

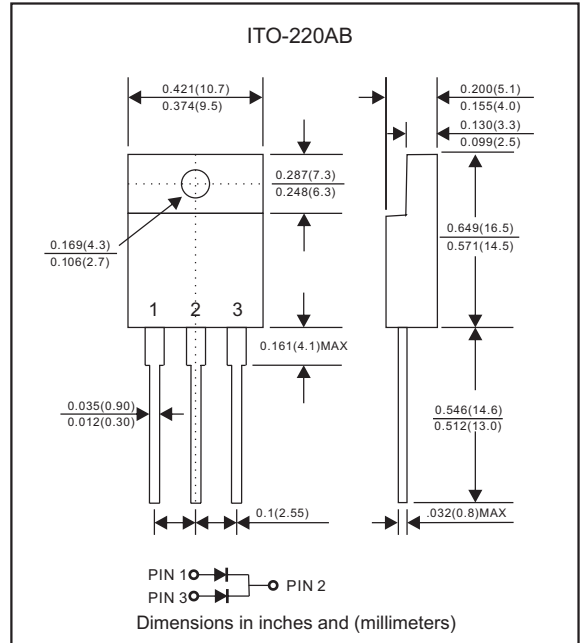
### Features

- 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	$R_{BJC}$		3.5		$^\circ\text{C}/\text{W}$
Storage temperature		$T_{STG}$	-55		+150	$^\circ\text{C}$

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		
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

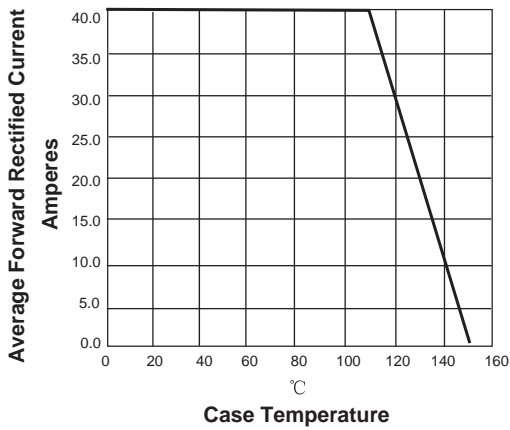


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

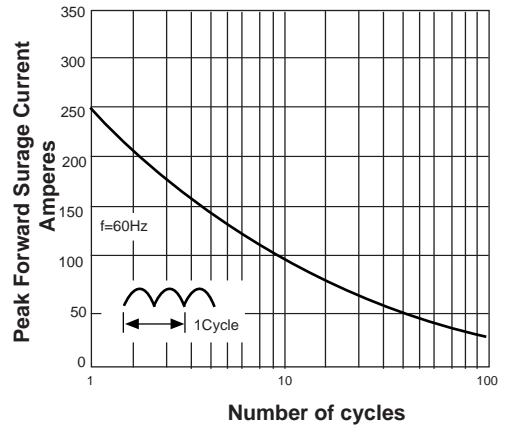


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

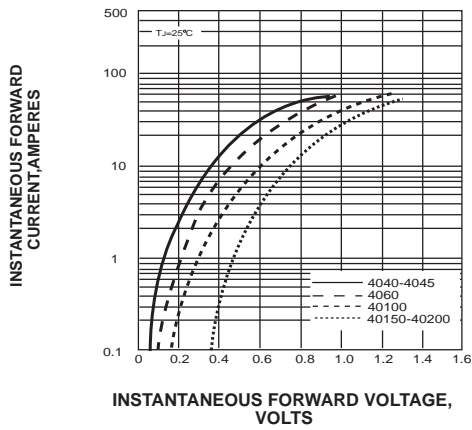
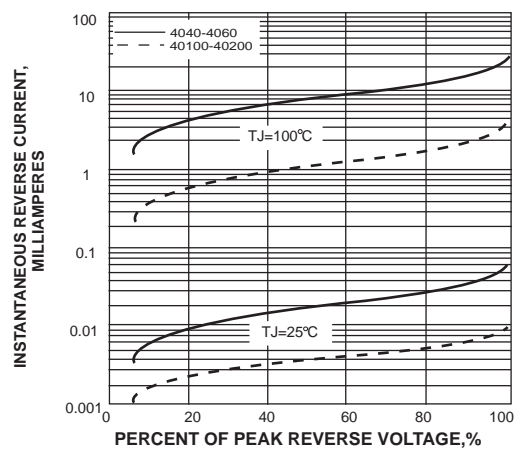
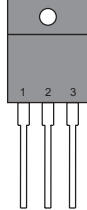
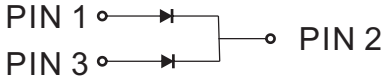


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



### 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