

## SF51G THRU SF58G

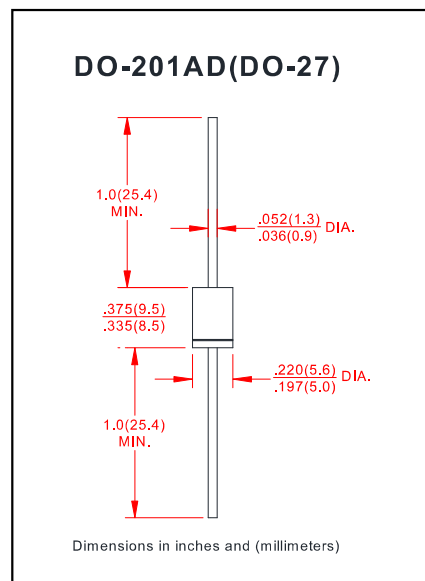
|               |                 |
|---------------|-----------------|
| VOLTAGE RANGE | 50 to 600 Volts |
| CURRENT       | 5.0 Ampere      |

### FEATURES

- Super fast speed switching speed
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High reliability
- High temperature soldering guaranteed  
260°C/10 seconds,0.375"(9.5mm)lead length at 5 lbs(2.3kg) tension
- Glass Passivated chip junction

### MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

|                                                                                                  |                       | SYMBOLS                          | SF51G       | SF52G | SF53G | SF54G | SF55G | SF56G | SF58G | UNITS |
|--------------------------------------------------------------------------------------------------|-----------------------|----------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Maximum Repetitive Peak Reverse Voltage                                                          |                       | V <sub>RRM</sub>                 | 50          | 100   | 150   | 200   | 300   | 400   | 600   | Volts |
| Maximum RMS Voltage                                                                              |                       | V <sub>RMS</sub>                 | 35          | 70    | 105   | 140   | 210   | 280   | 420   | Volts |
| Maximum DC Blocking Voltage                                                                      |                       | V <sub>DC</sub>                  | 50          | 100   | 150   | 200   | 300   | 400   | 600   | Volts |
| Maximum Average Forward Rectified Current at T <sub>A</sub> =55℃                                 |                       | I <sub>(AV)</sub>                | 5.0         |       |       |       |       |       |       | Amps  |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) |                       | I <sub>FSM</sub>                 | 125         |       |       |       |       |       |       | Amps  |
| Maximum Instantaneous Forward Voltage at 5.0A                                                    |                       | V <sub>F</sub>                   | 0.95        |       |       |       | 1.25  |       | 1.7   | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage                                          | T <sub>A</sub> = 25℃  | I <sub>R</sub>                   | 5.0         |       |       |       |       |       |       | μA    |
|                                                                                                  | T <sub>A</sub> = 125℃ |                                  | 100         |       |       |       |       |       |       |       |
| Maximum Reverse Recovery Time(NOTE1)                                                             |                       | T <sub>RR</sub>                  | 35          |       |       |       |       |       |       | nS    |
| Typical Junction Capacitance (NOTE 2)                                                            |                       | C <sub>J</sub>                   | 50          |       |       |       | 30    |       |       | pF    |
| Typical TSFmal Resistance (NOTE 3)                                                               |                       | R <sub>0JA</sub>                 | 30          |       |       |       |       |       |       | ℃/W   |
| Operating and Storage Temperature Range                                                          |                       | T <sub>J</sub> ,T <sub>STG</sub> | -55 to +150 |       |       |       |       |       |       | ℃     |

#### Notes:

- 1.Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$ .
- 2.Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
- 3.Thermal Resistance From Junction to Ambient at .375"(9.5mm)lead length, P.C. board mounted.

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|               |                 |
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FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

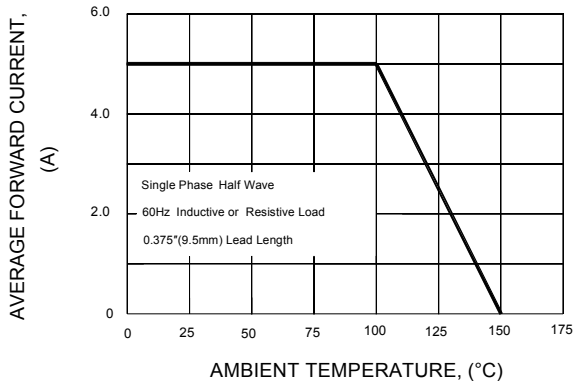


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

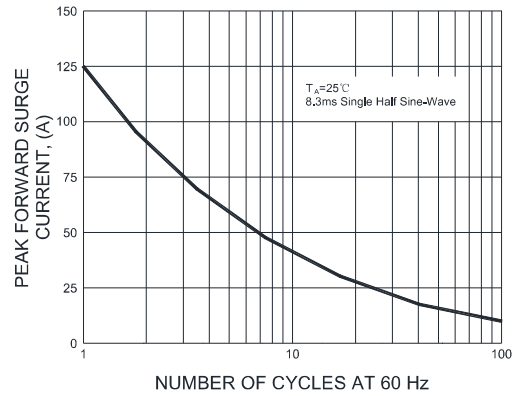


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

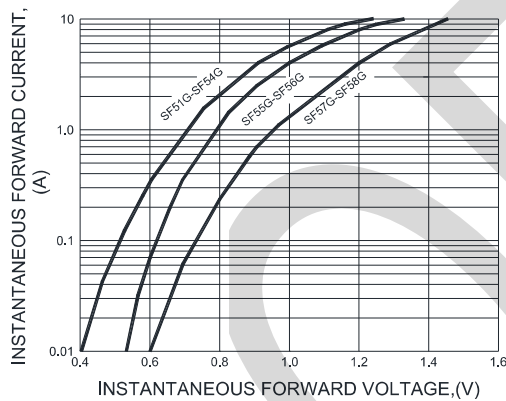


FIG.3-TYPICAL REVERSE CHARACTERISTICS

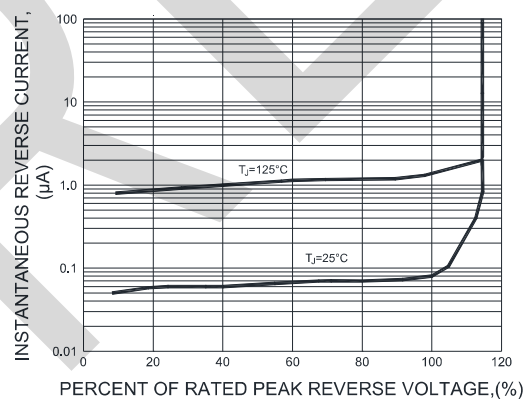


FIG.5-TYPICAL JUNCTION CAPACITANCE

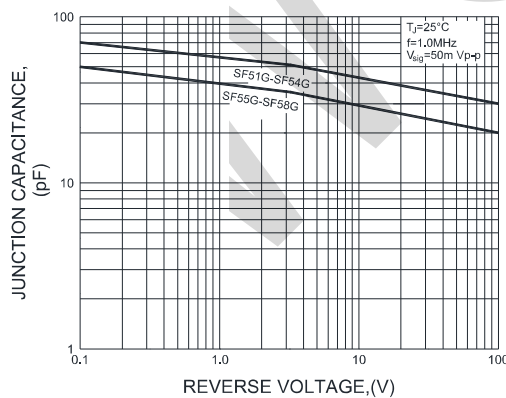


FIG.6-TEST CIRCUIT DIAGRAM AND FORWARD SURGE CURRENT

