MUR10 series

Super Fast Rectifiers

Feaures

- Glass passivated chip junctions
- Super fast recovery time for switching mode application
- High Forward Surge Capability
- Low Reverse Current
- Lead free in compliance with EU RoHS 2011/65/EU directive

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

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

RATINGS	SYMBOL	MUR 1020 1020F 1020W 1020D	MUR 1030 1030F 1030W 1030D	MUR 1040 1040F 1040W 1040D	MUR 1050 1050F 1050W 1050D	MUR 1060 1060F 1060W 1060D	MUR 1070 1070F	MUR 1080 1080F	UNIT
Maximum repetitive reverse voltage	V_{RRM}	200	300	400	500	600	700	800	V
Maximum RMS voltage	V_{RMS}	140	210	280	350	420	490	560	V
Maximum DC blocking voltage	V_{DC}	200	300	400	500	600	700	800	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}	150							A
Typical thermal resistance per diode(Note 1) TO-220AC ITO-220AC TO-262AC TO-263(D^2PAK)	$R_{\theta-JC}$	2.5 4.0 2.5 2.5							°C/W
Operating junction temperature range	T_J	-55 to +150							°C
Storage temperature range	T_{STG}	-55 to +150							°C
CHARACTERISTICS	SYMBOL	MUR 1020 1020F 1020W 1020D	MUR 1030 1030F 1030W 1030D	MUR 1040 1040F 1040W 1040D	MUR 1050 1050F 1050W 1050D	MUR 1060 1060F 1060W 1060D	MUR 1070 1070F	MUR 1080 1080F	UNIT
Typical forward voltage per leg at 10A	V_F	1.00	1.30		1.70		2.80		V
Maximum average reverse current at rated DC blocking voltage TJ=25°C TJ=125°C	I_R	5 250							μA
Typical reverse recovery time(Note 2)	T_{RR}	35							nS

Notes: 1. Thermal resistance from junction to case.
2. Test conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.

Rating and Characteristic Curves (TA = 25°C Unless otherwise noted)

