MEI

Lead Free RoHS Compliant

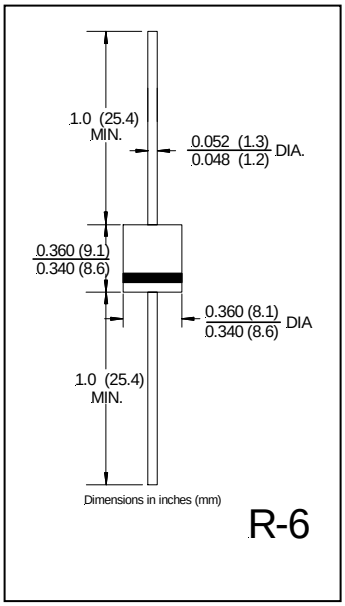
SOFT FAST RECOVERY RECTIFIER

SFR501 THRU SFR507

VOLTAGE RANGE **50 to 1000 Volts**
CURRENT **3.0 Ampere**

FEATURES

- Fast switching speed for high efficiency
- Low reverse leakage
- High forward surge current capacity
- High temperature soldering guaranteed: 260 /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: 0.07 ounce, 2.0 gram

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	SFR 501	SFR 502	SFR 503	SFR 504	SFR 505	SFR 506	SFR 507	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^{O}C	$I_{(AV)}$	5.0							Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	300							Amps
Maximum Instantaneous Forward Voltage @ 5.0A	V_F	1.3							Volts
Maximum DC Reverse Current at Rated T_A = 25 ^{O}C	I_R	25							µA
DC Blocking Voltage per element T_A = 100 ^{O}C		1.0							mA
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 Thermal Resistance (Note 1)	$R_{\theta JA}$	10							^{O}C/W
Operating Junction Temperature Range	T_J	(-55 to +125)							^{O}C
Storage Temperature Range	T_{STG}	(-55 to +150)							^{O}C

Notes:

1. Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length, PCB mounted, with 1.1 x 1.1" (30 x 30mm) copper pads

Lead Free
RoHS Compliant

RATINGS AND CHARACTERISTIC CURVES SFR501 THRU SFR507

FIG.1-TYPICAL FORWARD CURRENT
DERATING CURVE

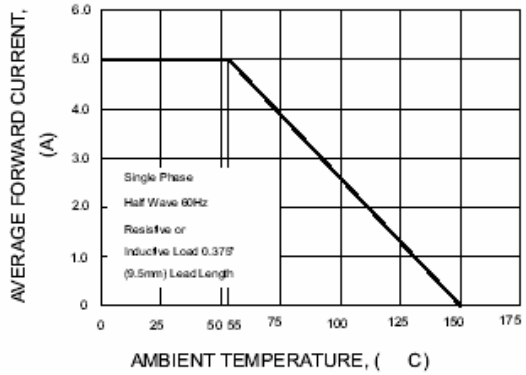


FIG.2-MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT

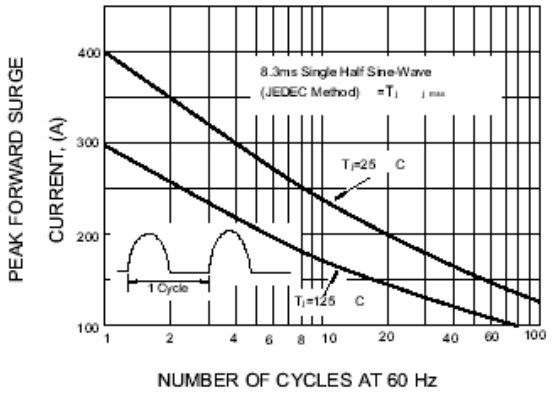


FIG.3-TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS

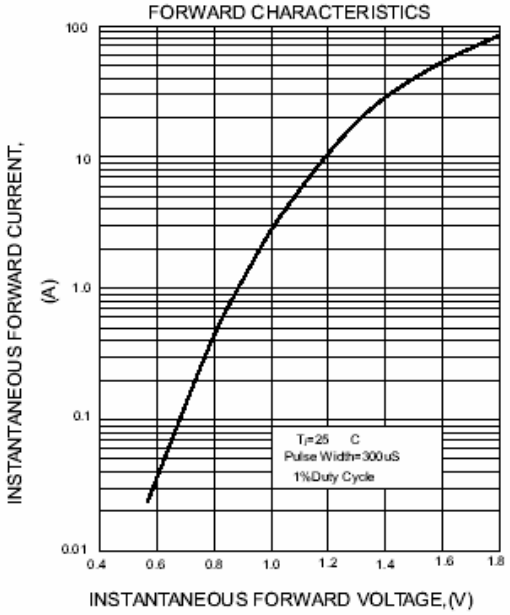


FIG.4-TYPICAL REVERSE
CHARACTERISTICS

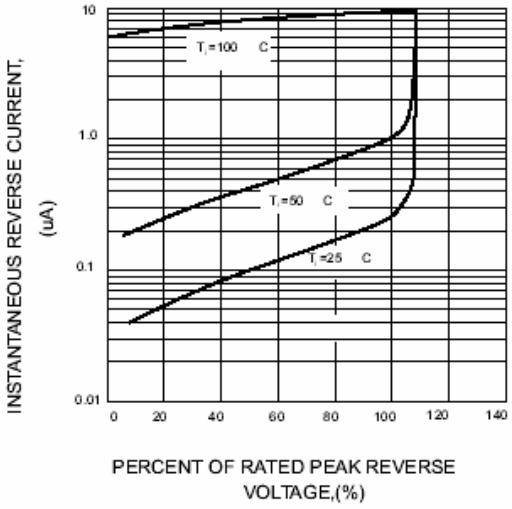


FIG.5-TYPICAL THERMAL RESISTANCE

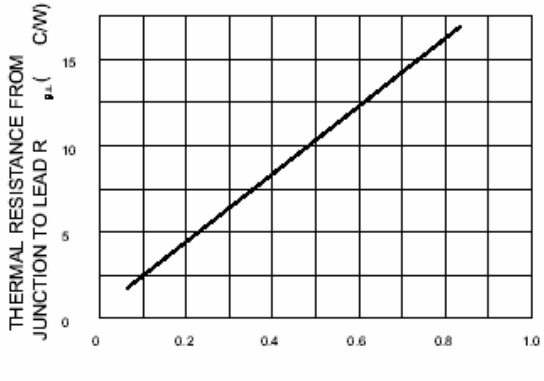
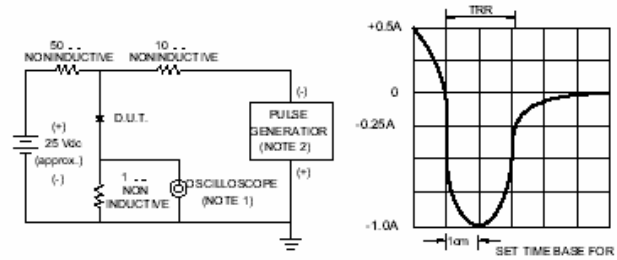


FIG.6-TEST CIRCUIT DIAGRAM AND
REVERSE RECOVERY TIME CHARACTERISTIC



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