



FUKUCOM COMPANY LTD.

福 靈 有 限 公 司

FLAT P, 3/F, EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,
KWUN TONG, KOWLOON, HONG KONG.
TEL: 2790-0314 FAX: 2790-0206



SUPER FAST RECOVERY RECTIFIER

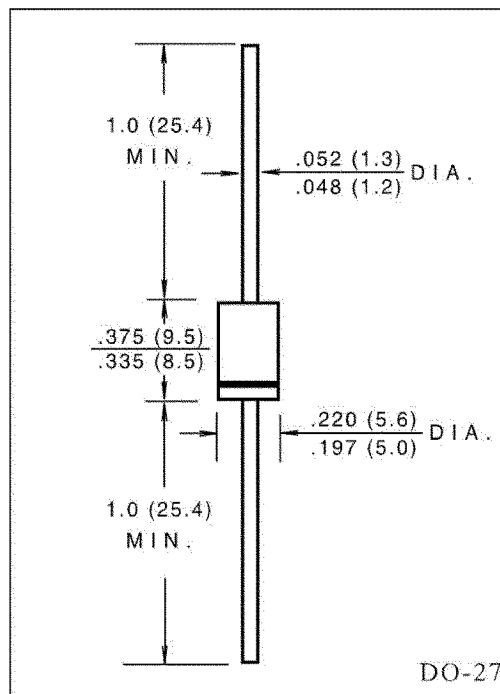
SF31 THRU SF38

FEATURES

- Super fast switching speed.
- Low leakage.
- Low forward voltage.
- High current capability.
- High surge capability
- High temperature soldering guaranteed:
260°C/10 seconds, 0.375" (9.5mm) lead length
at 5 lbs. (2.3kg) tension.

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V - 0 rate flame retardant.
- Polarity: Color band denoted cathode end.
- Lead: Plastic axial lead, solderable per MIL - STD - 202E
method 208C
- Mounting position : Any
- Weight: 0.042 ounce, 1.19 gram



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 derate current by 20%

	SYMBOLS	SF31	SF32	SF33	SF34	SF35	SF36	SF37	SF38	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	10	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 $T_A = 55^\circ C$	$I_{(AV)}$	3.0								Amps
Peak Forward Surge Current 8.3ms single half sine - wave superimposed on rated load (JEDEC method)	I_{FSM}	125								Amps
Maximum Instantaneous Forward Voltage at 3.0A	V_F	0.95			1.25		1.70			Volts
Maximum DC Reverse Current at rated DC blocking voltage per element	I_R	$T_A = 25^\circ C$								μA
		$T_A = 125^\circ C$								
Maximum Reverse Recovery Time (Note 1)	t_{rr}	35					50			nS
Typical Junction Capacitance (Note 2)	C_j	50				30				pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	30								$^\circ C/W$
Operating and Storage Temperature Range	T_J, T_{STG}	(-65 to +150)								$^\circ C$

NOTES:

1. Test condition: $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$.
2. Measured at 1MHz and applied reverse voltage of 4.0 volts.
3. Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length P.C.B. mounted.



