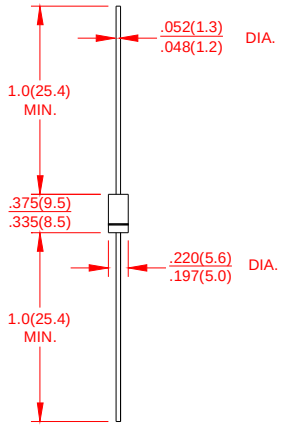
SUPER FAST RECOVERY RECTIFIER

SF31 THRU SF38

VOLTAGE RANGE **50 to 600 Volts**
CURRENT **3.0Ampere**

DO-27



Dimensions in inches and (millimeters)

FEATURES

- Low coat construction
- Fast switching for high efficency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
  260℃/10 secods/.375”(9.5mm)lead length at 5 lbs(2.3kg) tension

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.042ounce, 1.19grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	SF 31	SF 32	SF 33	SF 34	SF 35	SF 36	SF 37	SF 38	UNITS
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	500	600	Volts
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	350	420	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	500	600	Volts
Maximum Average Forward Rectified Current 0.375”(9.5mm) lead length at T_A= 55℃	$I_{(AV)}$	5.0								Amp
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	125								Amps
Maximum Instantaneous Forward Voltage @ 3.0A	V_F	0.95				1.25		1.7		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage T_A = 25℃	I_R	5.0								μA
Maximum DC Reverse Current at Rated DC Blocking Voltage T_A = 125℃	I_R	50								μA
Maximum Reverse Recovery Time Test conditions IF=0.5A,IR=1.0A,IRR=0.25A	trr	35								ns
Typical Thermal Capavitance (Measured at 1.0MHz and applied rever voltage of 4.0V)	C_J	50				30				PF
Typical Thermal Resistance(NOTE 1)	$R_{\theta JA}$	30								℃/W
Operating Junction Temperature Range	T_J	(-55 to +150)								℃
Storage Temperature Range	T_{STG}	(-55 to +150)								℃

Notes:
1. Thermal resistance from junction to ambient with .375”(9.5mm)lead length, PCB. mounted. .

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	CURRENT	3.0Ampere

RATING AND CHRACTERISTIC CURVES SF31 THRU SF38

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

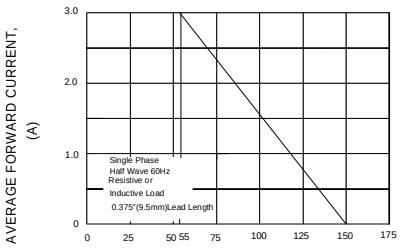


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

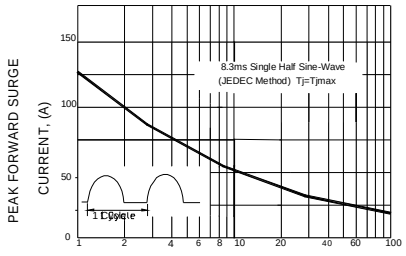


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

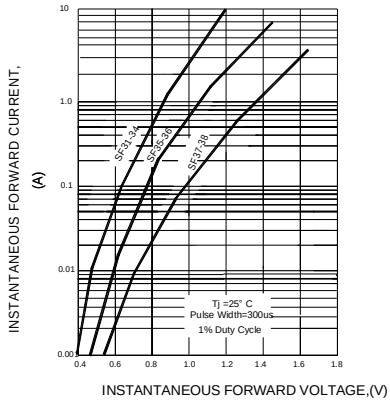


FIG.4-TYPICAL REVERSE CHARACTERISTICS

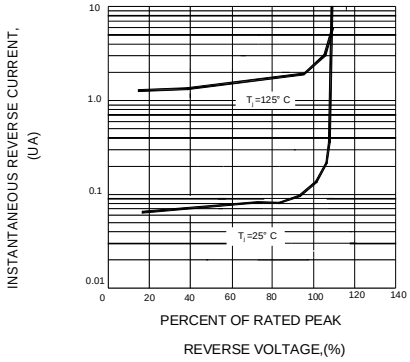


FIG.5-TYPICAL JUNCTION CAPACITANCE

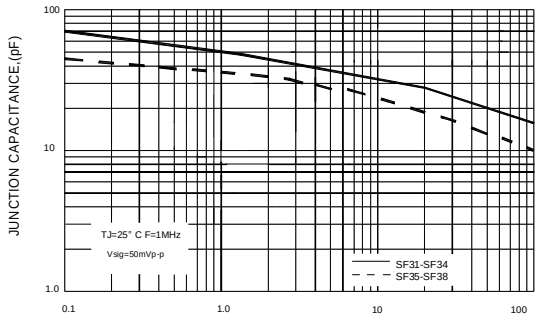
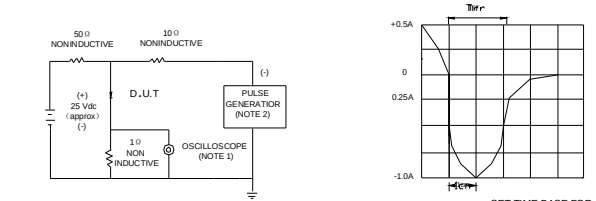


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE REXOVERY TIME CHARACTERISTIC



NOTE: 1.Rise Time =7ns max.Input Impedance=1megohm.22pF
2.Rise time=10ns max.Source Impedance=50 ohms