MBR10 Series
Schottky Barrier Rectifiers

Features

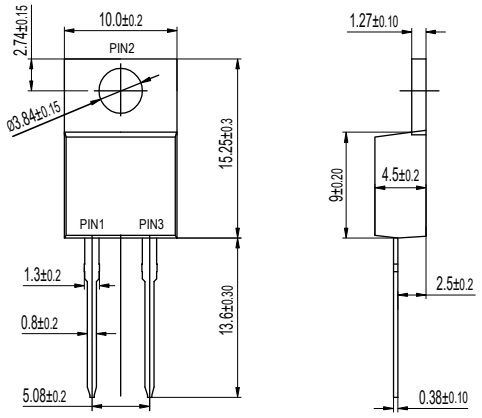
High efficiency operation
Low power loss
Low stored charge majority carrier conduction
High forward surge capability
Lead free in compliance with EU RoHS
2011/65/EU directive
Green molding compound as per IEC61249
Std..(Halogen Free)

Mechanical Data

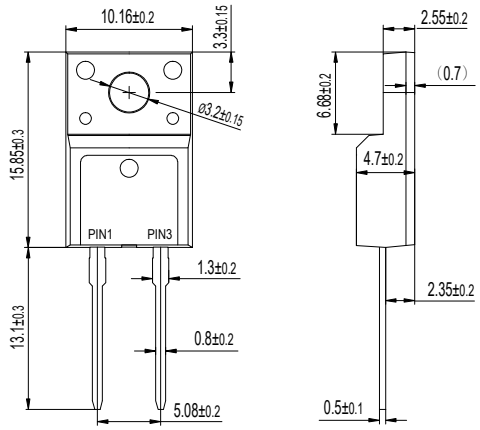
Circuit figure: Single positive
Leads: Solderable per mil-std-202, Method 208
Polarity: as marked
Mounting torque: 5 in-lbs maximum
Terminals: Puretin plated
Weight: TO-220AC 1.80 grams
ITO-220AC 1.65 grams
TO-262AC 1.45 grams
TO-263(D^2PAK) 1.35 grams

Package outline

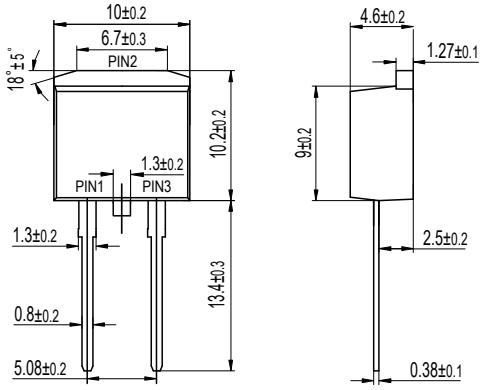
Dimensions in millimeters



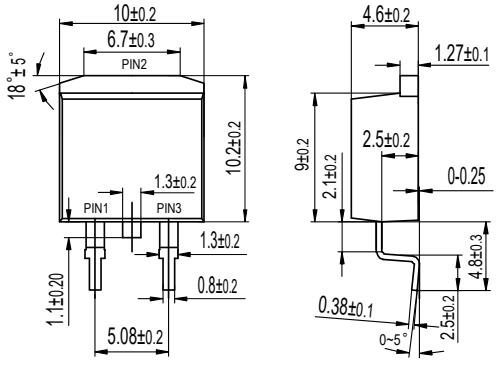
TO-220AC
MBR10XX



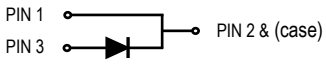
ITO-220AC
MBR10XXF



TO-262AC
MBR10XXW



TO-263(D^2PAK)
MBR10XXD



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (TA=25°C)

