

MUR1520/MUR1520F

Ultrafast Recovery Rectifiers
 Reverse Voltage 200V Forward Current 15 A

Features

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



MUR1520
 Package: TO-220-AC

MUR1520F
 Package: ITO-220-AC

Mechanical Data

- Case: Epoxy, molded
- Weight: 1.9grams (approximately)
- Finish: all external surfaces corrosion resistant and terminal leads readily solderable
- Lead Temperature for soldering purposes: 260°C Max. for 10 sec
- 50 units per plastic tube



Schematic Diagram

Maximum Ratings & Electrical Characteristics

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

Parameter	Test Conditions		Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	-		V_{RRM}	200	V
Working Peak Reverse Voltage	-		V_{RWM}	200	V
Maximum DC Blocking Voltage	-		V_{DC}	200	V
Maximum Average Forward Rectified Current @ $T_c=105^\circ\text{C}$	-		$I_F(AV)$	15	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load	-		I_{FSM}	150	A
Voltage Rate of Change (rated V_R)	-		DV/dt	10000	V/ μs
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 ($I_F=0.5A, I_R=1.0A, I_{rec}=0.25A$)	-		T_{rr}	50	ns
Maximum Instantaneous Forward Voltage	$I_F=15A$	$T_c=25^\circ\text{C}$	V_F	1.90	V
	$I_F=15A$	$T_c=125^\circ\text{C}$		1.80	
Maximum Reverse Current at Working Peak Reverse Voltage	-	$T_J=25^\circ\text{C}$	I_R	10	μA
		$T_J=100^\circ\text{C}$		500	μA

Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Typ. (MUR1520)	Typ. (MUR1520F)	Unit
$R_{\theta JC}$	Thermal Resistance, Junction to Case per Leg	2.0	4.0	$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient per Leg	62.5	62.5	$^\circ\text{C/W}$

