



Micro Commercial Components



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SF31 THRU SF38

3.0 Amp Super Fast Rectifier 50 to 600 Volts

Features

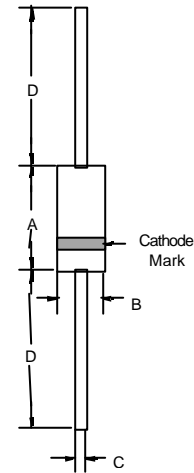
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- High Surge Capability
- Marking: Type Number

Maximum Ratings

- Operating Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C
- For capacitive load, derate current by 20%

| MCC Part Number | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|--|---------------------|-----------------------------|
| SF31 | 50V | 35V | 50V |
| SF32 | 100V | 70V | 100V |
| SF33 | 150V | 105V | 150V |
| SF34 | 200V | 140V | 200V |
| SF35 | 300V | 210V | 300V |
| SF36 | 400V | 280V | 400V |
| SF38 | 600V | 420V | 600V |

DO-201AD



Electrical Characteristics @ 25°C Unless Otherwise Specified

| | | | |
|---|-------------|--------------------------------|--|
| Average Forward Current | $I_{F(AV)}$ | 3.0 A | $T_C = 55^\circ\text{C}$ |
| Peak Forward Surge Current | I_{FSM} | 100A | 8.3ms, half sine |
| Maximum Instantaneous Forward Voltage | V_F | SF31-SF34 SF35-SF36 SF38 | $I_{FM} = 3.0\text{A};$ $T_C = 25^\circ\text{C}$ |
| | | .95V | |
| | | 1.3V 1.7V | |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | I_R | 5.0µA 100µA | $T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$ |
| Typical Junction Capacitance | C_J | 100pF 80pF | Measured at 1.0MHz, $V_R = 4.0\text{V}$ |
| | | | |
| Maximum Reverse Recovery Time | T_{rr} | 35ns | $I_F = 0.5\text{A}, I_R = 1.0\text{A},$ $I_{rr} = 0.25\text{A}$ |

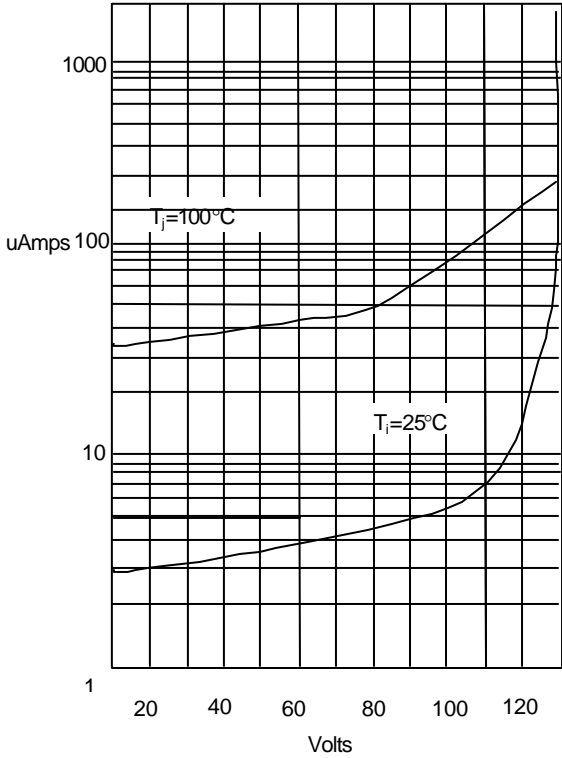
Notes:1.High Temperature Solder Exemption Applied, see EU Directive Annex 7.

