



# MUR8120(F)

Ultrafast Recovery Planar Diode  
Reverse Voltage 1200 Volts Forward Current 8 Amperes

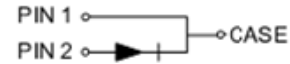
## Features

- FRED (Planar) wafer construction
- Ultrafast recovery time
- Low forward voltage drop, low power losses
- High efficiency operation
- Plastic package has underwriters Laboratory Flammability Classification 94V-0



Package: TO-220-AC

Package: ITO-220-AC



## Mechanical Data

- Case: Epoxy, Molded
- Weight: 1.9grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 50 units per plastic tube

## Maximum Ratings & Electrical Characteristics

( $T_A=25^\circ\text{C}$  unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	MUR8120(F)	UNIT
Maximum repetitive peak reverse voltage			$V_{RRM}$	1200	V
Working peak reverse voltage			$V_{RWM}$	1200	V
Maximum DC blocking voltage			$V_{DC}$	1200	V
Maximum average forward rectified current at $T_c=105^\circ\text{C}$ total device per diode			$I_F(AV)$	8	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode			$I_{FSM}$	150	A
Voltage rate of change (rated $V_R$ )			$DV/dt$	10000	V/us
Operating junction temperature range			$T_J$	-55 to +150	$^\circ\text{C}$
Storage temperature range			$T_{STG}$	-55 to +150	$^\circ\text{C}$
Maximum Reverse Recover Time ( $I_F=0.5\text{Amp}$ , $I_R=1.0\text{Amp}$ , $I_{rec}=0.25\text{Amp}$ )	$T_{rr}$		$T_{rr}$	50	ns
Maximum instantaneous forward voltage per leg	$I_F=8\text{A}$	$T_C=25^\circ\text{C}$	$V_F$	3.10	V
	$I_F=8\text{A}$	$T_C=125^\circ\text{C}$		2.80	
Maximum reverse current per leg at working peak Reverse voltage	$T_J=25^\circ\text{C}$		$I_R$	10	$\mu\text{A}$
	$T_J=100^\circ\text{C}$			500	
<b>Thermal Characteristics <math>T_A=25^\circ\text{C}</math> unless otherwise noted</b>					
Symbol	Parameter	TYP (TO-220-AC)		TYP (ITO-220-AC)	Unit
R $\theta$ JC	Thermal Resistance, Junction to Case per Leg	2.0		4.0	$^\circ\text{C}/\text{W}$
R $\theta$ JA	Thermal Resistance, Junction to Ambient per Leg	62.5		62.5	$^\circ\text{C}/\text{W}$

**Note:** Pulse test: 300us pulse width, duty cycle=2%



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## Ratings and Characteristics Curves

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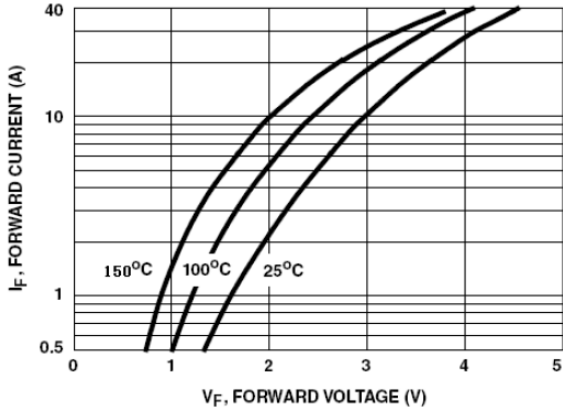


