



SOFT FAST RECOVERY RECTIFIER

SFR301 THRU SFR307

VOLTAGE RANGE
CURRENT

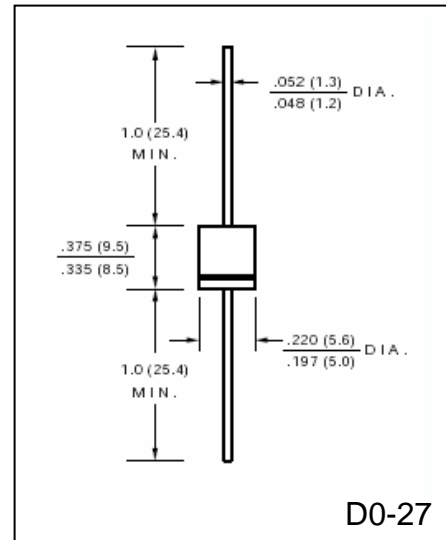
50 to 1000 Volts
3.0 Ampere

FEATURES

- Fast switching speed for high efficiency
- Low reverse leakage
- High forward surge current capacity
- High temperature soldering guaranteed:
260 °C /10 seconds, 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: 0.042 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	SFR 301	SFR 302	SFR 303	SFR 304	SFR 305	SFR 306	SFR 307	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current, 0.375" (9.5mm) lead length At $T_C = 55^\circ C$	$I_{(AV)}$	3.0							Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	150							Amps
Maximum Instantaneous Forward Voltage @ 3.0A	V_F	1.3							Volts
Maximum DC Reverse Current at Rated $T_A = 25^\circ C$	I_R	10							μA
DC Blocking Voltage per element $T_A = 100^\circ C$		500							
Maximum Reverse Recovery Time Test conditions $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$	t_{rr}	100	150	200					nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	C_J	30							pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	22							$^\circ C/W$
Operating Junction Temperature Range	T_J	(-55 to +125)							$^\circ C$
Storage Temperature Range	T_{STG}	(-55 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 SFR301 THRU SFR307

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

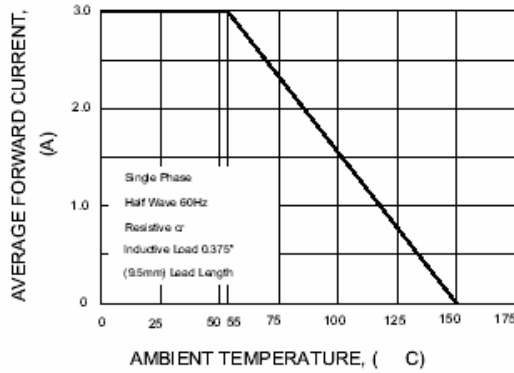


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

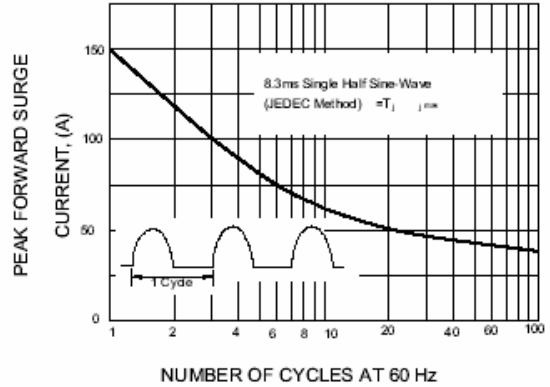


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

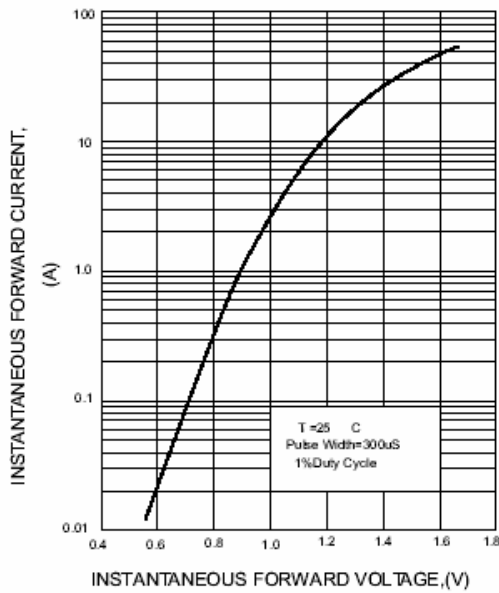


FIG.4-TYPICAL REVERSE CHARACTERISTICS

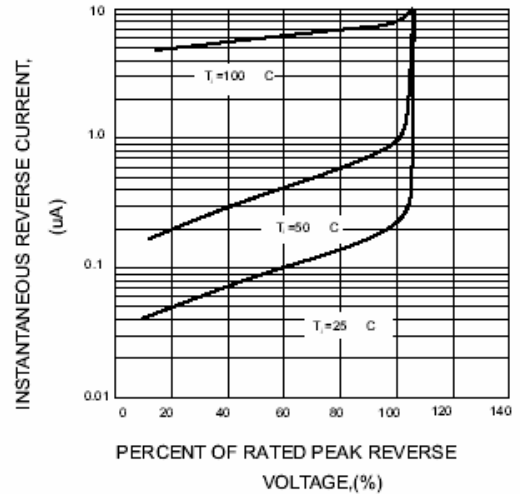


FIG.5-TYPICAL JUNCTION CAPACITANCE

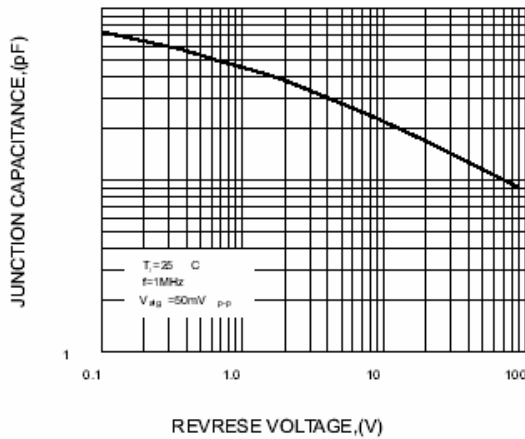
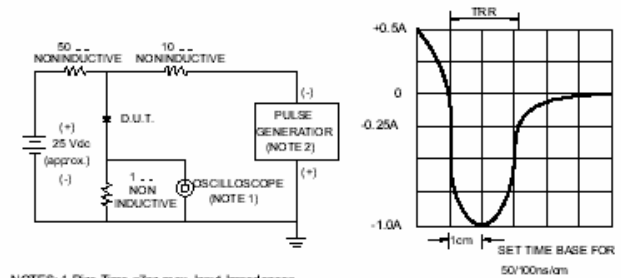


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