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

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

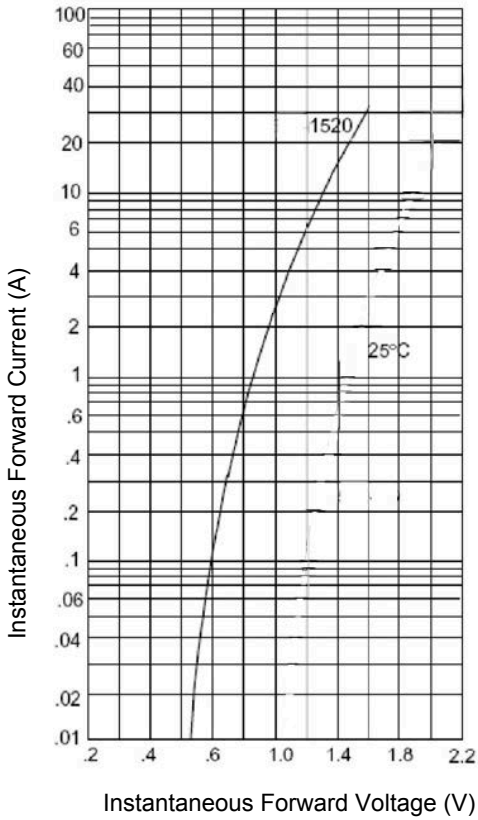


Figure 1. Typical Forward Voltage

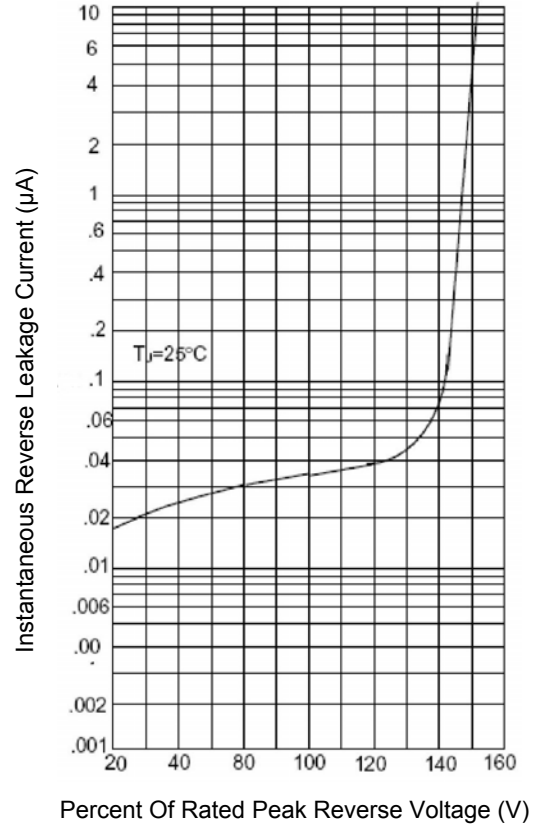


Figure 2. Typical Reverse Current

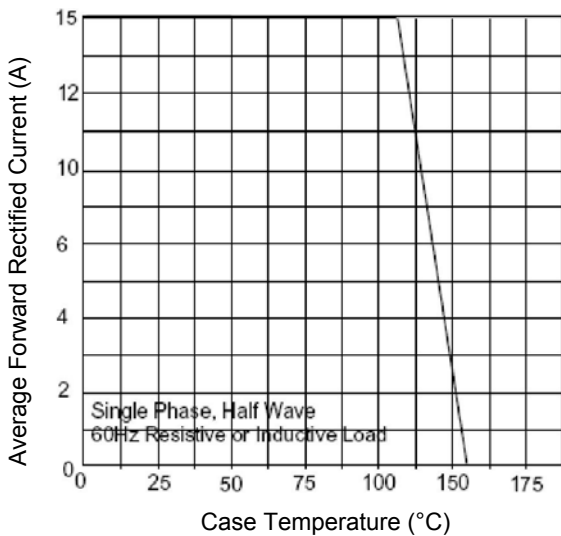


Figure 3. Forward Derating Curve

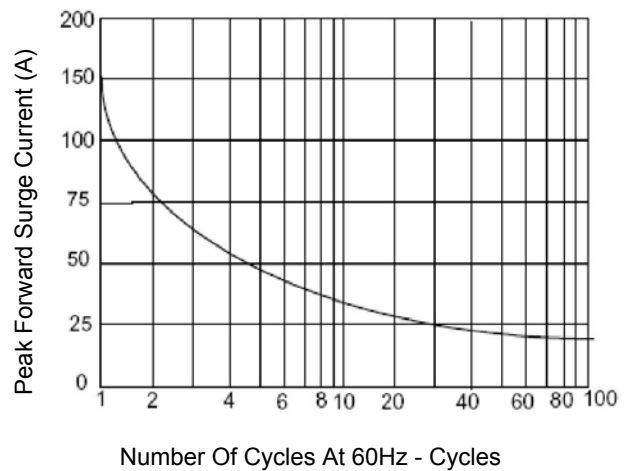
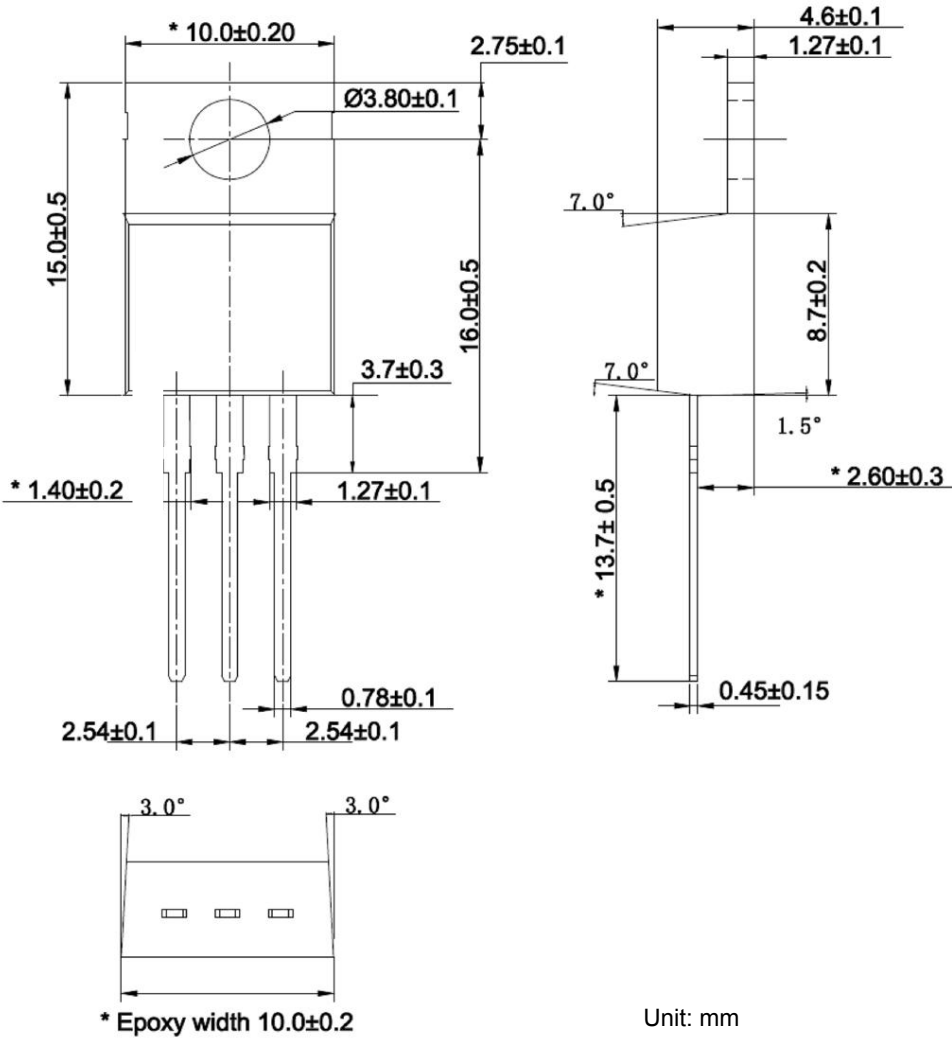