RATINGS	SYMBOL	MBR 1040 1040F 1040W 1040D	MBR 1045 1045F 1045W 1045D	MBR 1060 1060F 1060W 1060D	MBR 10100 10100F 10100W 10100D	MBR 10150 10150F 10150W 10150D	MBR 10200 10200F 10200W 10200D	UNIT
Maximum repetitive reverse voltage	V_{RRM}	40	45	60	100	150	200	V
Maximum RMS voltage	V_{RMS}	28	32	42	70	105	140	V
Maximum DC blocking voltage	V_{DC}	40	45	60	100	150	200	V
Maximum average forward current	I_{AV}	10						A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	125						A
Typical thermal resistance (Note 1) TO-220AB / ITO-220AB / TO-262AB / TO-263(D^2PAK)	$R_{\theta-JC}$	2.0 4.5 2.5 2.5						°C/W
Operating junction temperature range	T_J	-55 to +150				-55 to +175		°C
Storage temperature range	T_{STG}	-55 to +175						°C
CHARACTERISTICS	SYMBOL	MBR 1040 1040F 1040W 1040D	MBR 1045 1045F 1045W 1045D	MBR 1060 1060F 1060W 1060D	MBR 10100 10100F 10100W 10100D	MBR 10150 10150F 10150W 10150D	MBR 10200 10200F 10200W 10200D	UNIT
Maximum forward voltage per leg at I_F=10A	V_F	0.65		0.75	0.85	0.92		V
Maximum average reverse current at rated DC blocking voltage TJ=25°C / TJ=125°C	I_R	0.10 15			0.01 5			mA

Notes: 1. Thermal resistance from junction to case.

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

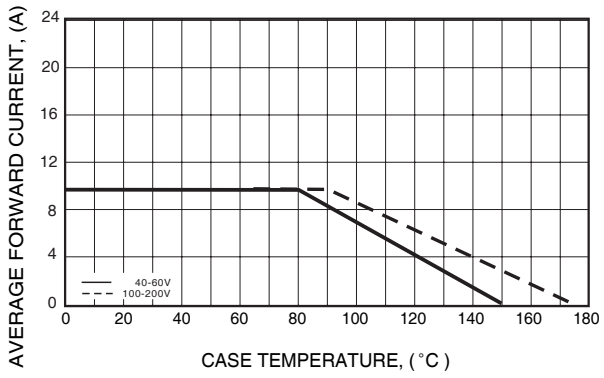


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

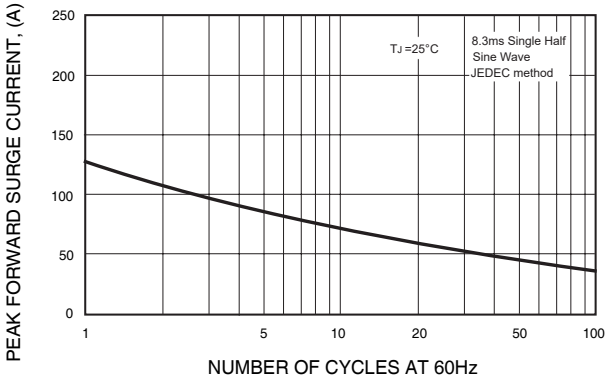


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

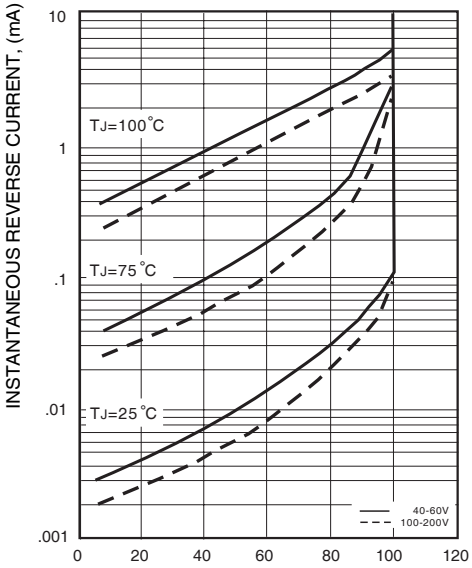
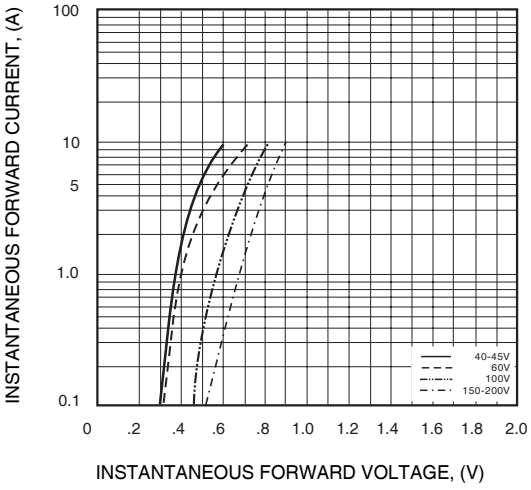



FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS