



Micro Commercial Components

Micro Commercial Components  
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## SF51 THRU SF57

### Features

- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Low forward voltage, high current capability and Low leakage
- Superfast recovery times-epitaxial construction
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

### Maximum Ratings

- Operating Junction Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 25°C/W Junction To Ambient

| MCC Part Number | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------------------------------|---------------------|-----------------------------|
| SF51            | 50V                                    | 35V                 | 50V                         |
| SF52            | 100V                                   | 70V                 | 100V                        |
| SF53            | 150V                                   | 105V                | 150V                        |
| SF54            | 200V                                   | 140V                | 200V                        |
| SF35            | 300V                                   | 210V                | 300V                        |
| SF56            | 400V                                   | 280V                | 400V                        |
| SF57            | 600V                                   | 420V                | 600V                        |

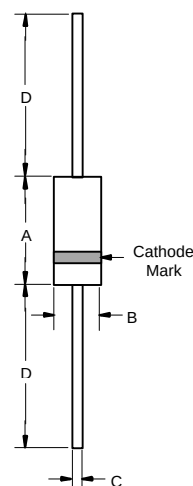
### Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                                         |             |                         |                                                       |
|-------------------------------------------------------------------------|-------------|-------------------------|-------------------------------------------------------|
| Average Forward Current                                                 | $I_{F(AV)}$ | 5.0A                    | $T_A = 55^\circ\text{C}$                              |
| Peak Forward Surge Current                                              | $I_{FSM}$   | 150A                    | 8.3ms, half sine                                      |
| Maximum Instantaneous Forward Voltage<br>SF51-SF54<br>SF55-SF56<br>SF57 | $V_F$       | 0.95V<br>1.25V<br>1.70V | $I_{FM} = 5.0A$ ;<br>$T_A = 25^\circ\text{C}$         |
| Maximum DC Reverse Current At Rated DC Blocking Voltage                 | $I_R$       | 5.0uA<br>150uA          | $T_A = 25^\circ\text{C}$<br>$T_A = 125^\circ\text{C}$ |
| Typical Junction Capacitance                                            | $C_J$       | 45pF                    | Measured at 1.0MHz, $V_R=4.0V$                        |
| Maximum Reverse Recovery Time                                           | $T_{RR}$    | 35nS                    | $I_F=0.5A$ , $I_R=1.0A$ ,<br>$I_{RR}=0.25A$           |

Notes:1.High Temperature Solder Exemption Applied, see EU Directive Annex 7.

## 5.0 Amp Super Fast Rectifier 50 to 600 Volts

### DO-201AD



| DIM | INCHES |      | MM    |      | NOTE |
|-----|--------|------|-------|------|------|
|     | MIN    | MAX  | MIN   | MAX  |      |
| A   | .287   | .374 | 7.30  | 9.50 |      |
| B   | .189   | .208 | 4.80  | 5.30 |      |
| C   | .048   | .052 | 1.20  | 1.30 |      |
| D   | 1.000  | ---  | 25.40 | ---  |      |

# SF51 thru SF57

**M.C.C.**

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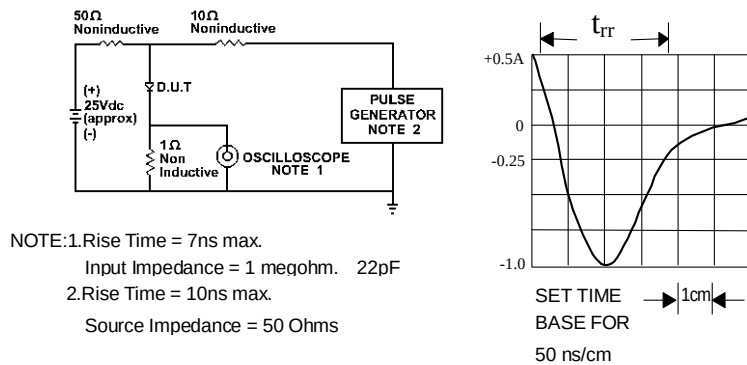


