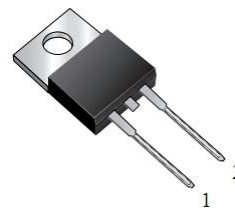


## MUR8120&MUR8120F

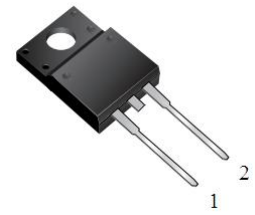
### 8.0AMPS. HIGH EFFICIENT RECTIFIERS

#### FEATURE

- . Low forward voltage drop
- . High current capability
- . High reliability
- . High surge current capability
- . Epitaxial construction
- . High temperature soldering guaranteed  
260°C /10seconds, 0.25"(6.35mm)from case.



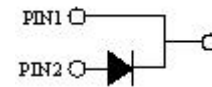
TO-220AC  
MUR8120



ITO-220AC  
MUR8120F

#### MECHANICAL DATA

- . Case: Molded with UL-94 Class V-0 recognized  
Flame Retardant Epoxy
- . Mounting position: any



Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

#### MAXIMUM RATINGS (T<sub>C</sub>=25°C unless otherwise noted)

Parameter	Symbol	MUR8120&MUR8120F	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	1200	V
Maximum RMS Voltage	$V_{RMS}$	840	V
Maximum DC blocking Voltage	$V_{DC}$	1000	V
Maximum Average Forward Rectified Current at T <sub>C</sub> =100°C <i>Total device</i>	$I_{F(AV)}$	8.0	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) <i>Per Leg</i>	$I_{FSM}$	120.0	A
Maximum Reverse Recovery Time (Note 1)	$t_{rr}$	50	nS
Typical Junction Capacitance (Note 2)	$C_J$	80	pF
Operation Junction Temperature and Storage Temperature	$T_J, T_{STG}$	-55 to +150	°C

#### ELECTRICAL CHARACTERISTICS (T<sub>C</sub>=25°C unless otherwise noted)

Parameter	Symbol	Typ	Max	Units
Maximum Forward Voltage ( <i>Per Leg</i> ) at 8.0A DC	$V_F$	2.20	2.7	V
Maximum DC Reverse Current @T <sub>A</sub> =25°C	$I_R$	----	10.0	μA
at rated DC blocking voltage @T <sub>A</sub> =100°C		----	400.0	

#### THERMAL CHARACTERISTICS (T<sub>C</sub>=25°C unless otherwise noted)

Parameter	Symbol	MUR8120	MUR8120F	Units
Typical Thermal Resistance (Note 3)	$R_{(JC)}$	2.0	3.0	°C/W

#### Notes:

1. Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Thermal Resistance From Junction to Case