DIMENSIONS

| 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 | --- | |

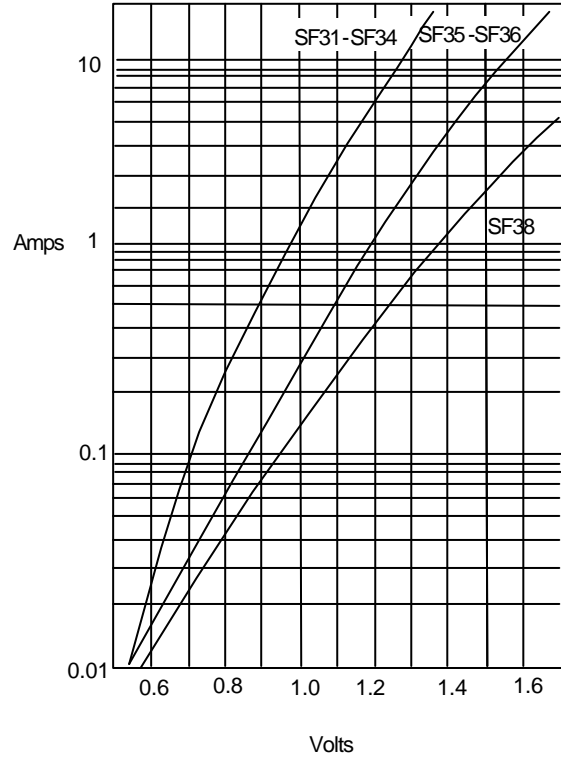
SF31 thru SF38

Figure 1
Typical Reverse Characteristics



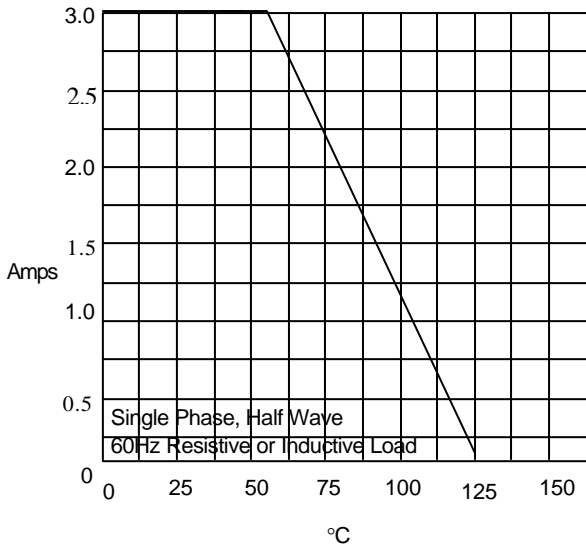
Instantaneous Reverse Current - uAmperes versus
Percent of Rated Peak Reverse Voltage - %

Figure 2
Typical Forward Characteristics



Instantaneous Forward Current - Amperes versus
Instantaneous Forward Voltage - Volts

Figure 3
Forward Derating Curve



Average Forward Rectified Current Per Leg - Amperes versus
Case Temperature - °C

SF31 thru SF38

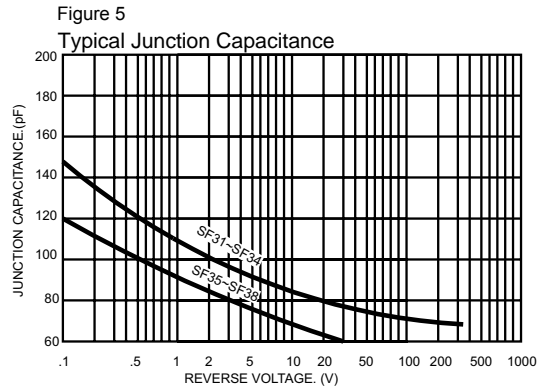
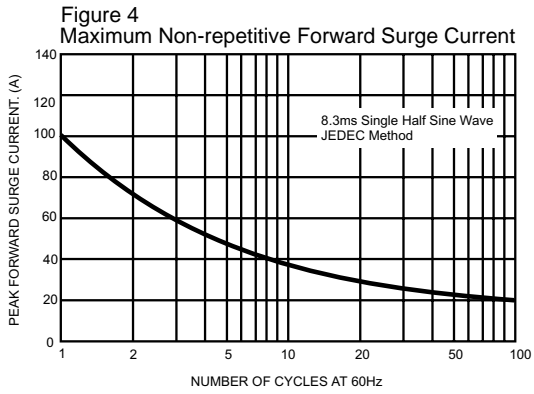
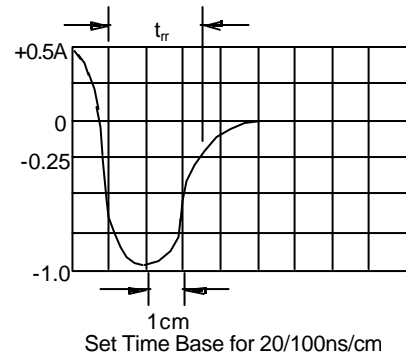
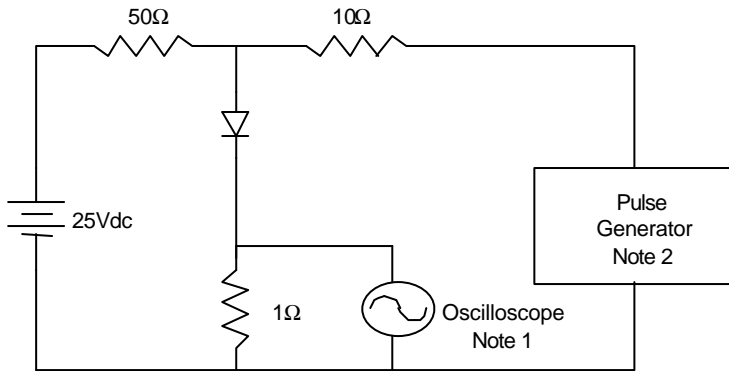


Figure 6
Reverse Recovery Time Characteristic And Test Circuit Diagram



- Notes:
1. Rise Time = 7ns max.
Input impedance = 1 megohm, 22pF
 2. Rise Time = 10ns max.
Source impedance = 50 ohms
 3. Resistors are non-inductive



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Ordering Information :

| Device | Packing |
|----------------|--------------------------------|
| Part Number-TP | Tape&Reel: 1.2Kpcs/Reel |
| Part Number-AP | Ammo Packing: 1.2Kpcs/Ammo Box |
| Part Number-BP | Bulk: 12Kpcs/Carton |

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