FIGURE 1. FORWARD CURRENT vs FORWARD VOLTAGE

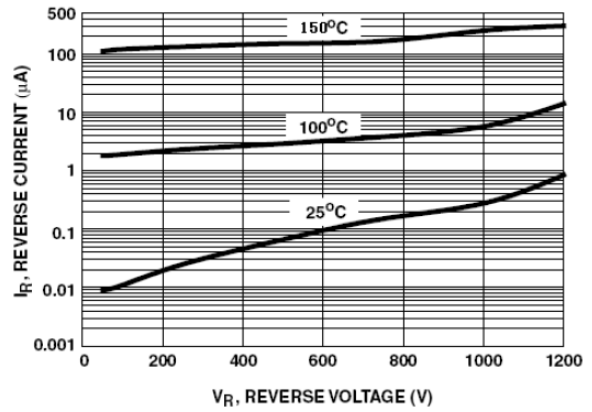


FIGURE 2. REVERSE CURRENT vs REVERSE VOLTAGE

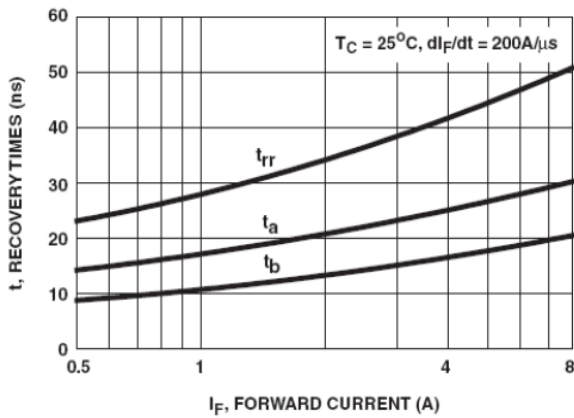


FIGURE 3.  $t_{rr}$ ,  $t_a$  AND  $t_b$  CURVES vs FORWARD CURRENT

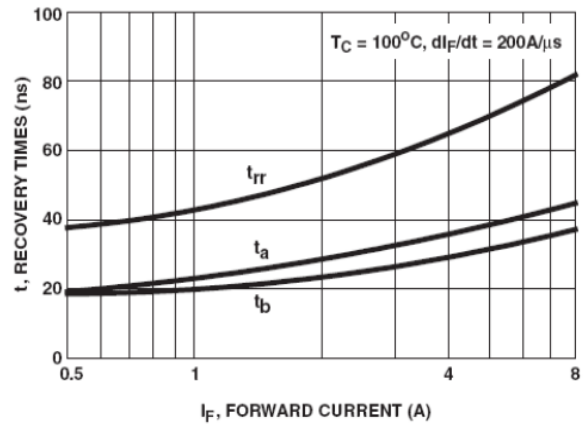


FIGURE 4.  $t_{rr}$ ,  $t_a$  AND  $t_b$  CURVES vs FORWARD CURRENT

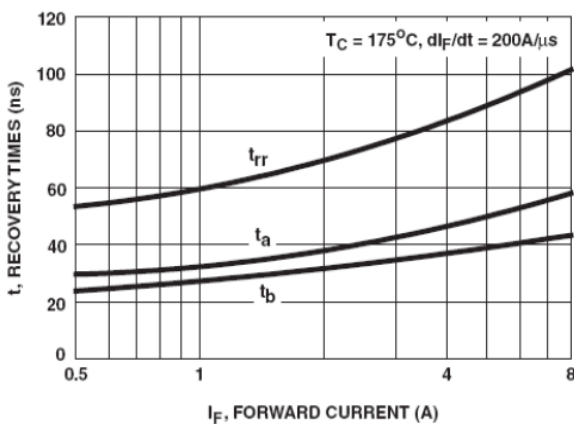


