

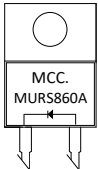

Features

- 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 | $I_{F(AV)}$ | 8 | A |
| Non-Repetitive Peak Surge Current @8.3ms Half Sine Wave | I_{FSM} | 100 | A |
| Current Squared Time @ 1ms≤t≤8.3ms | I^2t | 41 | A ² s |

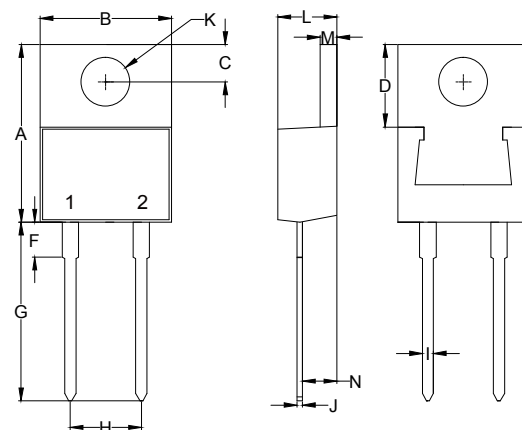
Internal Structure

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

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

8 Amp FRED Rectifiers 600 Volts

TO-220AC



| DIMENSIONS | | | | | |
|------------|--------|-------|-------|-------|------|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | 0.560 | 0.625 | 14.22 | 15.88 | |
| B | 0.380 | 0.420 | 9.65 | 10.67 | |
| C | 0.100 | 0.135 | 2.54 | 3.43 | |
| D | 0.230 | 0.270 | 5.84 | 6.86 | |
| F | ----- | 0.250 | ----- | 6.35 | |
| G | 0.500 | 0.580 | 12.70 | 14.73 | |
| H | 0.190 | 0.210 | 4.83 | 5.33 | |
| I | 0.020 | 0.045 | 0.51 | 1.14 | |
| J | 0.012 | 0.025 | 0.30 | 0.64 | |
| K | 0.139 | 0.161 | 3.53 | 4.09 | Φ |
| L | 0.140 | 0.190 | 3.56 | 4.83 | |
| M | 0.045 | 0.055 | 1.14 | 1.40 | |
| N | 0.080 | 0.115 | 2.03 | 2.92 | |

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 | | | 2 | | °C/W |

Electrical Characteristics @ 25°C Unless Otherwise Specified

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|----------------------|--------|-----------------------------------|-----|------|------|------|
| Forward Voltage | V_F | $I_F=8A; T_J=25^{\circ}C$ | | 1.40 | 1.60 | V |
| | | $I_F=8A; T_J=150^{\circ}C$ | | 1.20 | 1.30 | |
| Reverse Current | I_R | $V_R=600V; T_J=25^{\circ}C$ | | | 5 | uA |
| | | $V_R=600V; T_J=150^{\circ}C$ | | | 200 | |
| Junction Capacitance | C_J | $V_R=4V; f=1MHz; T_J=25^{\circ}C$ | | 35 | | 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°C | | | 20 | 35 | ns |
| | | | T _J =25°C | | 82 | | |
| | | | T _J =150°C | | 125 | | |
| Peak Recovery Current | I _R RM | I _F =8A d _i F/d _t =-200A/μs V _{RM} =400V | T _J =25°C | | 3.45 | | A |
| | | | T _J =150°C | | 6.65 | | |
| Reverse Recovery Charge | Q _{rr} | | T _J =25°C | | 140 | | nC |
| | | | T _J =150°C | | 420 | | |

