

## Features

- Lead Free Finish/RoHS Compliant (Note 1) ("P" Suffix Designates Compliant. See Ordering Information)
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- High Frequency Operation
- High Surge Forward Current Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Planar Structure Die and Soft Recovery Characteristics

## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Maximum Thermal Resistance: 0.8 °C/W Junction to Case

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MUR6060B	MUR6060B	600V	420V	600V

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Rectified Forward Current	$I_{F(AV)}$	60A	$T_C=95^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	600A	8.3ms, Half Sine
Instantaneous Forward Voltage	$V_F$	1.7V (Max.) 1.43V (Typ.)	$I_F=60\text{A}; T_J=25^\circ\text{C}$
Maximum Reverse Current At Rated DC Blocking Voltage	$I_R$	10 $\mu\text{A}$ 500 $\mu\text{A}$	$T_J=25^\circ\text{C}; T_J=125^\circ\text{C}$
Typical Junction Capacitance	$C_J$	415pF	Measured at 1.0MHz, $V_R=4\text{V}$

## Dynamic Recovery Characteristics @ 25°C Unless Otherwise Specified

Reverse Recovery Time	$t_{rr}$	58ns (Typ.) 75ns (Max.)	$I_F=0.5\text{A}; I_R=1.0\text{A}; I_{RR}=0.25\text{A}$	$I_F = 40\text{ A}$ $di_F/dt = 200\text{ A}/\mu\text{s}$ $V_R = 200\text{ V}$
		80ns (Typ.) 175ns (Typ.)	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	
Peak recovery current	$I_{RRM}$	7.0A (Typ.) 17A (Typ.)	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	
Reverse recovery charge	$Q_{rr}$	280nC (Typ.) 1500nC (Typ.)	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	

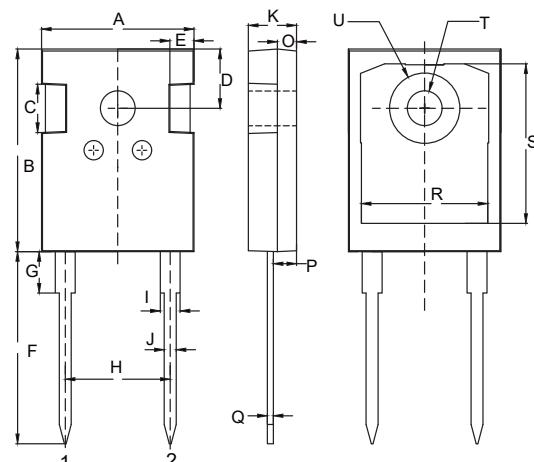
Note:1. High Temperature Solder Exemptions Applied, See EU Directive Annex 7a.

### Internal Structure



# 60 Amp Ultra Fast Recovery Rectifier 600 Volts

TO-247AD



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.602	0.642	15.30	16.30	
B	0.799	0.839	20.30	21.30	
C	0.189	0.205	4.80	5.20	
D	0.242		6.15		BSC.
E	0.091	0.106	2.30	2.70	
F	0.772	0.796	19.62	20.22	
G	-----	0.169	-----	4.30	
H	0.428		10.88		BSC.
I	0.075	0.087	1.91	2.21	
J	0.044	0.054	1.11	1.36	
K	0.189	0.205	4.80	5.20	
O	0.073	0.085	1.85	2.15	
P	0.087	0.103	2.21	2.61	
Q	0.020	0.030	0.51	0.75	
R	0.512	0.535	13.00	13.60	
S	0.640	0.663	16.25	16.85	
T	0.134	0.150	3.40	3.80	Φ
U	-----	0.287	-----	7.30	Φ