FIGURE 5.  $t_{rr}$ ,  $t_a$  AND  $t_b$  CURVES vs FORWARD CURRENT

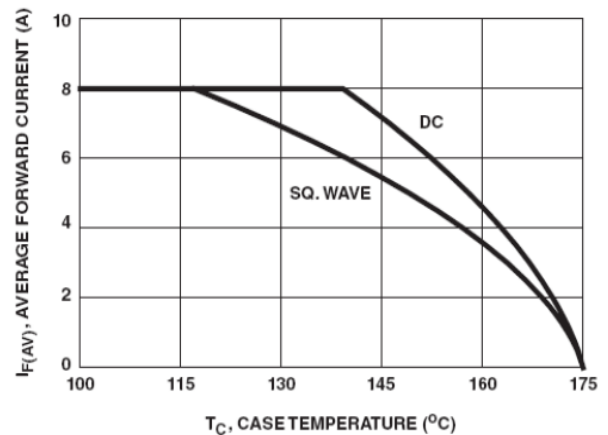


FIGURE 6. CURRENT DERATING CURVE



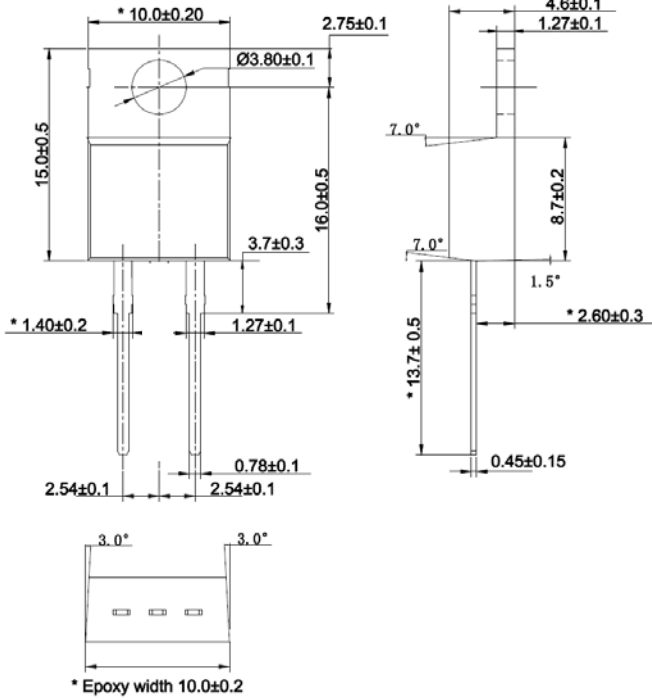
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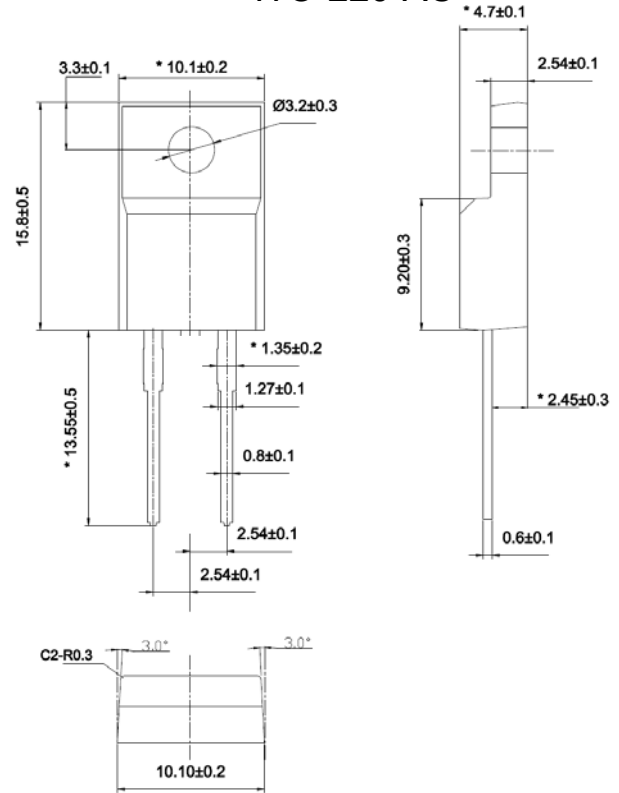
## Package Outline Dimensions

Unit: millimeters

### TO-220-AC



### ITO-220-AC





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