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

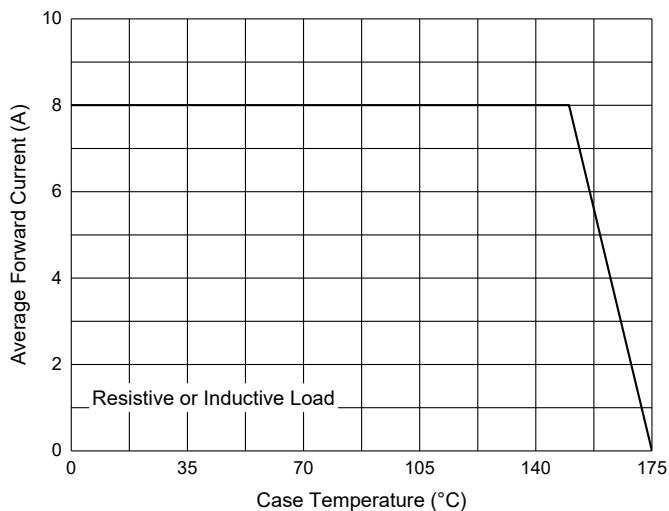


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

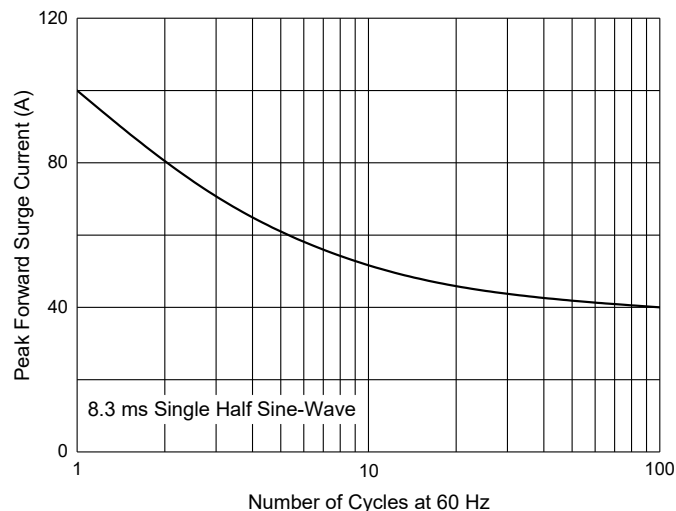


Fig. 3 - Typical Forward Characteristics

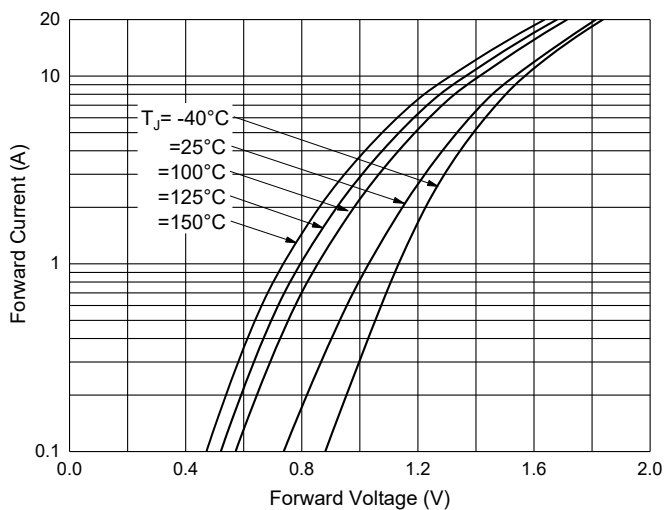


Fig. 4 - Typical Reverse Leakage Characteristics

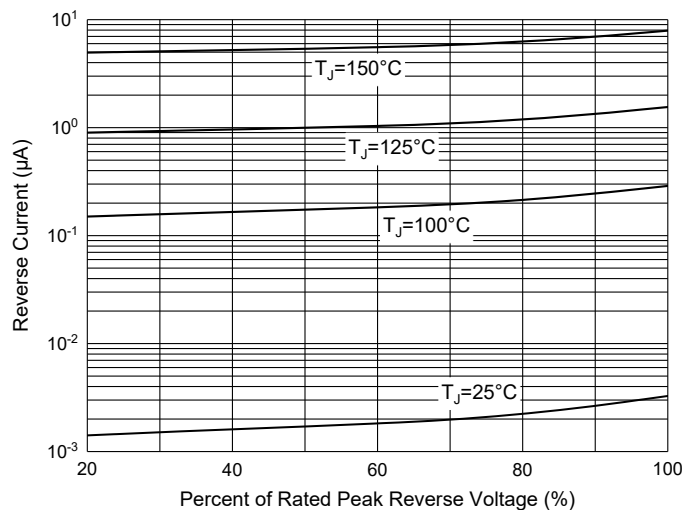


Fig. 5 - Typical Capacitance Characteristics

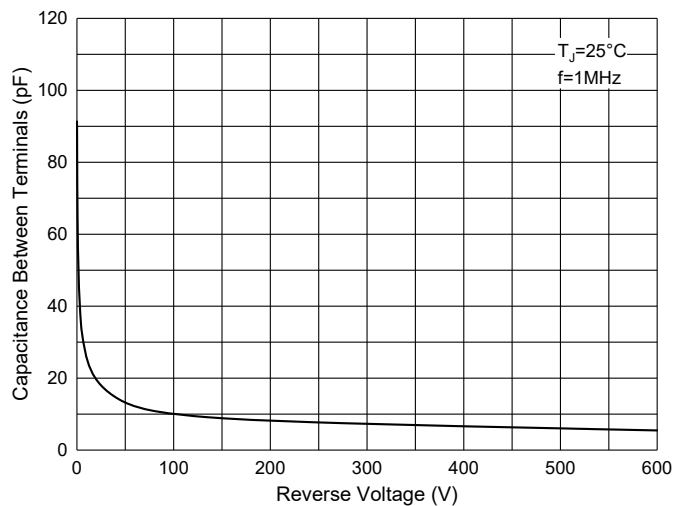
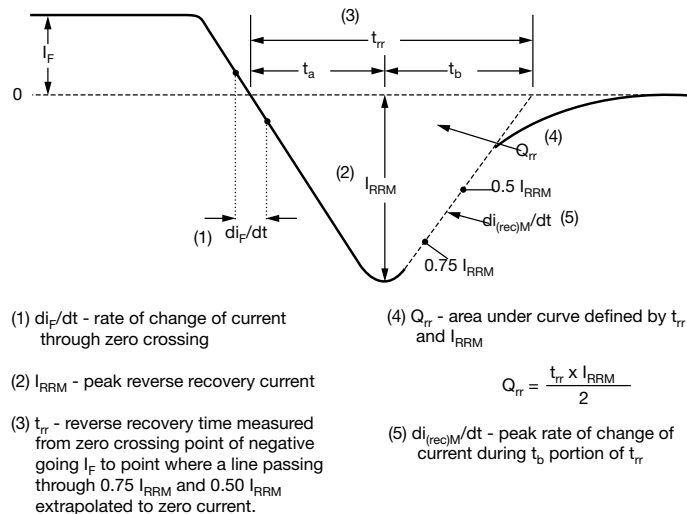


Fig. 6 - Reverse Recovery Waveform and Definitions



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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