

#### **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
- 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	DMC	Maximum DC Blocking Voltage
MUR6060BH	MUR6060B	600V	420V	600V

## Electrical Characteristics @ 25°C Unless Otherwise Specifie

Average Rectified Forward Current	I <sub>F(AV)</sub>	60A	T <sub>C</sub> =95°C
Peak Forward Surge Current	I <sub>FSM</sub>	600A	8.3ms,Half Sine
Instantaneous Forward Voltage	V <sub>F</sub>	2.4V(Max.) 1.9V(Typ.)	I <sub>F</sub> =60A; T <sub>J</sub> =25°C
Maximum Reverse Current At Rated DC Blocking Voltage	I <sub>R</sub>	10μA 500μA	T <sub>J</sub> =25°C; T <sub>J</sub> =125°C
Typical Junction Capacitance	CJ	400pF	Measured at 1.0MHz, V <sub>R</sub> =4V

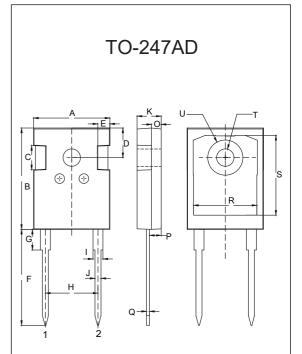
#### Dynamic Recovery Characteristics @ 25°C Unless Otherwise Specified

Dynamic Receivery enaractoristics & 20 c cines wiles opening					
Reverse Recovery Time	t <sub>rr</sub>	50ns(Typ.) 75ns(Max.)	I <sub>F</sub> =0.5A; I <sub>R</sub> =1.0A; I <sub>RR</sub> =0.25A		
		70ns(Typ.) 100ns(Typ.)	T <sub>J</sub> =25°C T <sub>J</sub> =125°C	L = 20 A	
Peak recovery current	I <sub>RRM</sub>	4.5A(Typ.) 11A(Typ.)	T <sub>J</sub> =25°C T <sub>J</sub> =125°C	$I_F = 30 \text{ A}$ $di_F/dt = 200 \text{ A/}\mu\text{s}$ $V_R = 400 \text{ V}$	
Reverse recovery charge	Q <sub>rr</sub>	160nC(Typ.) 550nC(Typ.)	T <sub>J</sub> =25°C T <sub>J</sub> =125°C		

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



# 60 Amp Ultra Fast Recovery Rectifier 600 Volts



DIM	INCHES		MM		NOTE
DIIVI	MIN	MAX	MIN	MAX	NOTE
Α	0.602	0.642	15.30	16.30	
В	0.799	0.839	20.30	21.30	
С	0.189	0.205	4.80	5.20	
D	0.242		6.15		BSC.
Е	0.091	0.106	2.30	2.70	
F	0.772	0.796	19.62	20.22	
G		0.169		4.30	
Н	H 0.428		10.88		BSC.
ı	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	
0	0.073	0.085	1.85	2.15	
Р	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	
Т	0.134	0.150	3.40	3.80	Ф
U		0.287		7.30	Ф



#### **Curve Characteristics**

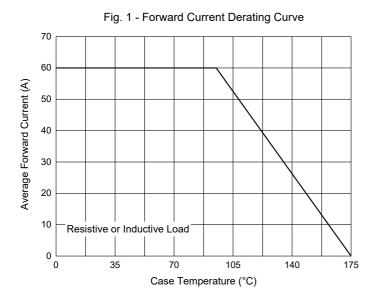
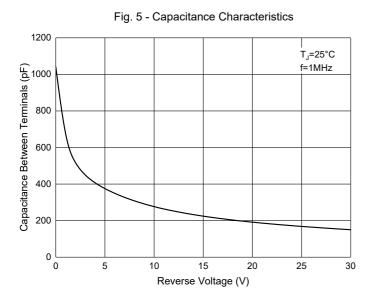
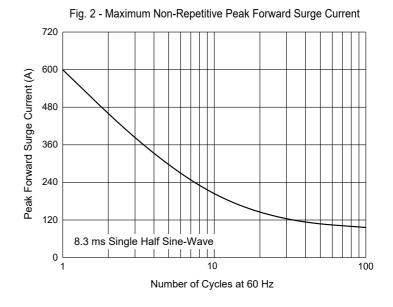
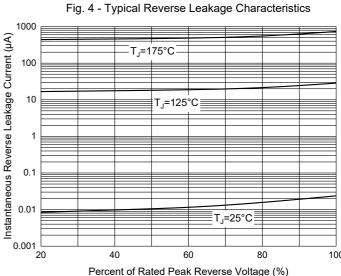


Fig. 3 - Typical Instantaneous Forward Characteristics 60 Instantaneous Forward Current (A) T<sub>J</sub>=175°C  $T_J=125^{\circ}C$ T<sub>1</sub>=25°C 0.0 2.0 0.4 0.8 1.2 1.6 2.4 Instantaneous Forward Voltage (V)







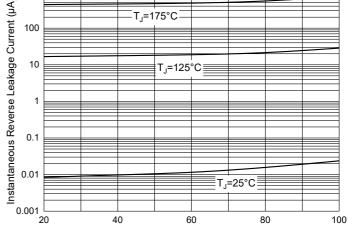
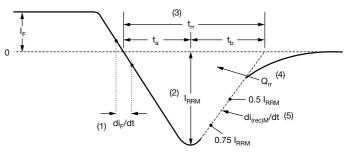


Fig. 6 - Reverse Recovery Waveform and Definitions



- (1) di<sub>F</sub>/dt rate of change of current through zero crossing
- (2)  $I_{RRM}$  peak reverse recovery current
- (3) t<sub>r</sub> reverse recovery time measured from zero crossing point of negative going I<sub>F</sub> to point where a line passing through 0.75  $\rm I_{RRM}$  and 0.50  $\rm I_{RRM}$ extrapolated to zero current.
- (4)  $Q_{rr}$  area under curve defined by  $t_{rr}$ and I<sub>RRM</sub>

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

(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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