

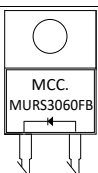
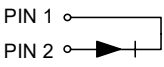
Features

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Low Switching Losses and High Efficiency
- Low Reverse Leakage
- Ultrafast Recovery Time
- Planar Structure Die and Soft Recovery Characteristics

Maximum Ratings @ 25°C (Unless Otherwise Specified)

| Parameter | Symbol | Value | Unit |
|---|-------------|-------|------------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | 600 | V |
| Working Peak Reverse Voltage | V_{RWM} | | |
| DC Blocking Voltage | V_R | | |
| RMS Reverse Voltage | V_{RMS} | 420 | V |
| Average Rectified Forward Current | $I_{F(AV)}$ | 30 | A |
| Non-Repetitive Peak Surge Current @8.3ms Half Sine Wave | I_{FSM} | 200 | A |
| Current Squared Time @ 1ms≤t≤8.3ms | I^2t | 166 | A ² s |

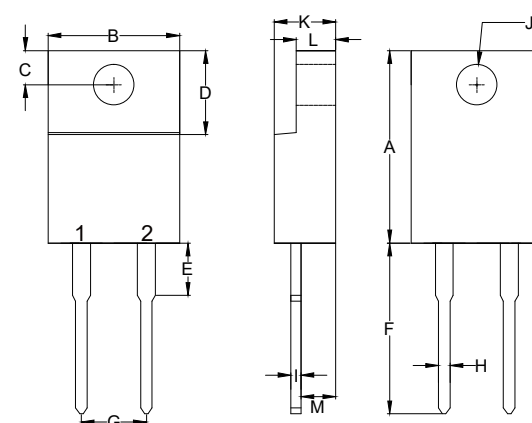
Internal Structure

| Pin | Description | Simplified Outline | Graphic Symbol |
|-----|-------------|---|---|
| 1 | Cathode |  |  |
| 2 | Anode | | |

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

30 Amp FRED Rectifiers 600 Volts

ITO-220AC



| DIMENSIONS | | | | | |
|------------|--------|-------|-------|-------|------|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | 0.567 | 0.606 | 14.40 | 15.40 | |
| B | ----- | 0.406 | ----- | 10.30 | |
| C | 0.100 | 0.112 | 2.55 | 2.85 | |
| D | 0.248 | 0.272 | 6.30 | 6.90 | |
| E | ----- | 0.161 | ----- | 4.10 | |
| F | 0.500 | 0.543 | 12.70 | 13.80 | |
| G | 0.200 | | 5.10 | | |
| H | ----- | 0.035 | ----- | 0.90 | |
| I | ----- | 0.032 | ----- | 0.80 | |
| J | 0.102 | 0.134 | 2.60 | 3.40 | Φ |
| K | ----- | 0.189 | ----- | 4.80 | |
| L | ----- | 0.123 | ----- | 3.10 | |
| M | 0.098 | 0.114 | 2.50 | 2.90 | |

Thermal characteristics

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|---------------|--|------------|-----|-----|-----|------|
| T_J | Operating Junction Temperature Range | | -55 | | 175 | °C |
| T_{stg} | Storage Temperature Range | | -55 | | 175 | °C |
| $R_{th(J-C)}$ | Thermal Resistance from Junction to Case | | | 3.5 | | °C/W |

Mechanical Data

Recommend Mounting Torque: 5.0 kg·cm

Electrical Characteristics @ 25°C Unless Otherwise Specified

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|----------------------|--------|-----------------------------------|-----|------|------|---------|
| Forward Voltage | V_F | $I_F=30A; T_J=25^{\circ}C$ | | 2.30 | 2.95 | V |
| | | $I_F=30A; T_J=150^{\circ}C$ | | 1.60 | 2.00 | |
| Reverse Current | I_R | $V_R=600V; T_J=25^{\circ}C$ | | | 5 | μA |
| | | $V_R=600V; T_J=150^{\circ}C$ | | | 800 | |
| Junction Capacitance | C_J | $V_R=4V; f=1MHz; T_J=25^{\circ}C$ | | 140 | | pF |