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RATINGS AND CHARACTERISTIC CURVES SF31 THRU SF38

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

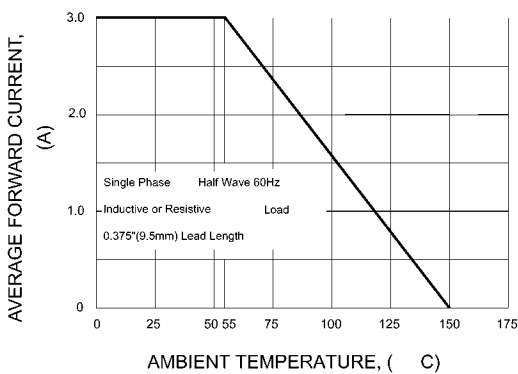


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

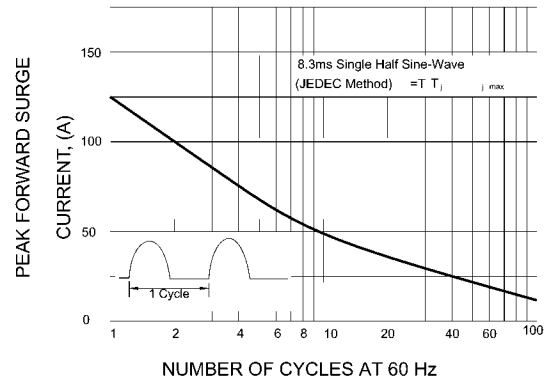


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

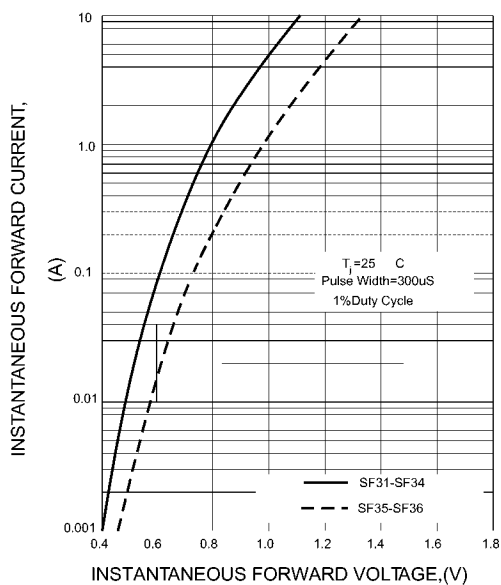


FIG.4-TYPICAL REVERSE CHARACTERISTICS

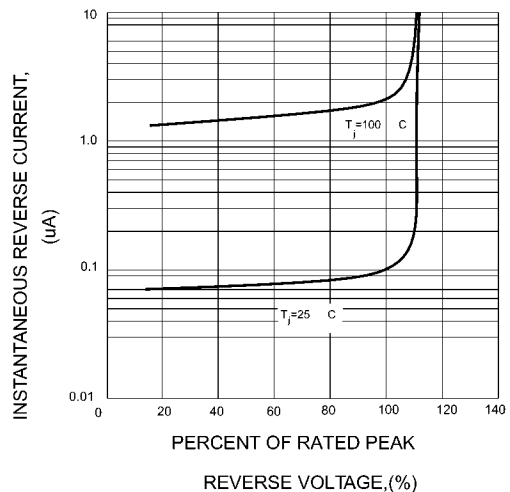


FIG.5-TYPICAL JUNCTION CAPACITANCE

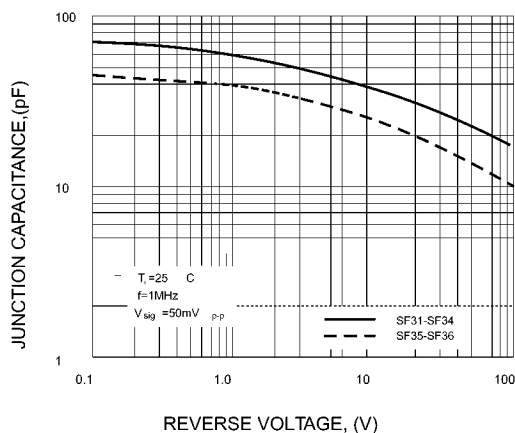
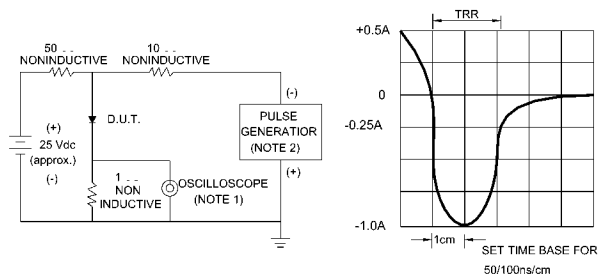


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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