

5.0Amp Super Fast Rectifiers

SF51 ~ SF58

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Super fast speed switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
260°C/10 seconds,0.375"(9.5mm) lead length,
5 lbs. (2.3kg) tension

Mechanical Data

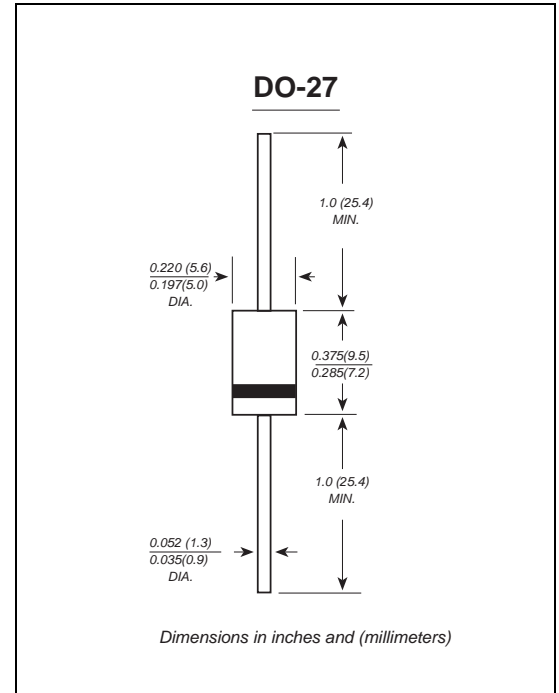
Case: JEDEC DO-27 molded plastic body

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight : 0.04 ounce, 1.10 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%.

	SYMBOLS	SF51	SF52	SF53	SF54	SF55	SF56	SF58	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 0.375"(9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	5.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150.0							Amps
Maximum instantaneous forward voltage at 5.0A	V_F	0.95			1.25		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	10.0			50.0		μA		
Maximum reverse recovery time (NOTE 1)	t_{rr}	35							ns
Typical junction capacitance (NOTE 2)	C_J	100.0			50.0				pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	30.0							$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +150							$^\circ\text{C}$

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

Ratings And Characteristic Curves

SF51 THRU SF58

FIG. 1- FORWARD CURRENT DERATING CURVE

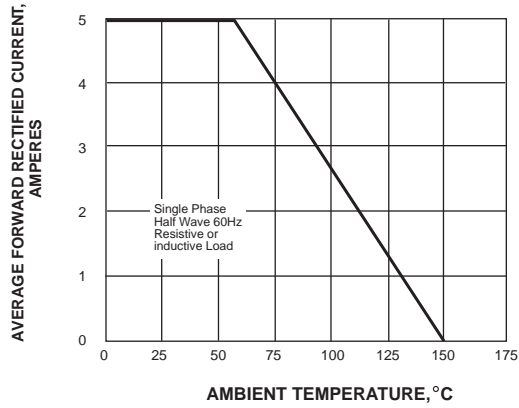


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

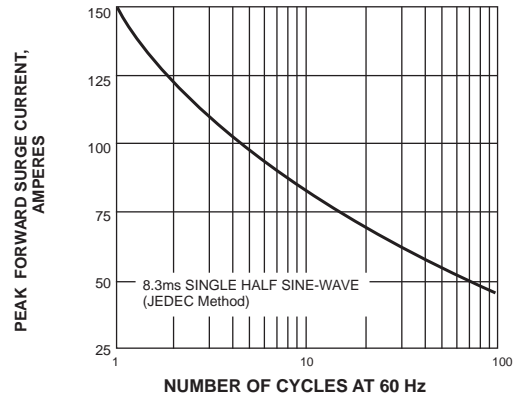


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

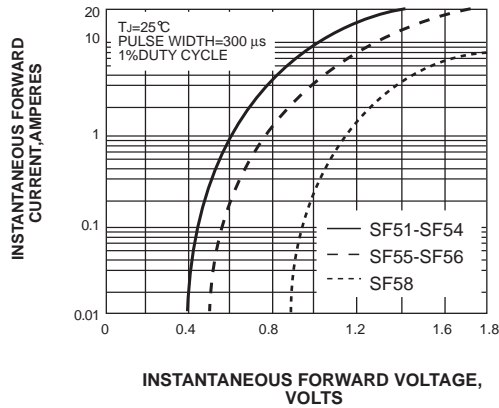


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

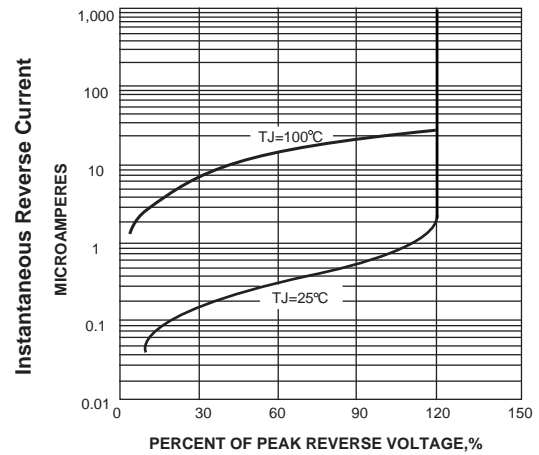


FIG. 5-TYPICAL JUNCTION CAPACITANCE

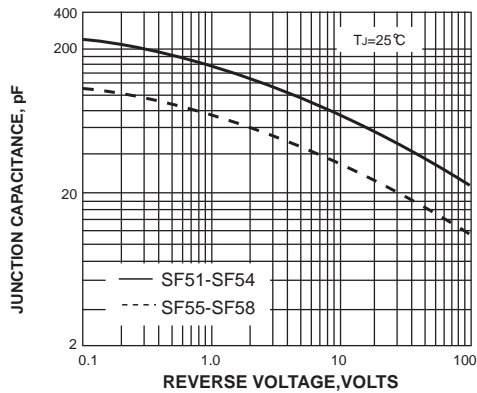


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

