

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 | MUR6060BH | 600V | 420V | 600V |

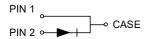
Electrical Characteristics @ 25°C Unless Otherwise Specifie

| Average Rectified Forward Current | I _{F(AV)} | 60A | T _C =95°C |
|--|--------------------|--------------------------|--|
| Peak Forward Surge Current | I _{FSM} | 600A | 8.3ms,Half Sine |
| Instantaneous Forward Voltage | V _F | 2.4V(Max.) 1.9V(Typ.) | I _F =60A; T _J =25°C |
| Maximum Reverse Current At Rated DC Blocking Voltage | I _R | 10μA 500μA | T _J =25°C; T _J =125°C |
| Typical Junction Capacitance | CJ | 400pF | Measured at 1.0MHz, V _R =4V |

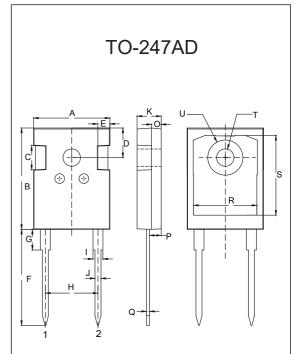
Dynamic Recovery Characteristics @ 25°C Unless Otherwise Specified

| Reverse Recovery | t _{rr} | 50ns(Typ.) 75ns(Max.) | I _F =0.5A; I _R =1.0A; I _{RR} =0.25A | |
|---|------------------|----------------------------|---|--|
| Time | | 70ns(Typ.) 100ns(Typ.) | T _J =25°C T _J =125°C | 1 - 20 A |
| Peak recovery current | I _{RRM} | 4.5A(Typ.) 11A(Typ.) | T _J =25°C T _J =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 _{rr} | | 160nC(Typ.) 550nC(Typ.) | T _J =25°C T _J =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 | 0.2 | 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 | 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

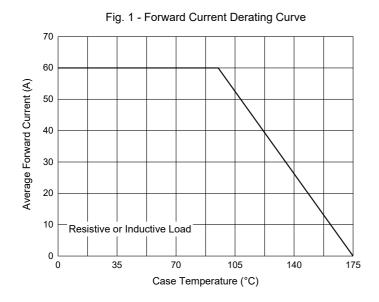
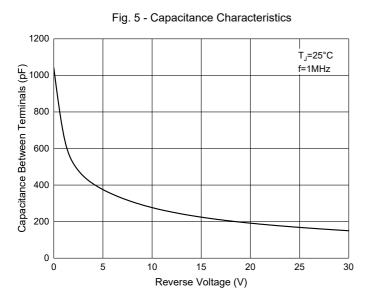
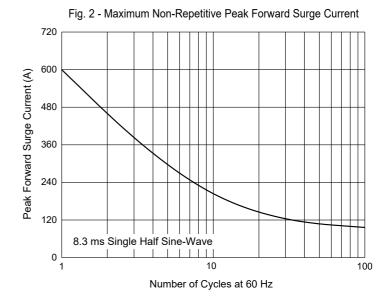
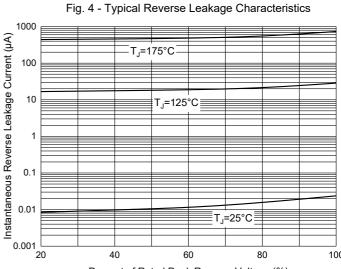


Fig. 3 - Typical Instantaneous Forward Characteristics 60 Instantaneous Forward Current (A) $T_J=175$ °C $T_J=125^{\circ}C$ T₁=25°C 0.0 2.0 0.4 0.8 1.2 1.6 2.4 Instantaneous Forward Voltage (V)







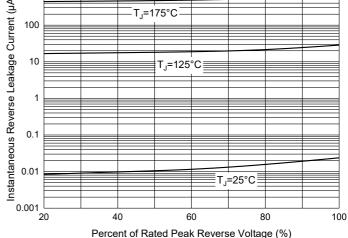
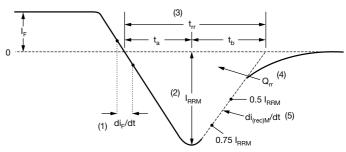


Fig. 6 - Reverse Recovery Waveform and Definitions



- (1) di_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 $\rm I_{RRM}$ and 0.50 $\rm I_{RRM}$ extrapolated to zero current.
- (4) Q_{rr} area under curve defined by t_{rr} and I_{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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