



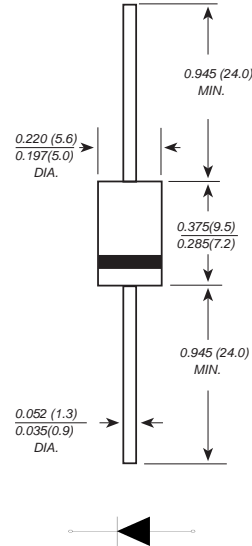
# SF51G~SF59G

## 5.0Amp Super Fast Rectifiers

### Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction chip
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed  
250°C/10 seconds at terminals

DO-27



Dimensions in inches and (millimeters)

### Mechanical Data

**Case** : Molded plastic body

**Terminals** : Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity** : Polarity symbol marking on body

**Mounting Position** : Any

**Weight** : 0.0345 ounce, 0.98 grams

### 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 current derate by 20%.

RATING	SYMBOL	51G	52G	53G	54G	55G	56G	58G	59G	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	600	800	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	420	560	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	400	600	800	Volts
Maximum Average Forward Current 0.375" (9.5mm) Lead Length      Ta = 55 °C	I <sub>F(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>	150								Amps.
Maximum Peak Forward Voltage at I <sub>F</sub> = 3.0 A.	V <sub>F</sub>	0.95			1.3		1.7			Volts
Maximum DC Reverse Current      Ta = 25 °C at Rated DC Blocking Voltage      Ta = 100 °C	I <sub>R</sub>	5								μA
	I <sub>R(H)</sub>	50								μA
Maximum Reverse Recovery Time ( Note 1 )	T <sub>rr</sub>	35								ns
Typical Junction Capacitance ( Note 2 )	C <sub>J</sub>	50								pf
Junction Temperature Range	T <sub>J</sub>	- 65 to + 150								°C
Storage Temperature Range	T <sub>STG</sub>	- 65 to + 150								°C

#### Notes :

- ( 1 ) Reverse Recovery Test Conditions : I<sub>F</sub> = 0.5 A, I<sub>R</sub> = 1.0 A, I<sub>rr</sub> = 0.25 A.
- ( 2 ) Measured at 1.0 MHz and applied reverse voltage of 4.0 Vdc

### Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

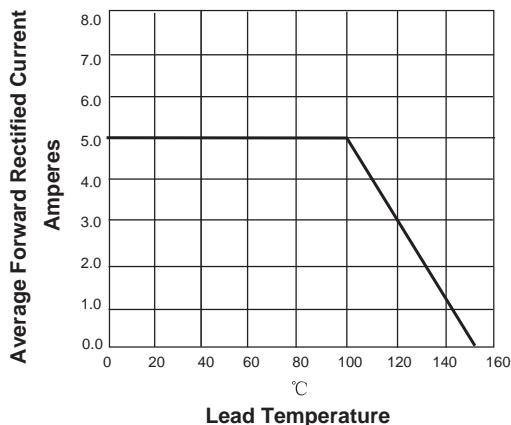


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

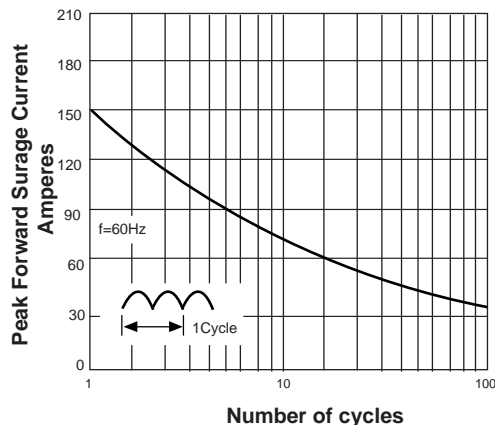


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

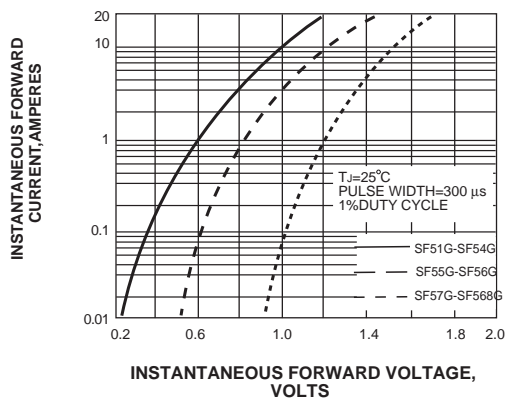


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

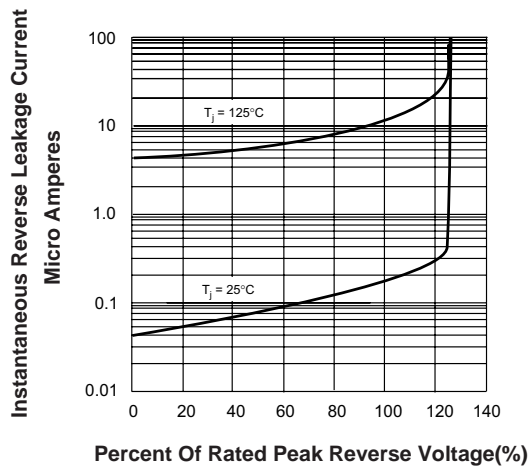
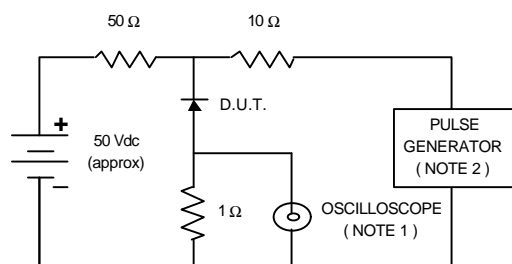
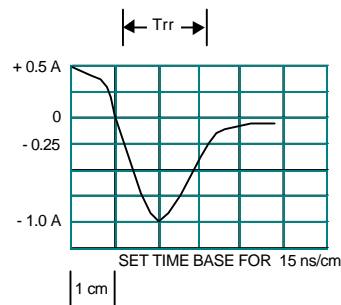


FIG.5 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



- NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.  
 2. Rise time = 10 ns max., Source Impedance = 50 ohms.  
 3. All Resistors = Non-inductive Types.



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