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

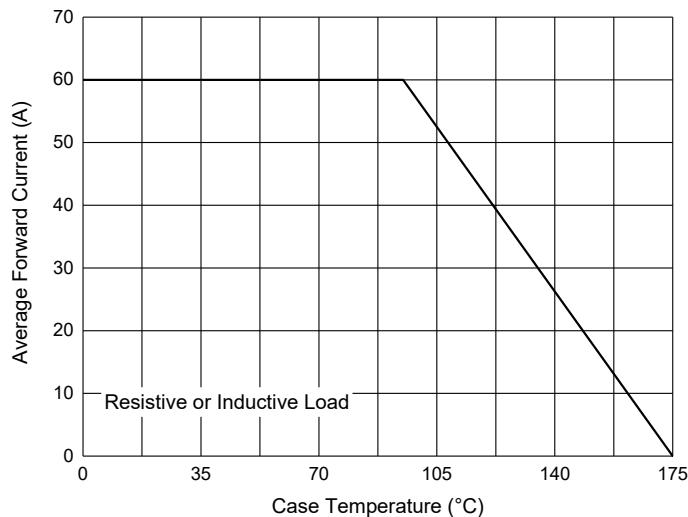


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

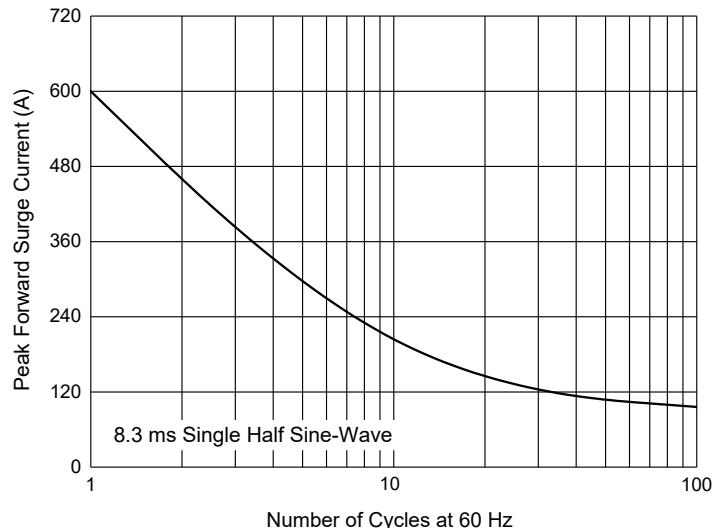


Fig. 3 - Typical Instantaneous Forward Characteristics

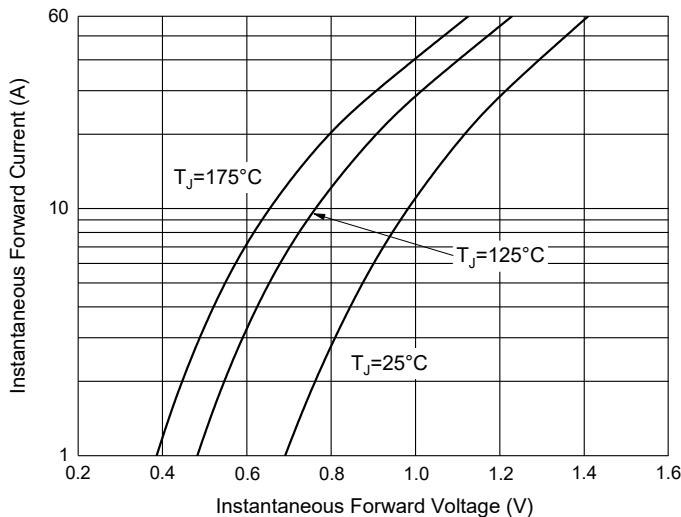


Fig. 4 - Typical Reverse Leakage Characteristics

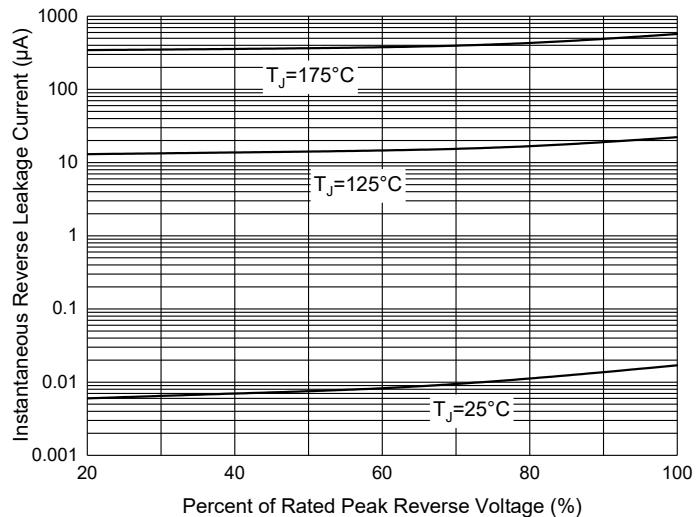


Fig. 5 - Capacitance Characteristics

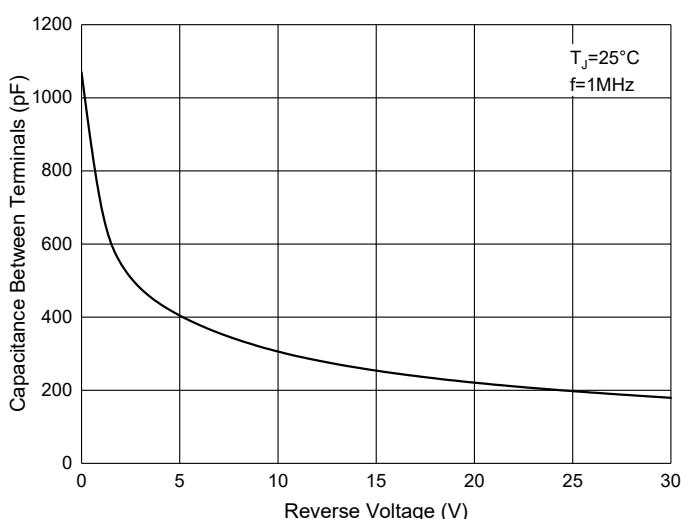
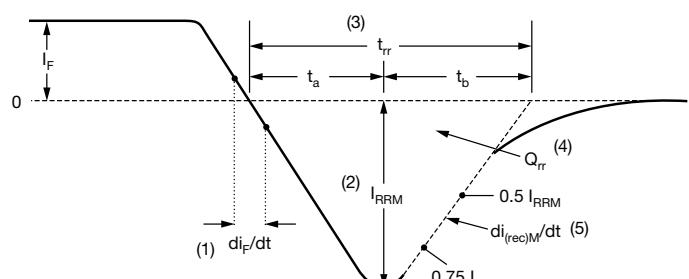


Fig. 6 - Reverse Recovery Waveform and Definitions



(1)  $di_F/dt$  - rate of change of current through zero crossing

(2)  $I_{RRM}$  - peak reverse recovery current

(3)  $t_{rr}$  - reverse recovery time measured from zero crossing point of negative going  $I_F$  to point where a line passing through  $0.75 I_{RRM}$  and  $0.50 I_{RRM}$  extrapolated to zero current.

(4)  $Q_{rr}$  - area under curve defined by  $t_{rr}$  and  $I_{RRM}$

$$Q_{rr} = \frac{t_{rr} \times I_{RRM}}{2}$$

(5)  $di_{(rec)M}/dt$  - peak rate of change of current during  $t_b$  portion of  $t_{rr}$

## Ordering Information

Device	Packing
Part Number-BP	Bulk:30pcs/Tube,360pcs/Box,1.8Kpcs/Carton

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-BP-HF

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