

Features

- Zero Reverse Recovery Current
- Positive Temperature Coefficient
- High-Speed Switching
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)

Benefits

- Temperature-Independent Performance
- Low Switching Loss
- Low Heat Dissipation Requirements

Applications

- Switching Power Supply
- Power Factor Correction
- Motor Drive, Traction
- Charging Pile

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 3.5°C/W Junction to Case

| MCC Part Number | Device Marking |
|--------------------|----------------|
| SICF1060P | SICF1060P |

| | | | |
|---------------------------------|-----------|------|---|
| Peak Repetitive Reverse Voltage | V_{RRM} | 650V | |
| Surge Peak Reverse Voltage | V_{RSM} | 650V | |
| DC Reverse Voltage | V_{DC} | 650V | |
| Average Forward Current | I_F | 10A | $T_J=155^{\circ}\text{C}$ |
| Peak Forward Surge Current | I_{FSM} | 49A | $T_C=25^{\circ}\text{C}$, $t_p=10\text{ms}$, Half Sine Pulse |
| Power Dissipation | P_D | 43W | $T_C=25^{\circ}\text{C}$ |

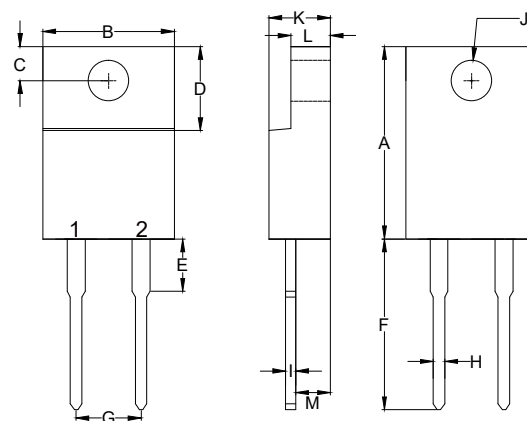
Note:1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7a.

Internal Structure:



10Amp Silicon Carbide Schottky Barrier Rectifier 650 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 | |

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

| Parameter | Symbol | Conditions | Typ. | Max. | Units |
|---------------------------|--------|------------------------------|------|------|---------|
| Forward Voltage | V_F | $I_F=10A, T_J=25^{\circ}C$ | 1.39 | 1.6 | V |
| | | $I_F=10A, T_J=175^{\circ}C$ | 1.65 | | V |
| Reverse Leakage Current | I_R | $V_R=650V, T_J=25^{\circ}C$ | 12.8 | 44 | μA |
| | | $V_R=650V, T_J=175^{\circ}C$ | 424 | | μA |
| Total Capacitive Charge | Q_C | $V_R=400V$ | 24.8 | | nC |
| Total capacitance | C | $V_R=0V, f=1MHz$ | 452 | | pF |
| | | $V_R=200V, f=1MHz$ | 48 | | pF |
| | | $V_R=400V, f=1MHz$ | 36 | | pF |
| Capacitance Stored Energy | E_C | $V_R=400V$ | 2.92 | | μJ |

