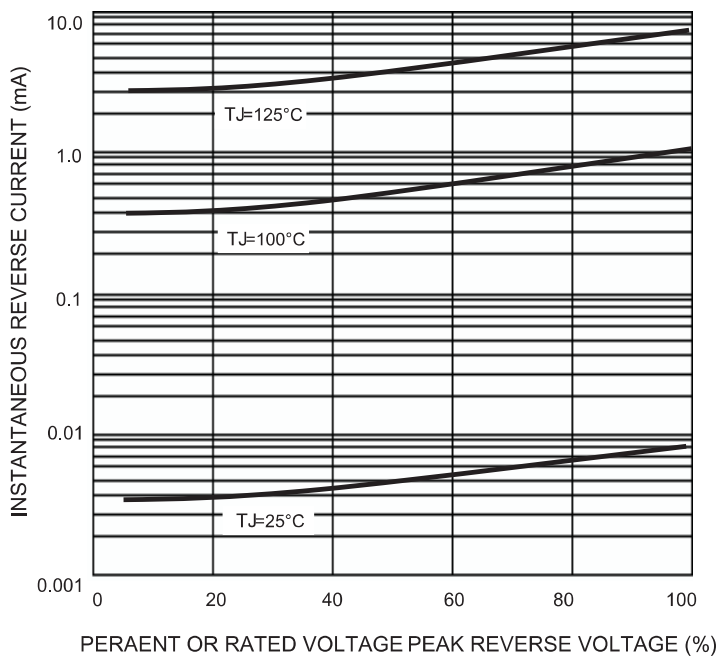
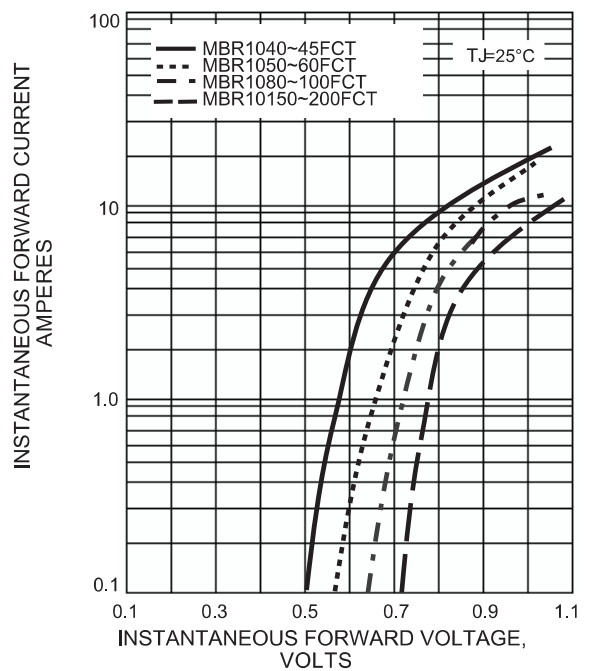
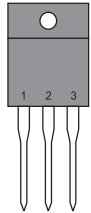
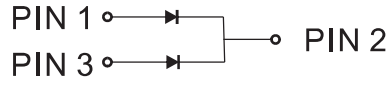


FIG. 4 - TYPICAL FORWARD CHARACTERISTIC PER LEG



Pinning information

Pin	Simplified outline	Symbol
Pin1 anode Pin2 cathode Pin3 anode		

Marking

Type number	Marking code
MBR1040FCT	MBR1040FCT
MBR1045FCT	MBR1045FCT
MBR1050FCT	MBR1050FCT
MBR1060FCT	MBR1060FCT
MBR1080FCT	MBR1080FCT
MBR10100FCT	MBR10100FCT
MBR10150FCT	MBR10150FCT
MBR10200FCT	MBR10200FCT