Dynamic Recovery Characteristics @ 25°C Unless Otherwise Specified

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|-------------------------|-----------|---|--------------------|-----|-----|------|
| Reverse Recovery Time | t_{rr} | $I_F=0.5A; I_R=1.0A; I_{RR}=0.25A; T_J=25^{\circ}C$ | | 27 | 35 | ns |
| | | $T_J=25^{\circ}C$ | | 55 | | |
| | | $T_J=150^{\circ}C$ | | 84 | | |
| Peak Recovery Current | I_{RRM} | $I_F=30A$ $dI_F/dt=-200A/\mu s$ $V_{RM}=400V$ | $T_J=25^{\circ}C$ | 3.1 | | A |
| | | | $T_J=150^{\circ}C$ | 9.2 | | |
| Reverse Recovery Charge | Q_{rr} | | $T_J=25^{\circ}C$ | 85 | | nC |
| | | | $T_J=150^{\circ}C$ | 385 | | |

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

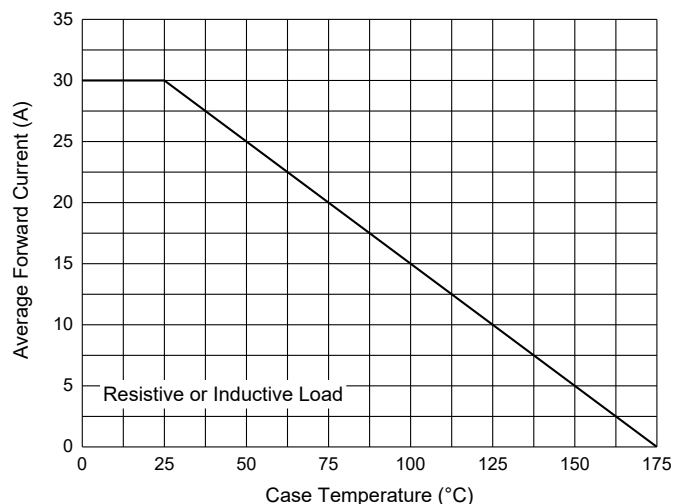


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

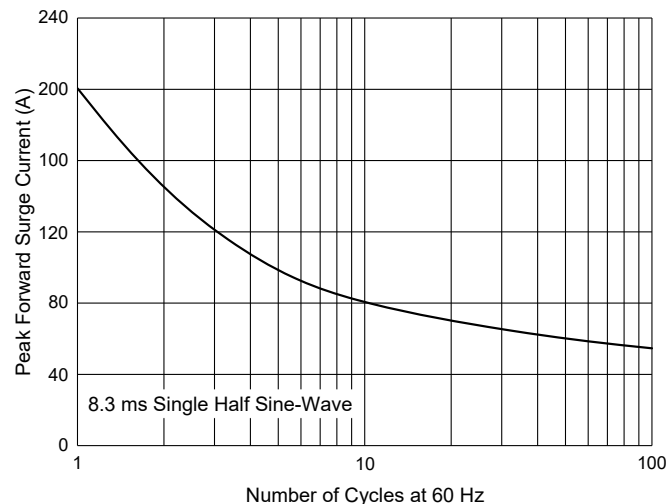


Fig. 3 - Typical Forward Characteristics

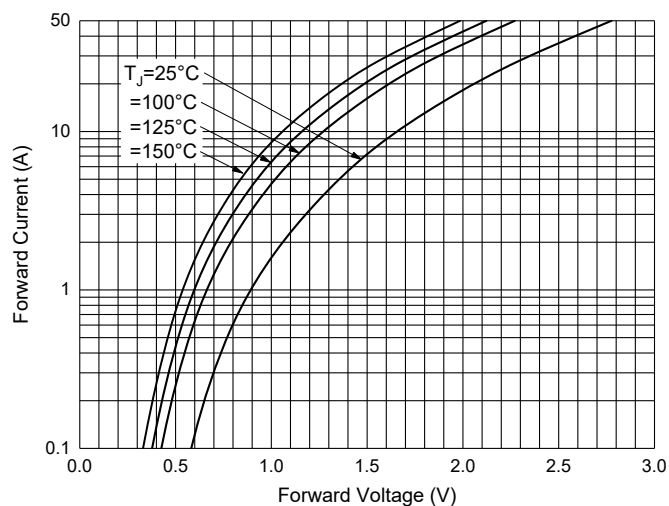


Fig. 4 - Typical Reverse Leakage Characteristics

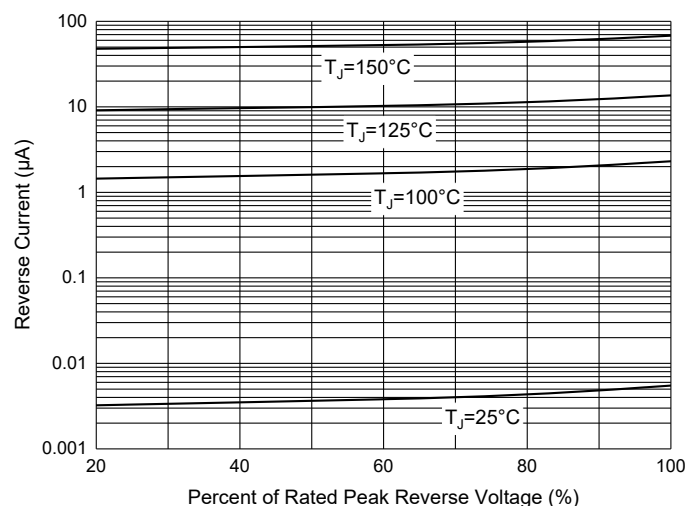


Fig. 5 - Typical Capacitance Characteristics

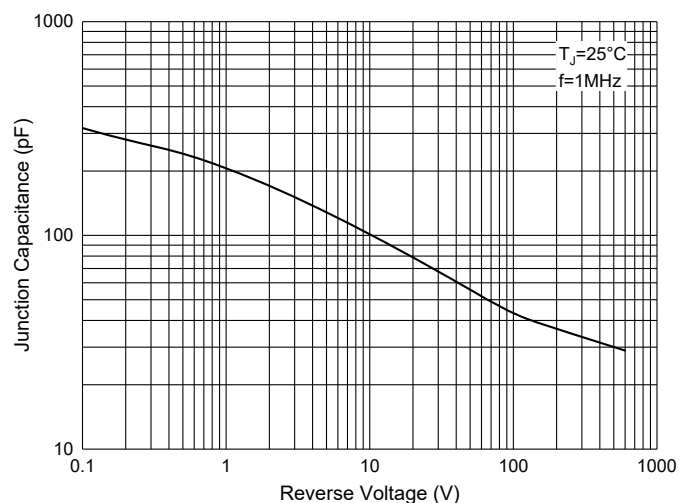
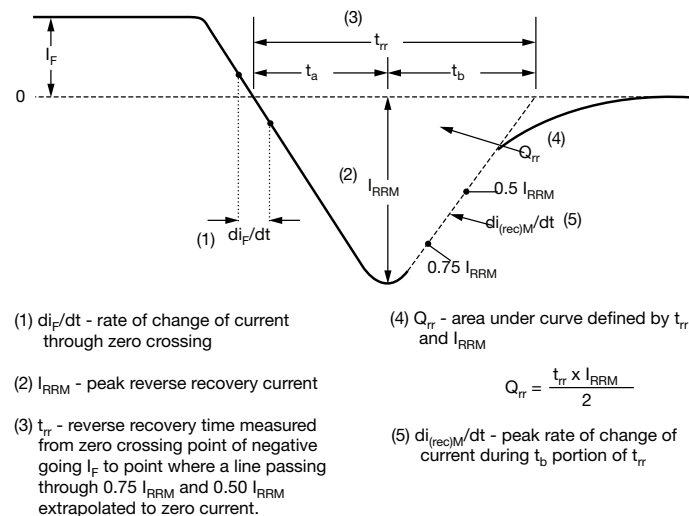


Fig. 6 - Reverse Recovery Waveform and Definitions



Ordering Information

| Device | Packing |
|----------------|--|
| Part Number-BP | Bulk:50pcs/Tube, 1Kpcs/Box, 5Kpcs/Carton |

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

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