



SOFT RECOVERY FAST SWITCHING RECTIFIER

SFR301 THRU SFR307

**VOLTAGE RANGE
CURRENT**

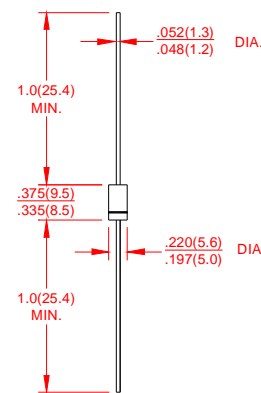
**50 to 1000 Volts
3.0Ampere**

FEATURES

- Low coat construction
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
260°C/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, 1.19 grams



DO-27

Dimensions in inches and (millimeters)

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	UNITS	
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 $T_A=55^\circ\text{C}$	$I_{(AV)}$	3.0							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	1.3							Volts	
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A=25^\circ\text{C}$	10							μA	
	$T_A=100^\circ\text{C}$	500								
Maximum Reverse Recovery Time (NOTE3) $T_j=25^\circ\text{C}$	t_{rr}	100	150	200						ns
Typical Junction Capacitance (Note 1)	C_J	30							pF	
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	22							$^\circ\text{C}/\text{W}$	
Operating Junction Temperature Range	T_J	(-55 to +150)							$^\circ\text{C}$	
Storage Temperature Range	T_{STG}	(-55 to +150)							$^\circ\text{C}$	

Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0v
2. Thermal Resistance from junction to Ambient at .375”(9.5mm)lead length, P.C.board mounted.
3. Reverse Recovery Test Conditions: $I_f=0.5\text{mA}$, $I_r=1.0\text{mA}$, $I_{rr}=0.25\text{A}$



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RATING AND CHARACTERISTIC CURVES SFR301 THRU SFR307

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

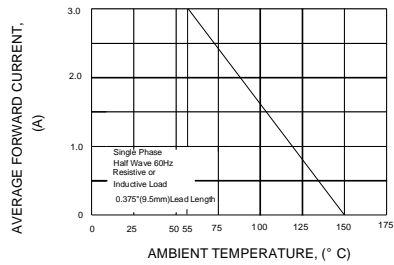


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

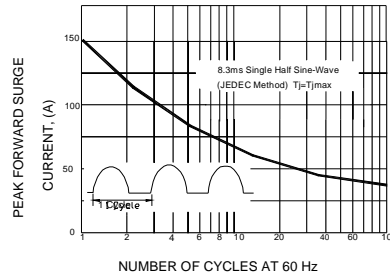


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

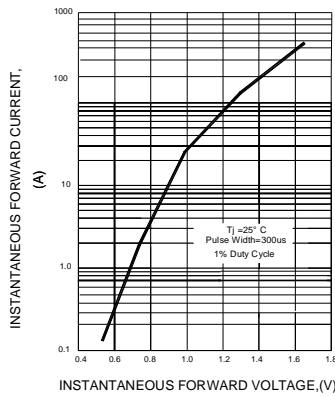


FIG.4-TYPICAL REVERSE CHARACTERISTICS

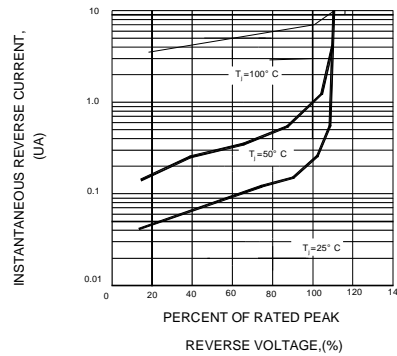


FIG.5-TYPICAL JUNCTION CAPACITANCE

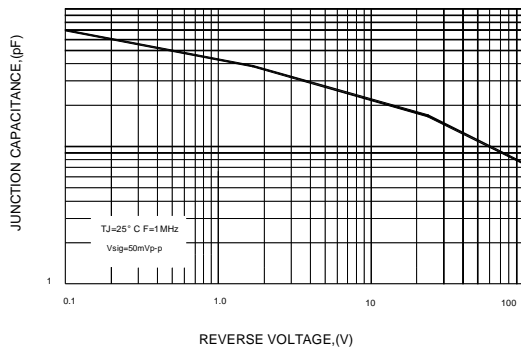


FIG. 6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

