

POWER SCHOTTKY RECTIFIERS

SD51

120 Amp Pk, 45V

FEATURES

- Very Low Forward Voltage
- Low Recovered Charge
- Rugged Package Design (DO-5)
- High Efficiency for Low Voltage Supplies
- Available with Flexible Top Lead

DESCRIPTION

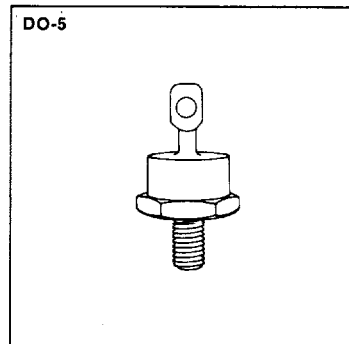
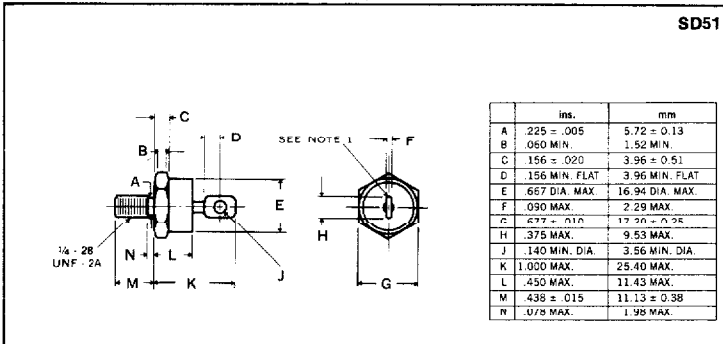
The SD51 has a Schottky barrier junction and is ideally suited for output rectifiers and catch diodes in low voltage power supplies. The Microsemi high conductivity design, using a heavy copper top post and a 4 point crimp, ensures cool thermal operation and low dynamic impedance. Rugged design absorbs stress that can damage glass-to-metal seal during installation and use.

ABSOLUTE MAXIMUM RATINGS (T_{CASE} = 25°C)

| | |
|---|-----------------|
| Peak Repetitive Reverse Voltage, V _{RRM} | 45V* |
| Working Peak Reverse Voltage, V _{RWM} | 35V* |
| Peak Repetitive Forward Current (Rated V _R , Square Wave, 20 KHz, 50 percent Duty Cycle), I _{FRM} | 120A |
| Non-repetitive Peak Surge Current (8.3 mS), I _{FSM} | 800A |
| Peak Reverse Transient Current, I _{RM} | 2A |
| Storage Temperature Range, T _{stg} | -55°C to +165°C |
| Junction Operating Temperature Range, T _J | -55°C to +150°C |
| Thermal Resistance, Junction-to-Case, R _{θJC} | 1.0°C/W |

*See curve of V_{RRM} Rating vs Case Temperature

MECHANICAL SPECIFICATIONS



Notes:

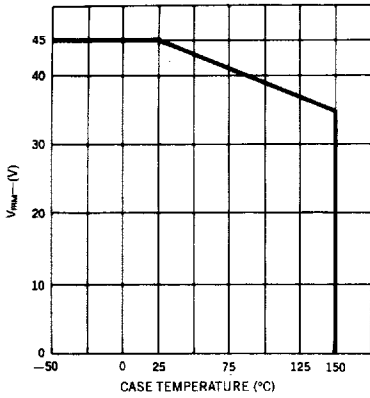
1. Cathode is stud.
2. All metal surfaces tin plated.
3. Maximum unlubricated stud torque: 30 inch pounds (35 kg. cm).
4. Angular orientation of terminal is undefined.

Microsemi Corp.
Watertown
The diode experts

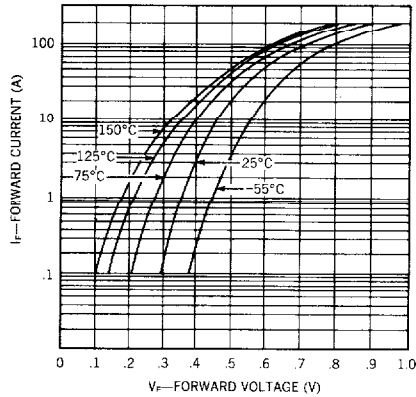
ELECTRICAL CHARACTERISTICS ($T_{CASE} = 25^{\circ}C$)

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| Characteristic | Symbol | Limit | Units | Conditions |
|---------------------------------------|---------|-----------|-----------|---|
| Maximum Instantaneous Reverse Current | i_R | 50 200 | mA mA | $T_C = 25^{\circ}C$, $V_R = 35V$ $T_C = 125^{\circ}C$ Pulse Width = $400\mu S$ Duty Cycle = 1 percent |
| Maximum Instantaneous Forward Voltage | v_F | 0.60 | V | $i_F = 60A$ $T_C = 125^{\circ}C$ Pulse Width = $300\mu S$ Duty Cycle = 1 percent |
| Flexible Top Lead Option | v_F | 0.65 | V | |
| Maximum Capacitance | C_T | 4000 | pF | $V_R = 5.0V$ |
| Maximum Voltage Rate of Change | dv/dt | 700 | $V/\mu S$ | $v_R = 35V$ |

V_{RRM} Rating vs Case Temperature

Typical Forward Current vs Forward Voltage



Typical Reverse Current vs Reverse Voltage

