

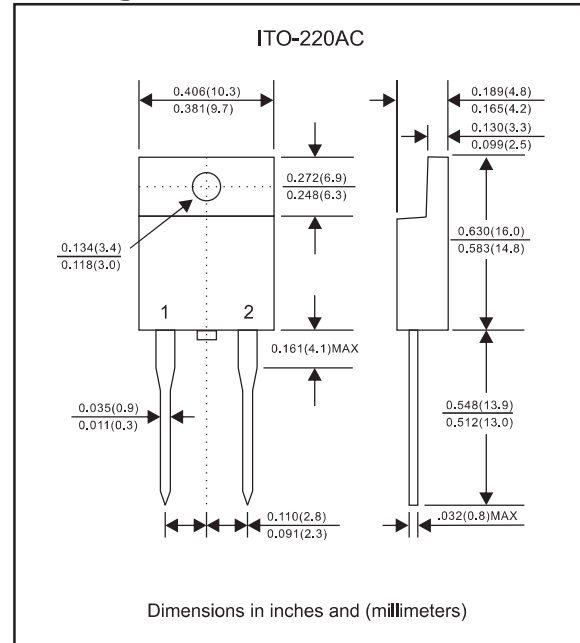
Features

- 150°C operating junction temperature.
- 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.

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : JEDEC ITO-220AC molded plastic body over passivated chip
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: As marked
- Mounting Position : Any

Package outline



Maximum ratings and Electrical Characteristics (AT T_A=25°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}			150	A
Reverse current	V _R = V _{RRM} T _J = 25°C	I _R			0.1	mA
	V _R = V _{RRM} T _J = 125°C				15	
Thermal resistance	Junction to case (1)	R _{BJC}		4		°C/W
Storage temperature range		T _{STG}	-65		+175	°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 , (°C)
MBR1040F	40	28	40	0.70	-55 to +150
MBR1045F	45	31.5	45		
MBR1050F	50	35	50	0.80	
MBR1060F	60	42	60		
MBR1080F	80	56	80	0.85	
MBR10100F	100	70	100		
MBR10150F	150	105	150	0.95	
MBR10200F	200	140	200		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage, @I_F=10A, 25°C

Rating and characteristic curves (MBR1040F THRU MBR10200F)

FIG. 1 – FORWARD CURRENT DERATING CURVE

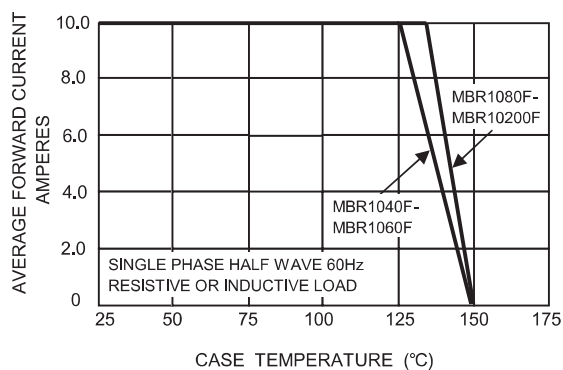


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

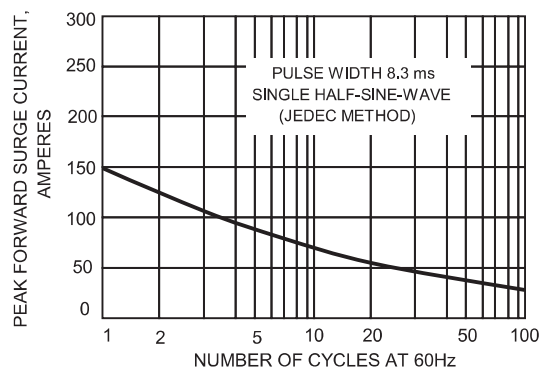


FIG.3-TYPICAL REVER CHARACTERISTICS

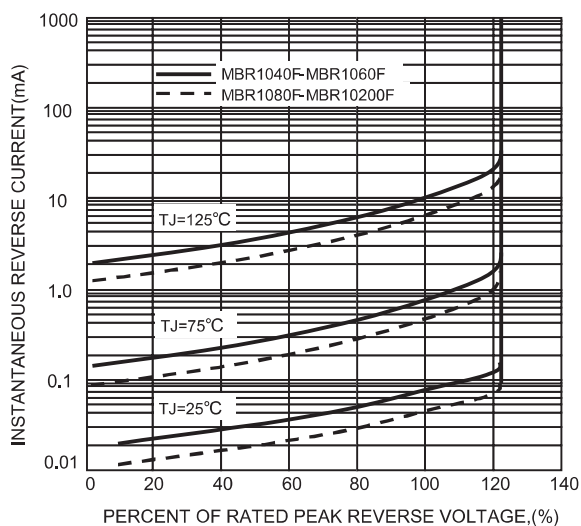


FIG.4-TYPICAL FORWARD CHARACTERISTICS

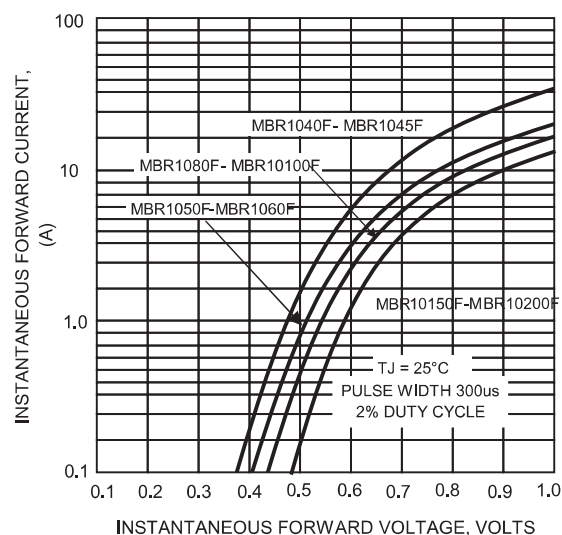
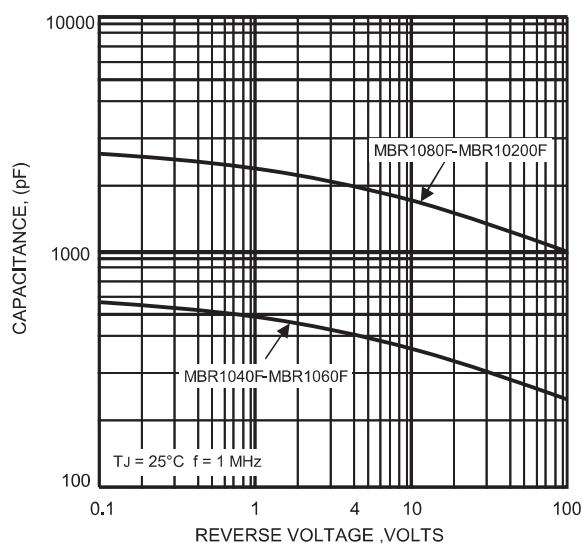
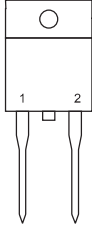


FIG.5 – TYPICAL JUNCTION CAPACITANCE



Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
MBR1040F	MBR1040F
MBR1045F	MBR1045F
MBR1050F	MBR1050F
MBR1060F	MBR1060F
MBR1080F	MBR1080F
MBR10100F	MBR10100F
MBR10150F	MBR10150F
MBR10200F	MBR10200F