

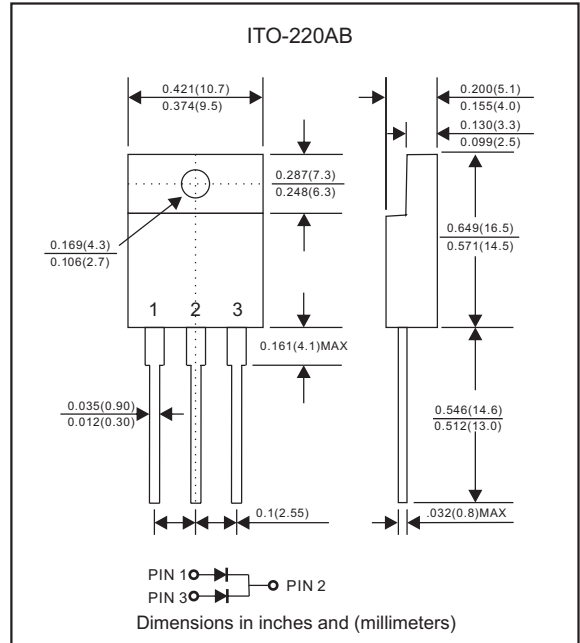
Features

- 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. MBR4040FCT-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			40.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			250	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	Junction to case (1)	R_{BJC}		4		$^{\circ}\text{C}/\text{W}$
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 , ($^{\circ}\text{C}$)
MBR4040FCT	40	28	40	0.55	
MBR4045FCT	45	31.5	45		
MBR4060FCT	60	42	60	0.70	
MBR40100FCT	100	70	100	0.85	
MBR40150FCT	150	105	150	0.95	
MBR40200FCT	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 (MBR4040FCT THRU MBR40200FCT)

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

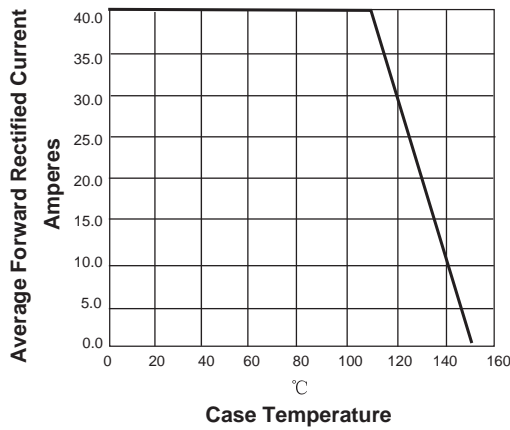


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

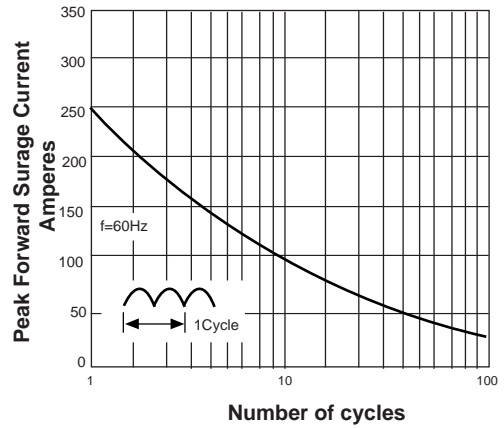


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

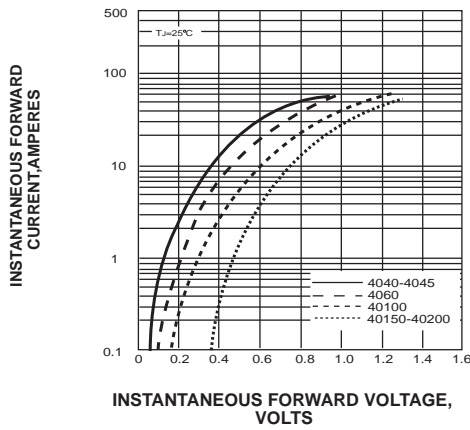
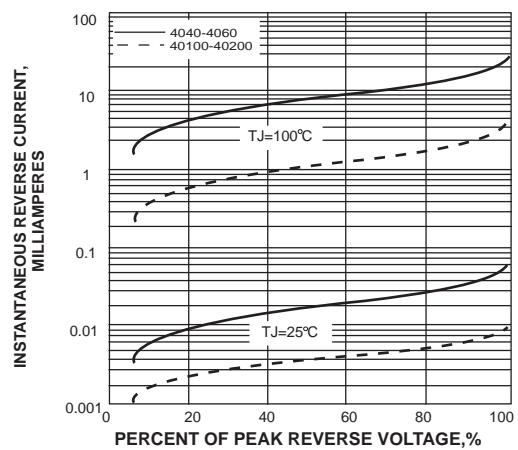
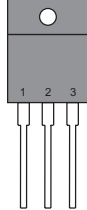
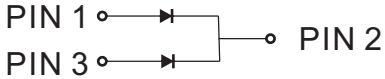


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



Pinning information

Pin	Simplified outline	Symbol
Pin1 anode Pin2 cathode Pin3 anode		

Marking

Type number	Marking code
MBR4040FCT	MBR4040FCT
MBR4045FCT	MBR4045FCT
MBR4060FCT	MBR4060FCT
MBR40100FCT	MBR40100FCT
MBR40150FCT	MBR40150FCT
MBR40200FCT	MBR40200FCT