Figure 4. Non-Repetitive Forward Surge Current

Package Outline Dimensions

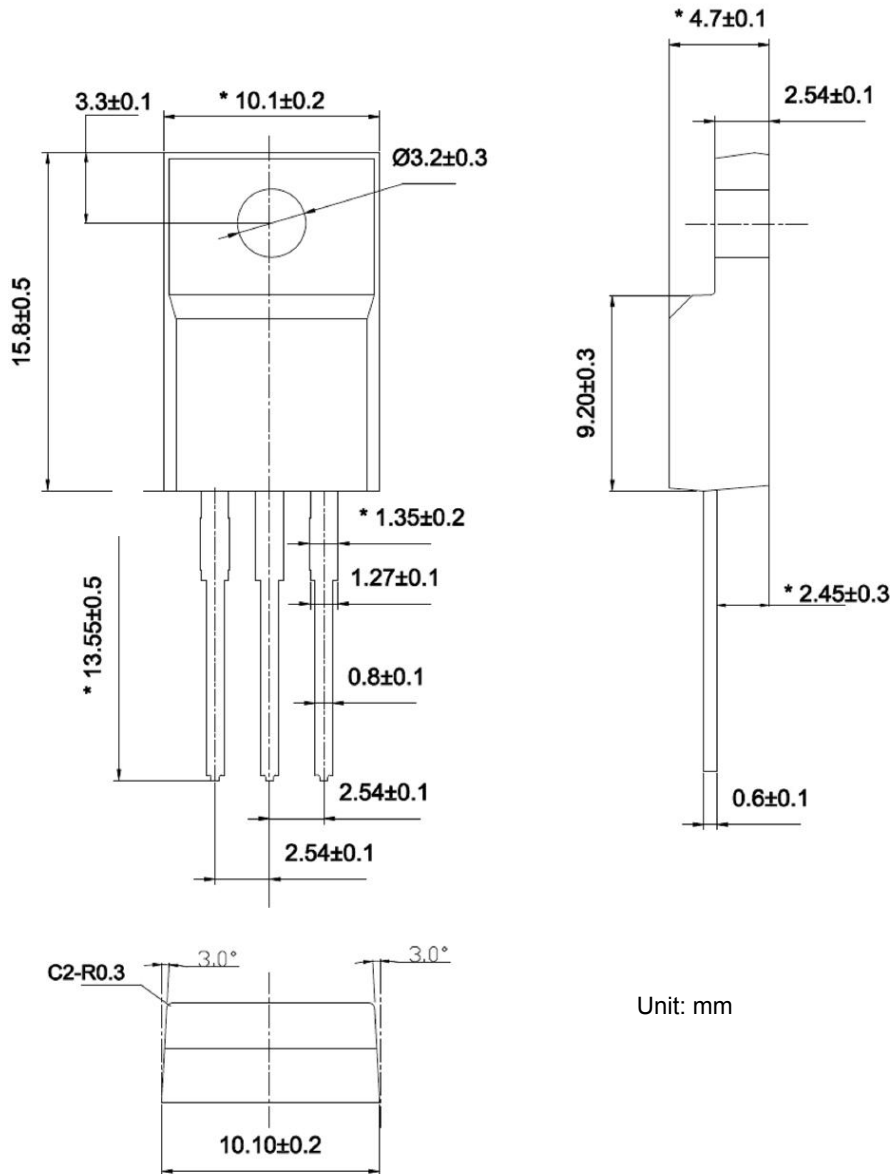
TO-220-AC



Unit: mm

Package Outline Dimensions

ITO-220-AC



Unit: mm