

# SF51G~SF58G

5.0Amp Super Fast Rectifiers



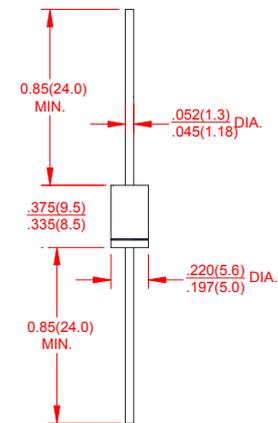
## Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Super fast speed switching for high efficiency
- Glass passivated Junction chip
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 250°C/10 seconds at terminals

## Mechanical Data

- Case:** JEDEC DO-27 molded plastic body
- Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity:** Color band denotes cathode end
- Mounting Position:** Any
- Weight :** 0.04 ounce, 1.10 grams

DO-201AD(DO-27)



Dimensions in inches and (millimeters)

## 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%.

	SYMBOLS	SF51G	SF52G	SF53G	SF54G	SF55G	SF56G	SF58G	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	VOLTS
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	VOLTS
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	VOLTS
Maximum average forward rectified current at $T_L=55^\circ\text{C}$	$I_{(AV)}$	5.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150							Amps
Maximum instantaneous forward voltage at 5.0A	$V_F$	0.95			1.3		1.7		Volts
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$	$I_R$	5.0			50.0				$\mu\text{A}$
Maximum reverse recovery time (Note 1)	$T_{rr}$	35							ns
Typical junction capacitance (Note 2)	$C_J$	100			50				pF
Typical thermal resistance (Note 3)	$R_{qJA}$	30							$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-50 to +155							$^\circ\text{C}$

- Note:**
- Reverse recovery time test condition:  $I_F=0.5\text{A}$   $I_R=1.0\text{A}$   $I_{rr}=0.25\text{A}$
  - Measured at 1MHz and applied reverse voltage of 4.0V D.C.
  - Thermal resistance from junction to ambient at 0.375 "(9.5mm) lead length, P.C.B. mounted

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## Ratings And Characteristic Curves

FIG. 1- FORWARD CURRENT DERATING CURVE

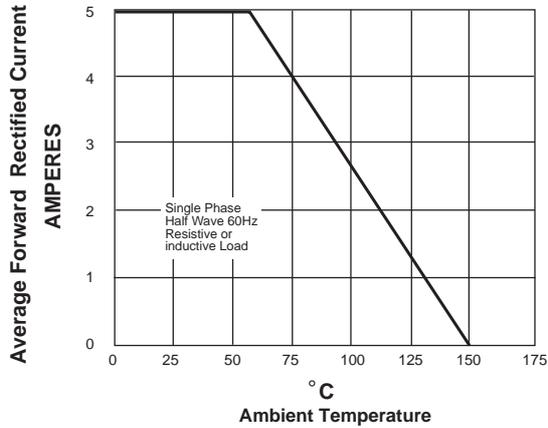


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

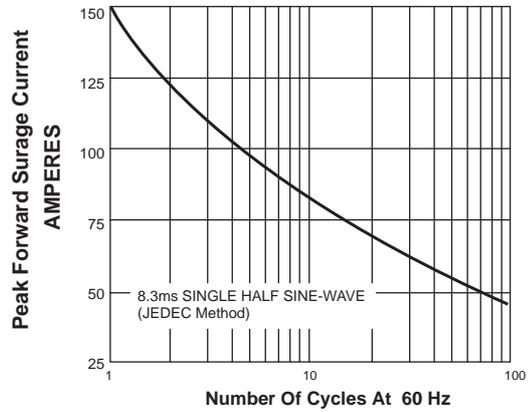


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

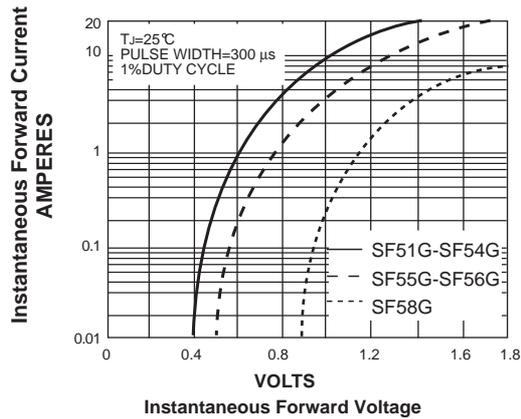


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

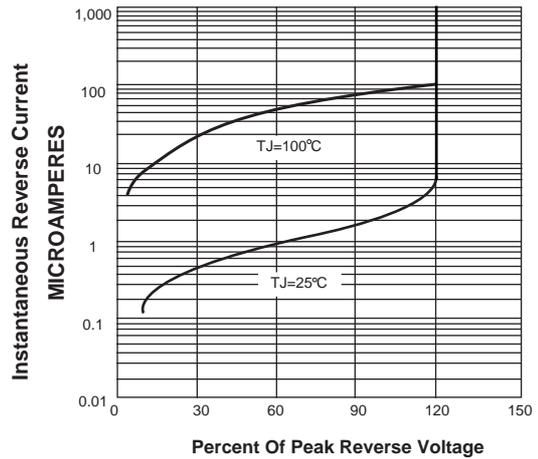


FIG. 5-TYPICAL JUNCTION CAPACITANCE

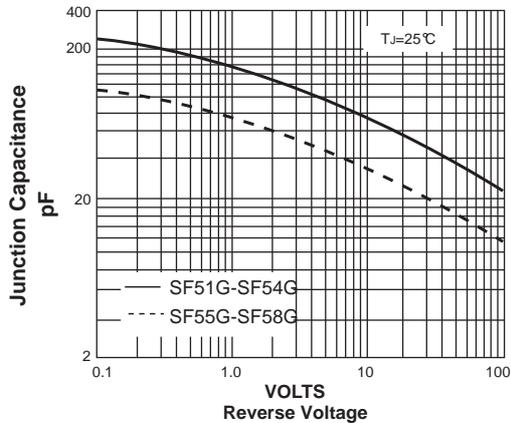


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

