



## Soft Fast Recovery Rectifier

### 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
- RoHS and REACH Compliance

### Mechanical Data

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

### Maximum Ratings ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

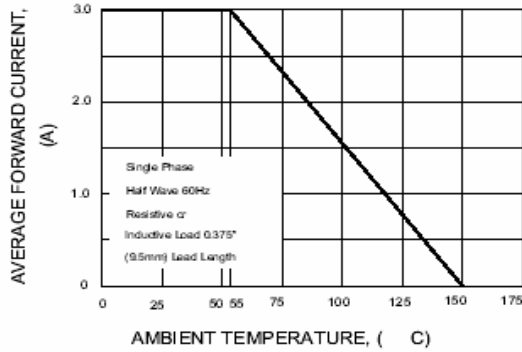
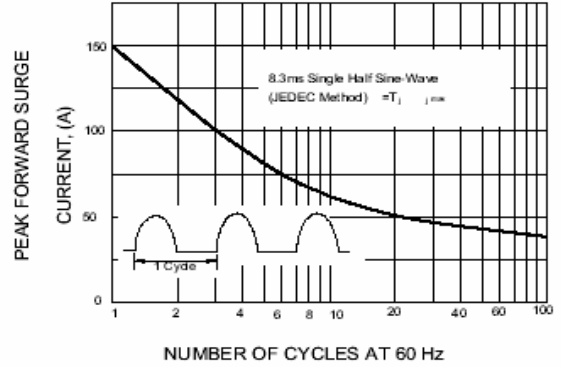
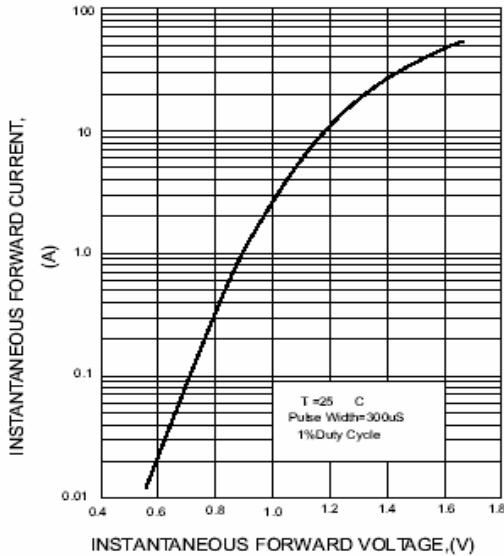
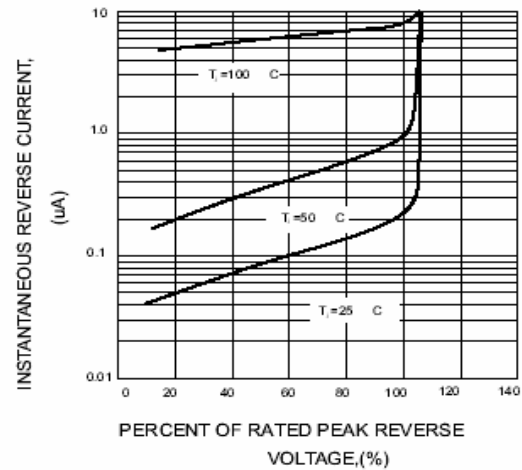
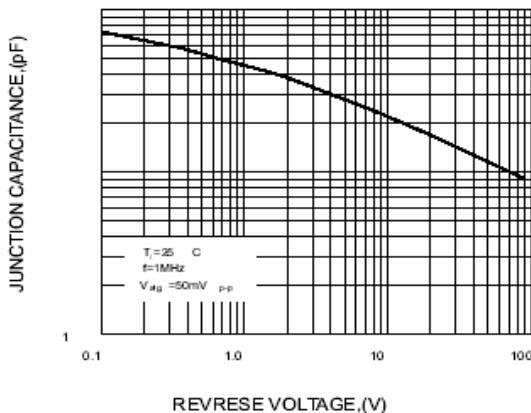
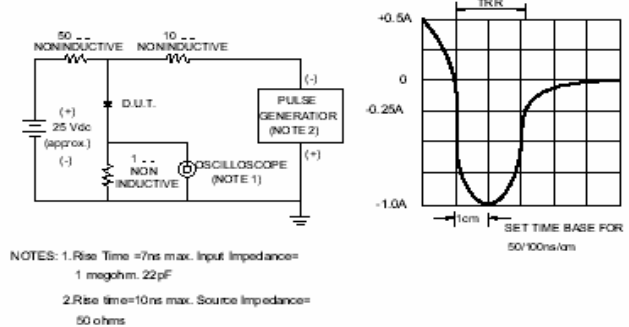
Symbol	Description	SFR301	SFR302	SFR303	SFR304	SFR305	SFR306	SFR307	Unit	Conditions
<b>VRRM</b>	Max Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V	
<b>VRMS</b>	Max RMS Voltage	35	70	140	280	420	560	700	V	
<b>VDC</b>	Max DC Blocking Voltage	50	100	200	400	600	800	1000	V	
<b>I(AV)</b>	Max Average Forward Rectified Current	3.0							A	TC=55°C
<b>IFSM</b>	Peak Forward Surge Current	150							A	JEDEC method
<b>TJ,TSTG</b>	Operating and Storage Temperature Range	-55 to +125, -55 to +150							°C	
<b>Rθ-JA</b>	Typical Thermal Resistance	22							°C/W	Note 2

### Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

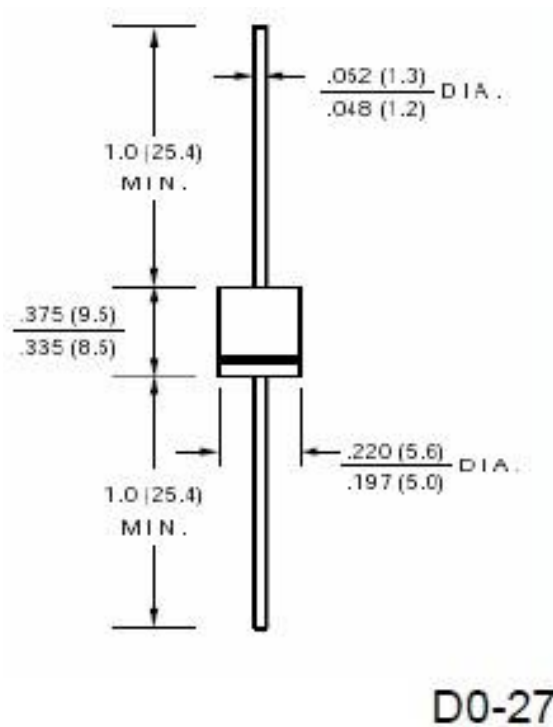
Symbol	Description	SFR301	SFR302	SFR303	SFR304	SFR305	SFR306	SFR307	Unit	Conditions
<b>VF</b>	Max Instantaneous Forward Voltage	1.3							V	3.0A
<b>IR</b>	Max DC Reverse Current at Rated DC Blocking Voltage	10							μA	TA=25°C
		500							mA	TA=100°C
<b>TRR</b>	Maximum reverse recovery time	100		150		200			nS	Note 1
<b>CJ</b>	Typical Junction Capacitance	30							pF	Measured at 1.0MHz / 4.0V

#### Note:

1. Reverse recovery test conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$
2. Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length, PCB mounted

**SFR301 ~ SFR307**
**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**


Dimensions in inches (mm)



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