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

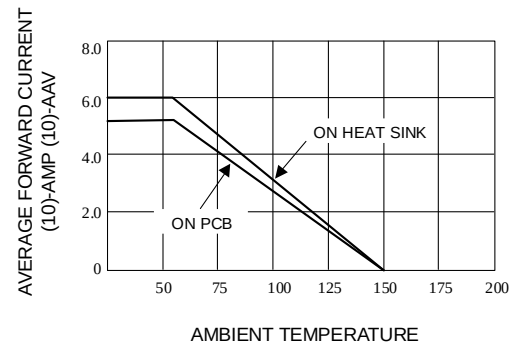


Fig. 2-MAXIMUM AVERAGE FORWARD CURRENT RATING

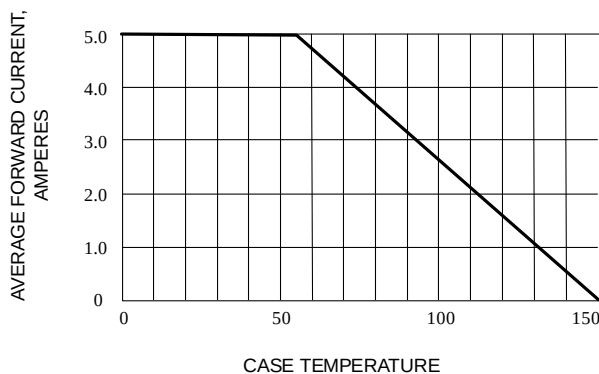


Fig. 3-MAXIMUM AVERAGE FORWARD CCURRENT RATING

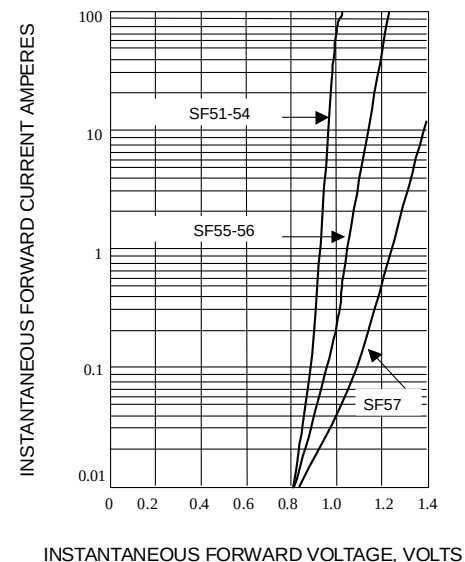


Fig. 4-FORWARD CURRENT DERATING CURVE

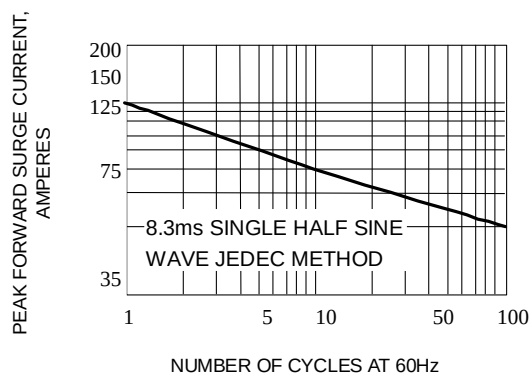


Fig. 5-MAXIMUM NON-REPETITIVE SURGE CURRENT

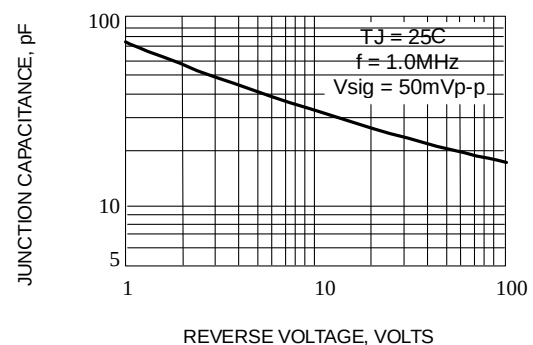


Fig. 6-TYPICAL JUNCTION CAPACITANCE



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## Ordering Information

| Device           | Packing                      |
|------------------|------------------------------|
| (Part Number)-TP | Tape&Reel; 1.2Kpcs/Reel      |
| (Part Number)-AP | Ammo Packing;1.2Kpcs/AmmoBox |
| (Part Number)-BP | Bulk;500pcs/Box              |

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