

DO-27

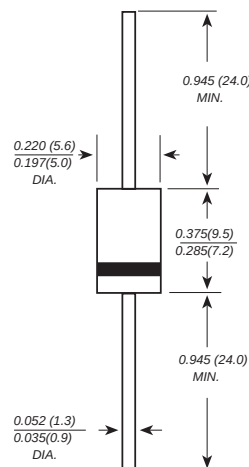


Features

- Low forward voltage drop
- Low reverse leakage current
- Superfast switching time for high efficiency
- High current capability
- High surge current capability

Mechanical Data

- Case: Molded plastic, DO-27
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: leads solderable per MIL-STD-202 method 208 guaranteed
- Polarity: As marked
- Mounting Position: Any



Dimensions in inches and (millimeters)

Absolute Maximum Ratings and Characteristics

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

Parameter	Symbols	SF81G	SF82G	SF83G	SF84G	SF85G	SF86G	SF87G	SF88G	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current at T _C = 100 °C	I _(AV)	8								A
Peak Forward Surge Current, 8.3 ms Single half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	125								A
Maximum Forward Voltage at 8 A and 25 °C	V _F	0.95				1.3		1.7		V
Maximum Reverse Current at T _A = 25 °C at Rated DC Blocking Voltage T _A = 125 °C	I _R	10 500								μA
Typical Junction Capacitance ¹⁾	C _J	80				60				pF
Maximum Reverse Recovery Time ²⁾	t _{rr}	35				50				ns
Typical Thermal Resistance ³⁾	R _{θJC}	2.2								°C/W
Operating and Storage Temperature Range	T _J , T _s	- 55 to + 150								°C

¹⁾ Measured at 1 MHz and applied reverse voltage of 4 VDC.

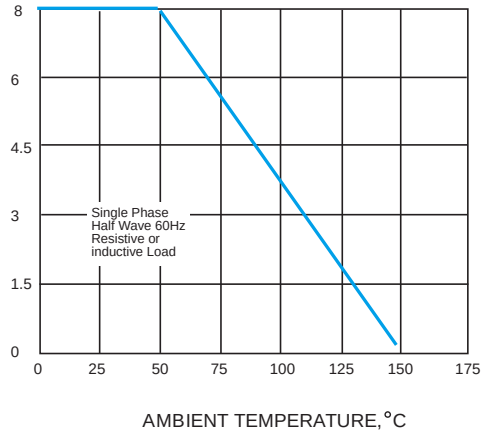
²⁾ Reverse recovery test conditions: $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{RR} = 0.25\text{ A}$

³⁾ Thermal resistance from Junction to case mounted on heatsink.

Ratings And Characteristic Curves

AVERAGE FORWARD RECTIFIED CURRENT,
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,
AMPERES

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

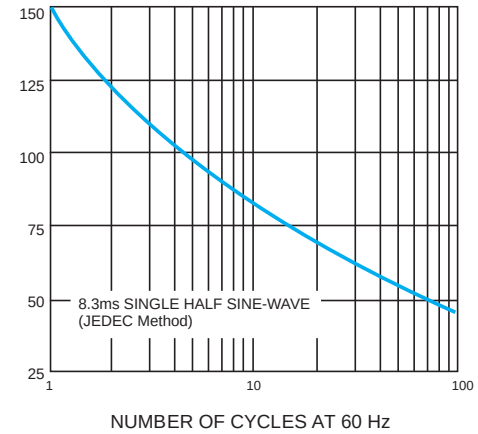
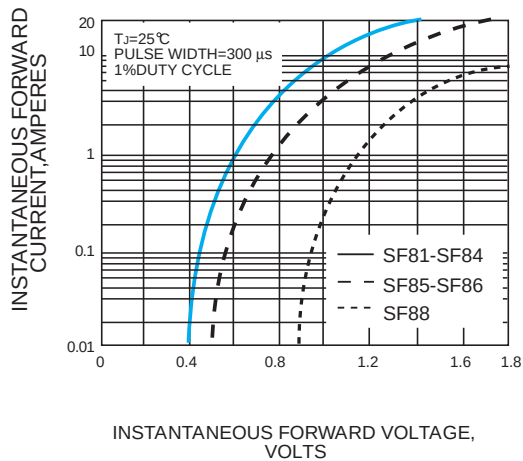


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

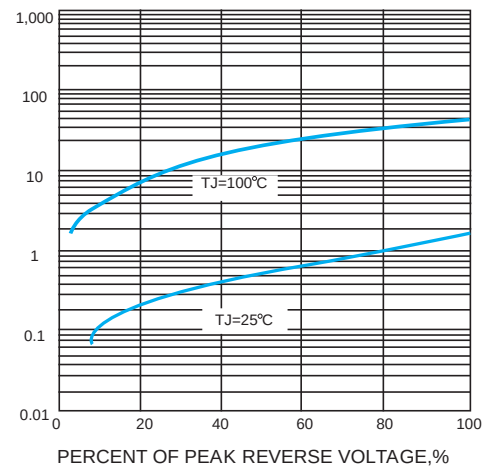
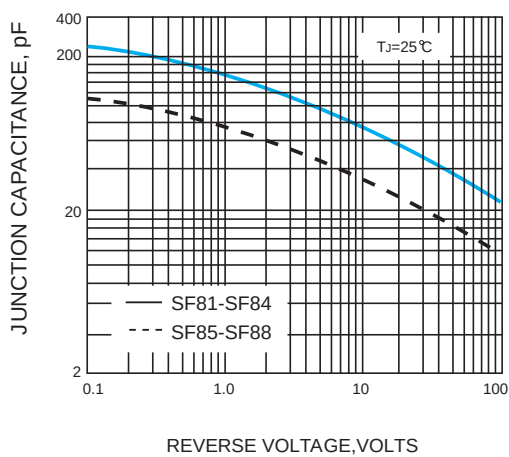


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

