



SUPER FAST RECTIFIER

SF21 THRU SF28

VOLTAGE RANGE
CURRENT

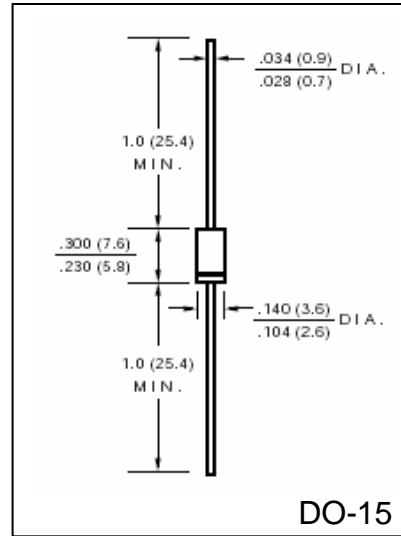
50 to 600 Volts
2.0 Ampere

FEATURES

- Super fast switching
- Low power loss, high efficiency
- Low Leakage
- High Surge Capacity
- High Temperature soldering guaranteed:
260°C / 10 second, 0.375" (9.5mm) lead length

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V – 0 rate flame retardant
- Polarity: Color Band denotes cathode end
- Lead: Plated axial lead, solderable per MIL – STD-202E Method 208C
- Mounting Position: Any
- Weight: 0.014 ounce, 0.39 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	SF21	SF22	SF23	SF24	SF25	SF26	SF27	SF28	UNIT
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 $T_A = 55^\circ C$ (Note 1)	$I_{(AV)}$	2.0								Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	50								Amps
Maximum Instantaneous Forward Voltage @ 2.0A	V_F	0.95			1.25		1.70			Volts
Maximum DC Reverse Current at Rated $T_A = 25^\circ C$	I_R	5.0								μA
DC Blocking Voltage per element $T_A = 125^\circ C$		200								
Maximum Reverse Recovery Time Test conditions $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$	t_{rr}	35								nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	C_J	30				20				pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	40								$^\circ C/W$
Operating Junction Temperature	T_J	(-65 to +150)								$^\circ C$
Storage Temperature Rang	T_{STG}	(-65 to +150)								$^\circ C$

Notes:

1. Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length, PCB mounted



RATINGS AND CHARACTERISTIC CURVES SF21 THRU SF28

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

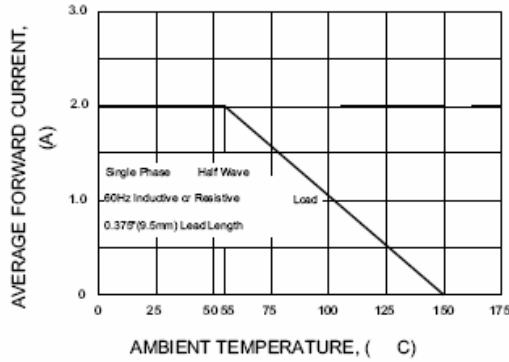


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

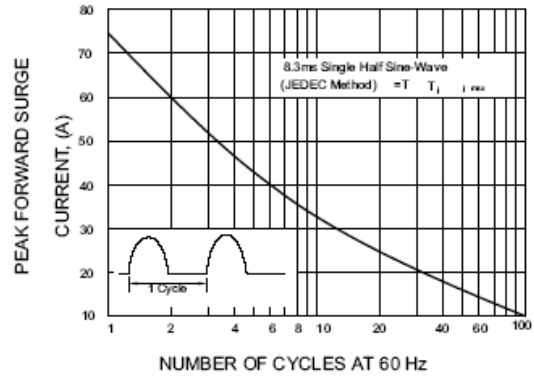


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

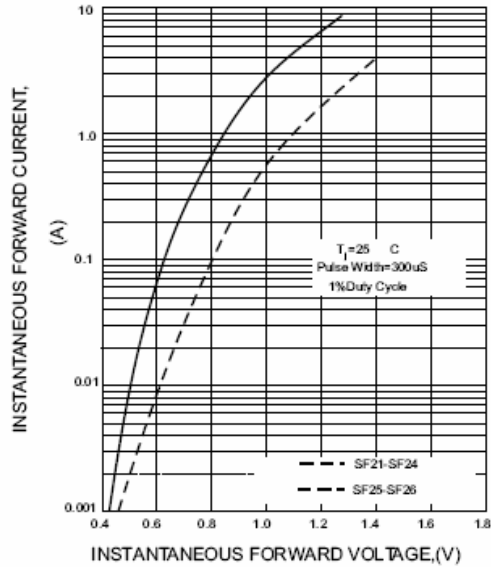


FIG.4-TYPICAL REVERSE CHARACTERISTICS

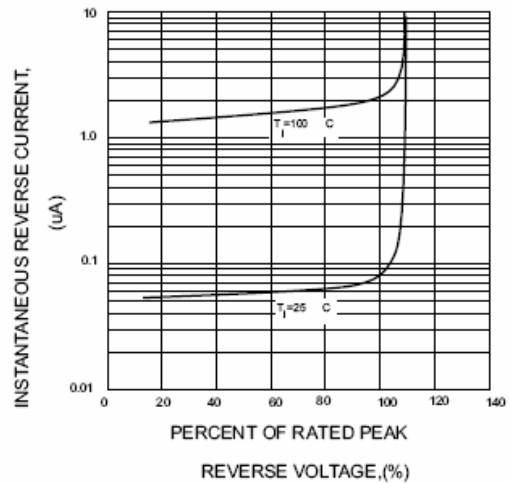


FIG.5-TYPICAL JUNCTION CAPACITANCE

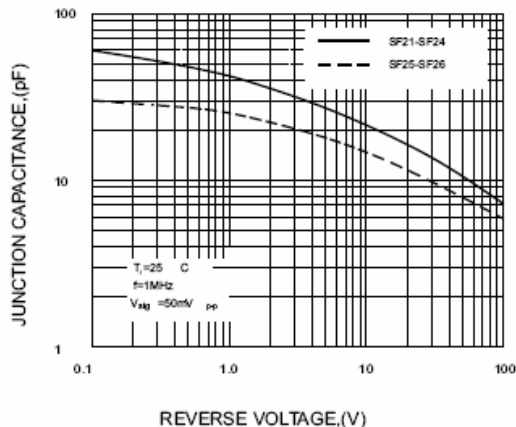
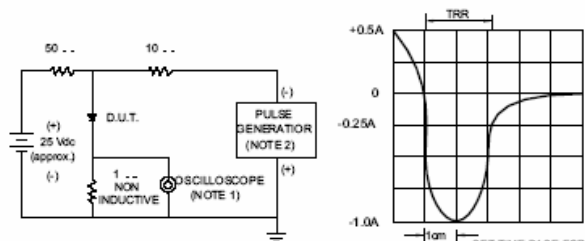


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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