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

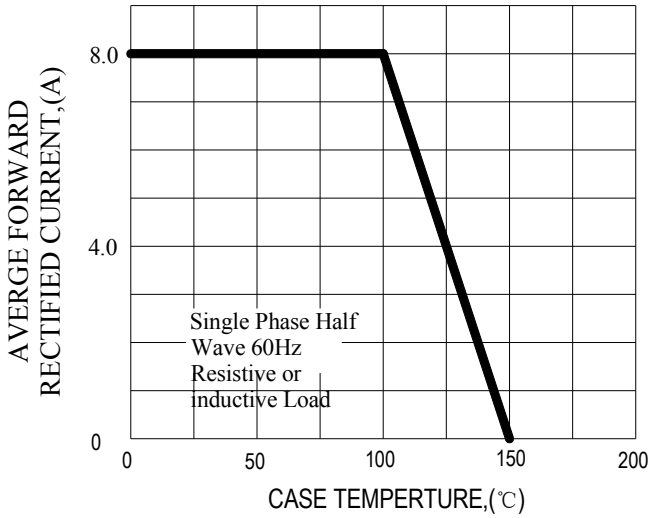


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

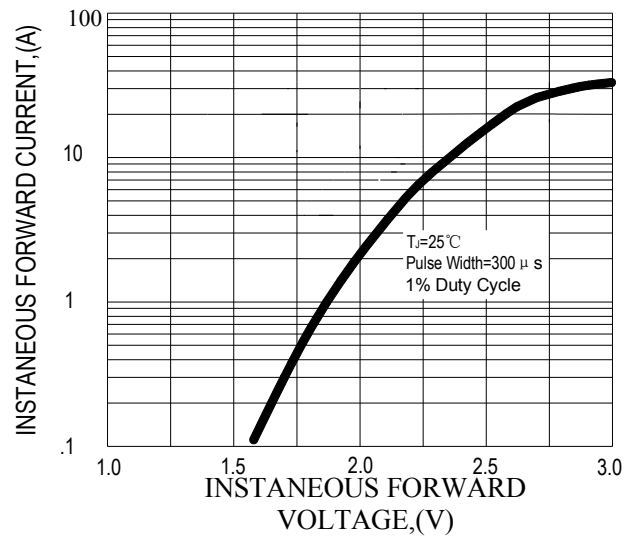


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

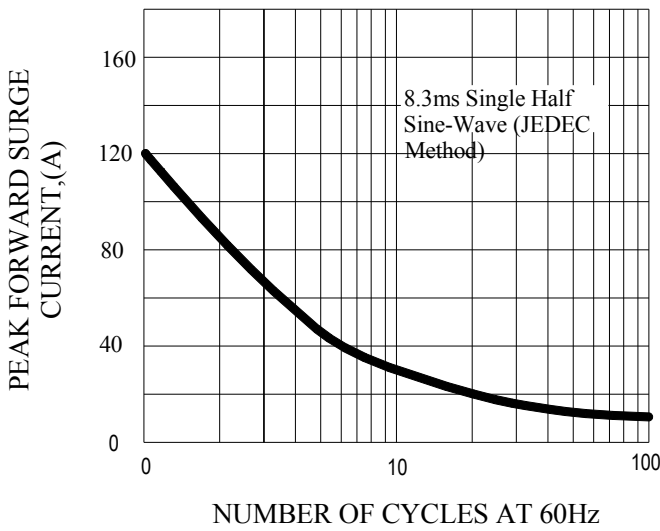


FIG.4-TYPICAL REVERSE CHARACTERISTICS

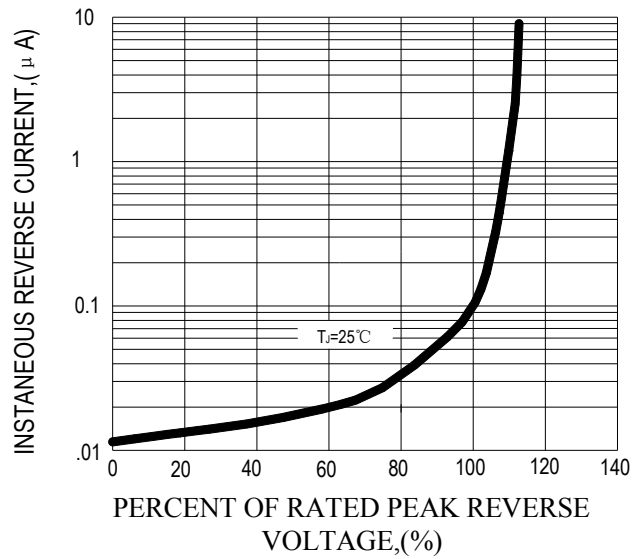
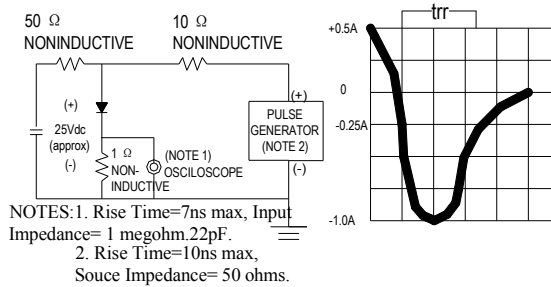
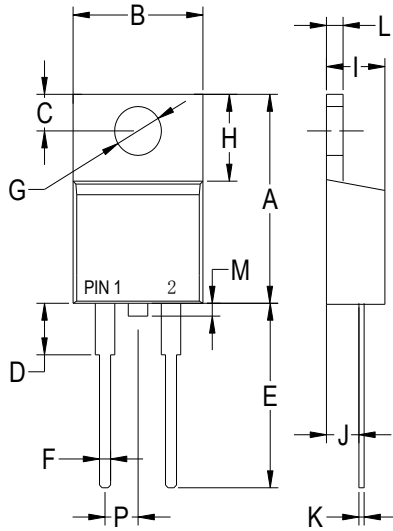


FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



**PACKAGE OUTLINE DIMENSIONS**

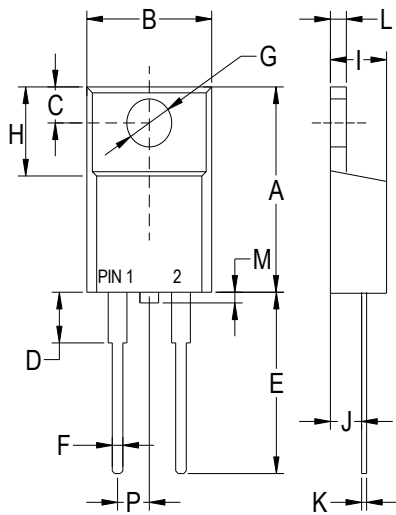
**TO-220AC**



TO-220AC		
Dim	Min	Max
A	.573 (14.55)	.603 (15.32)
B	—	.412 (10.5)
C	.103 (2.62)	.113 (2.87)
D	.140 (3.56)	.160 (4.06)
E	.510 (13.0)	.560 (14.3)
F	.027 (0.68)	.037 (0.94)
G	.148 (3.74)	.154 (3.91)
H	.230 (5.84)	.270 (6.86)
I	.175 (4.44)	.185 (4.86)
J	.100 (2.54)	.110 (2.79)
K	.014 (0.35)	.025 (0.64)
L	.045 (1.14)	.055 (1.40)
M	—	.063 (1.60)
P	.095 (2.41)	.105 (2.67)

Dimensions in inches and (millimeters)

**ITO-220AC**



ITO-220AC		
Dim	Min	Max
A	.571 (14.5)	.610 (15.5)
B	.383 (9.72)	.406 (10.3)
C	.110 (2.80)	.126 (3.20)
D	.133 (3.38)	.162 (4.10)
E	.512 (13.0)	.551 (14.0)
F	.028 (0.70)	.035 (0.90)
G	.114 (2.90)	.138 (3.50)
H	.268 (6.80)	.291 (7.40)
I	.162 (4.10)	.185 (4.70)
J	.102 (2.60)	.110 (2.80)
K	.018 (0.45)	.026 (0.65)
L	.097 (2.46)	.113 (2.86)
M	—	.063 (1.60)
P	.890 (2.25)	.113 (2.85)

Dimensions in inches and (millimeters)

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