MUR10 series

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

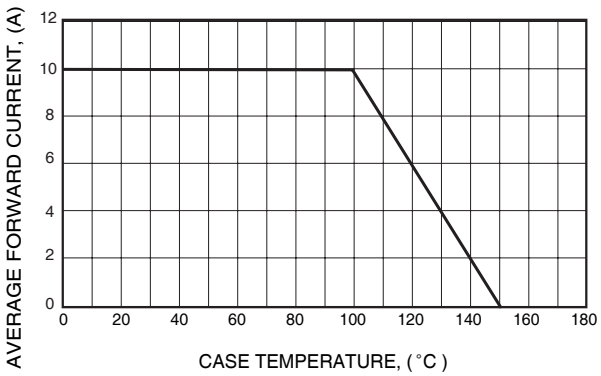


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

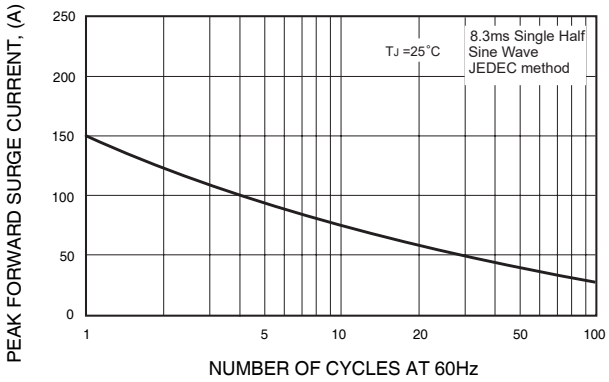


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

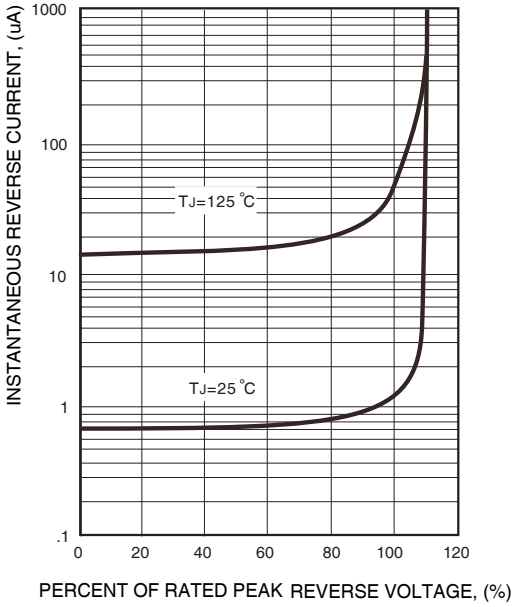


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

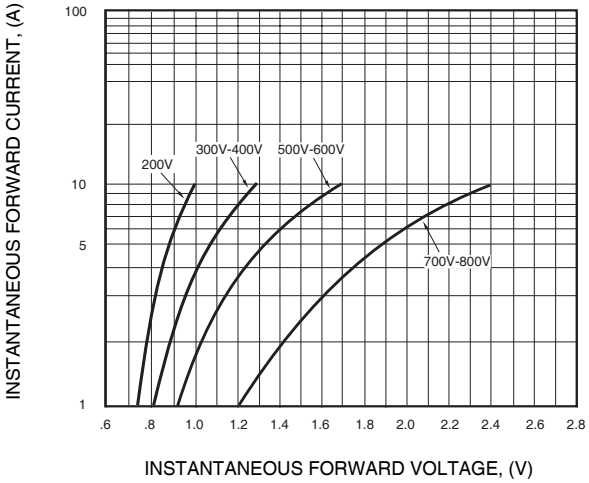
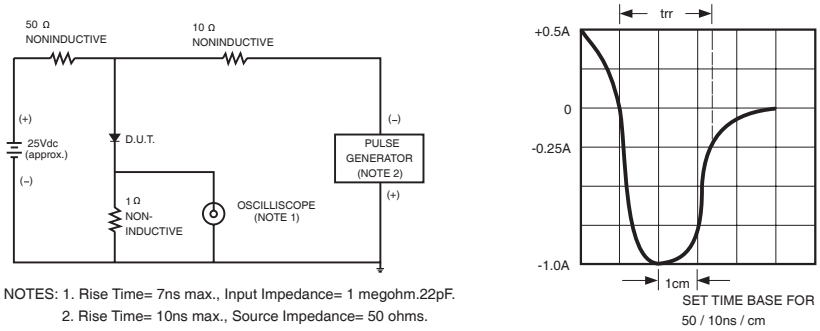
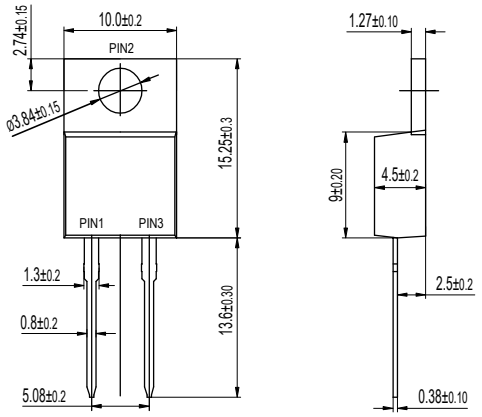


FIG.6- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS

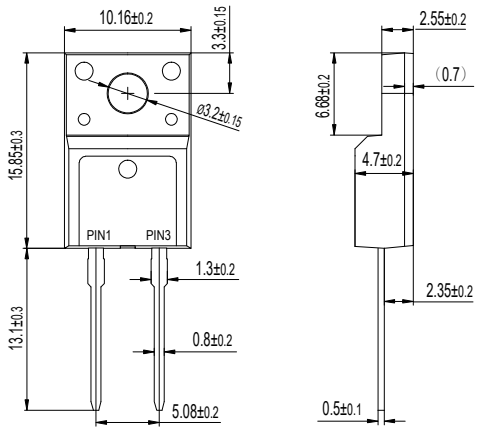


NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

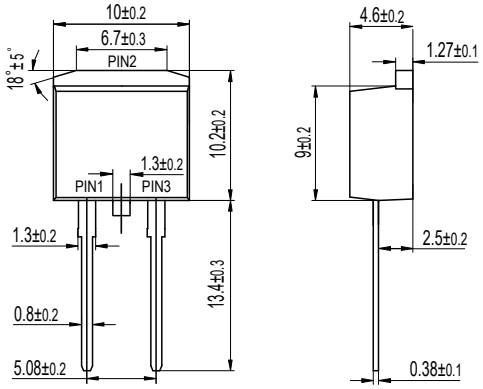
Package outline



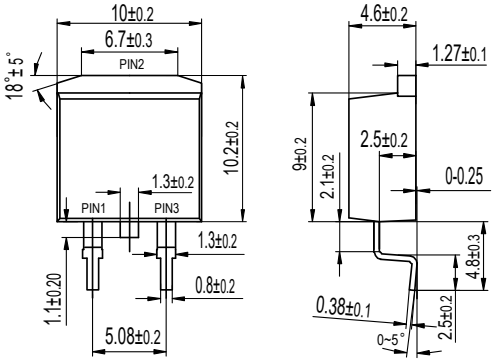
TO-220AC
MUR10XX



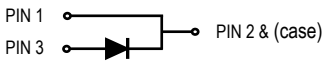
ITO-220AC
MUR10XXF



TO-262AC
MUR10XXW



TO-263(D^{2}PAK)
MUR10XXD



Dimensions in millimeters