Curve Characteristics

Fig. 1 - Typical Forward Characteristics

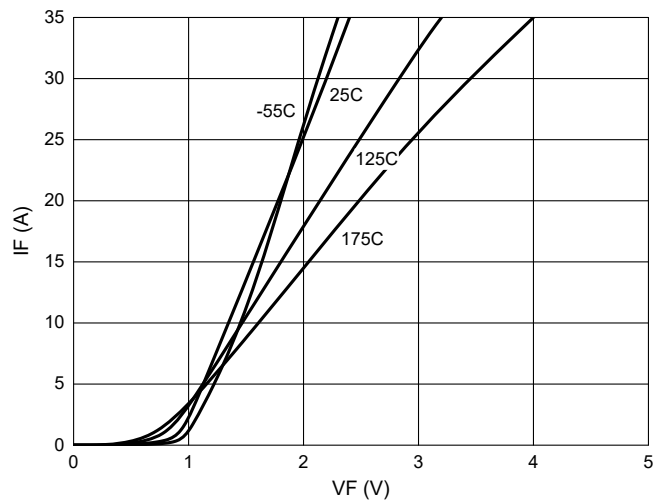


Fig. 2 - Typical Reverse Leakage Characteristics

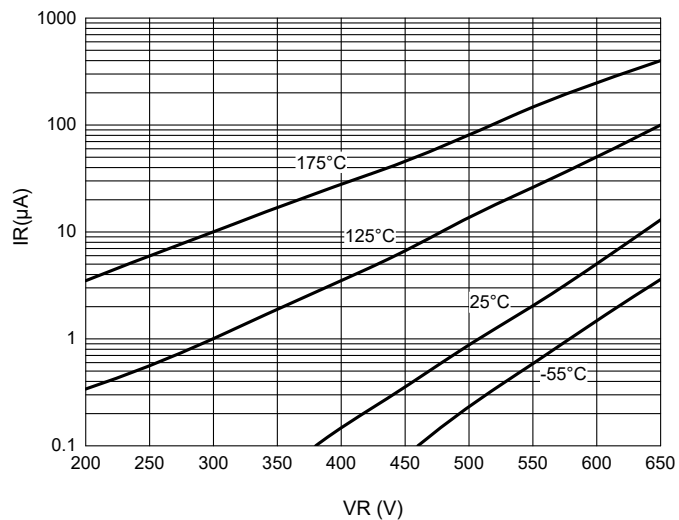


Fig. 3 - Capacitance vs Reverse Voltage

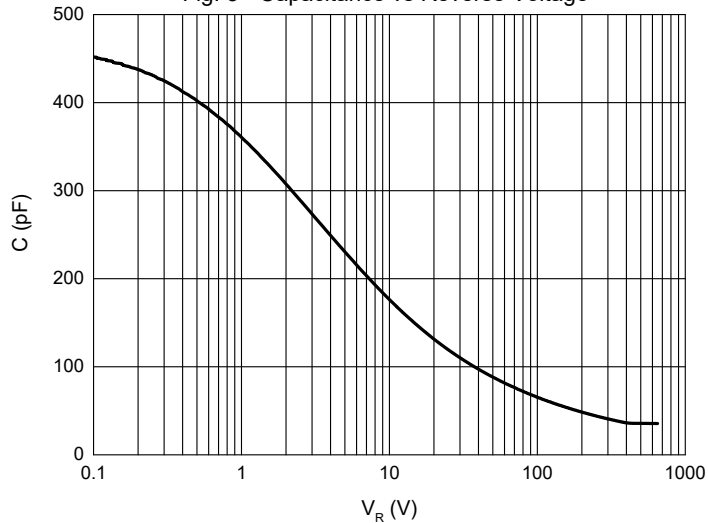


Fig. 4 - Typical Power Derating

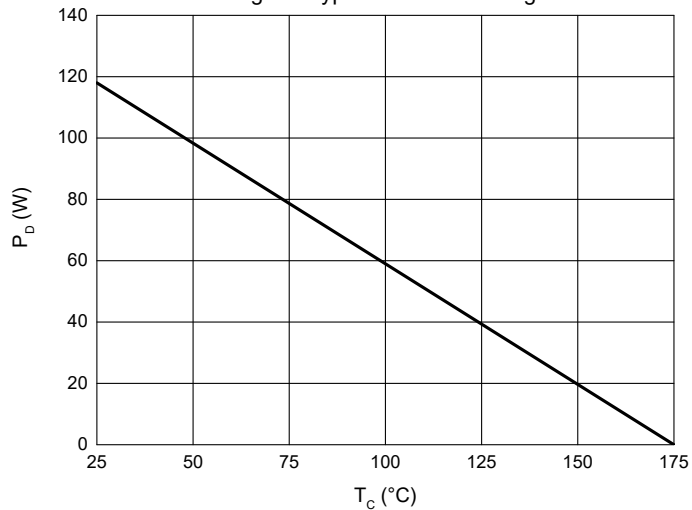
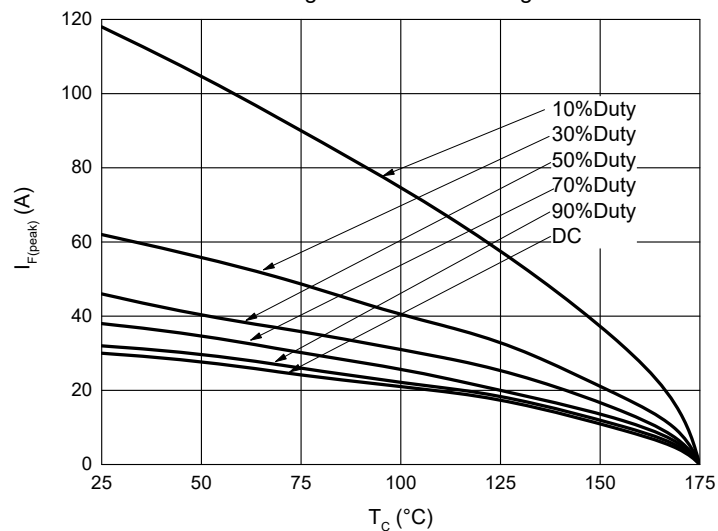


Fig. 5 - Current Derating



Ordering Information

| Device | Packing |
|--------------|------------------|
| SICF1060P-BP | Bulk: 50pcs/Tube |

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

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