



## SOFT FAST RECOVERY RECTIFIER

# SFR101 THRU SFR107

VOLTAGE RANGE  
CURRENT

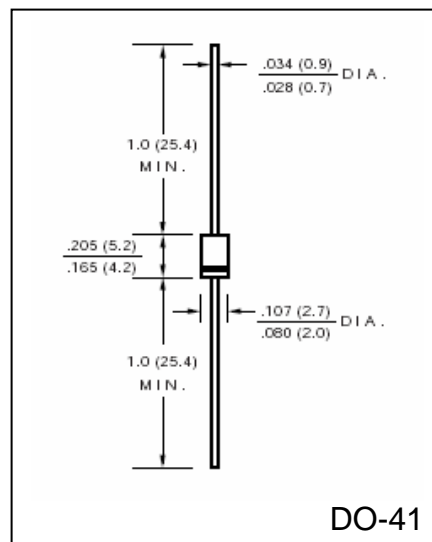
50 to 1000 Volts  
1.0 Ampere

### 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: 0.012 ounce, 0.33 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 101	SFR 102	SFR 103	SFR 104	SFR 105	SFR 106	SFR 107	UNIT
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current, 0.375" (9.5mm) lead length At T <sub>C</sub> = 75°C	I <sub>(AV)</sub>	1.0							Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	30							Amps
Maximum Instantaneous Forward Voltage @ 1.0A	V <sub>F</sub>	1.3							Volts
Maximum DC Reverse Current at Rated T <sub>A</sub> = 25 °C	I <sub>R</sub>	10							μA
DC Blocking Voltage per element T <sub>A</sub> = 100 °C		200							
Maximum Reverse Recovery Time Test conditions I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1.0A, I <sub>RR</sub> = 0.25A	t <sub>rr</sub>	100		150		200			nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	C <sub>J</sub>	15							pF
Typical Thermal Resistance (Note 1)	R <sub>θJA</sub>	50							°C/W
Operating Junction Temperature Range	T <sub>J</sub>	(-55 to +125)							°C
Storage Temperature Range	T <sub>STG</sub>	(-55 to +150)							°C

### Notes:

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

FIG.1-TYPICAL FORWARD CURRENT  
DERATING CURVE

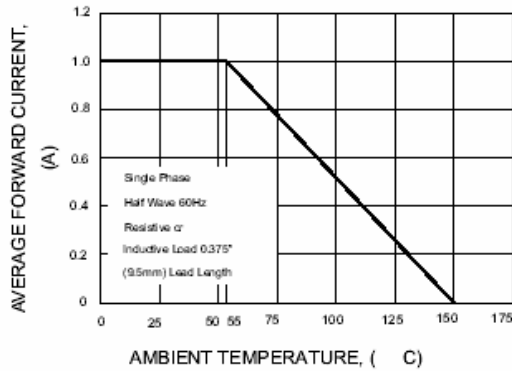


FIG.2-MAXIMUM NON-REPETITIVE PEAK  
FORWARD SURGE CURRENT

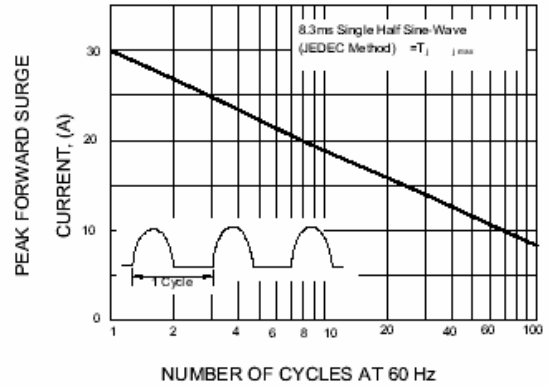


FIG.3-TYPICAL INSTANTANEOUS  
FORWARD CHARACTERISTICS

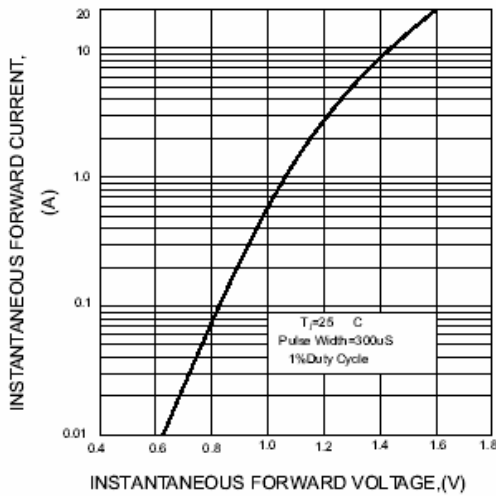


FIG.4-TYPICAL REVERSE  
CHARACTERISTICS

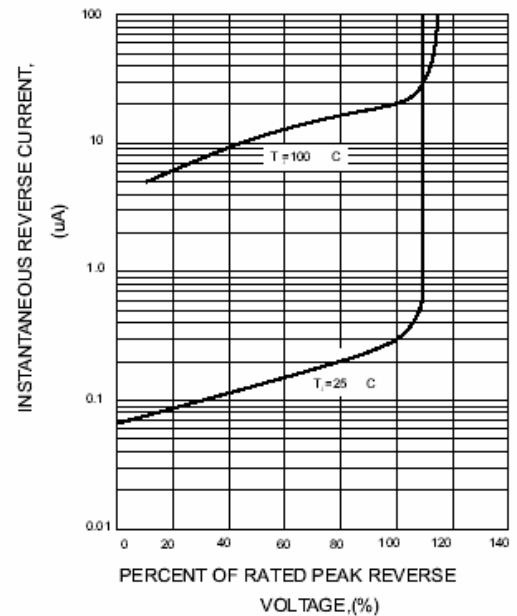


FIG.5-TYPICAL JUNCTION CAPACITANCE

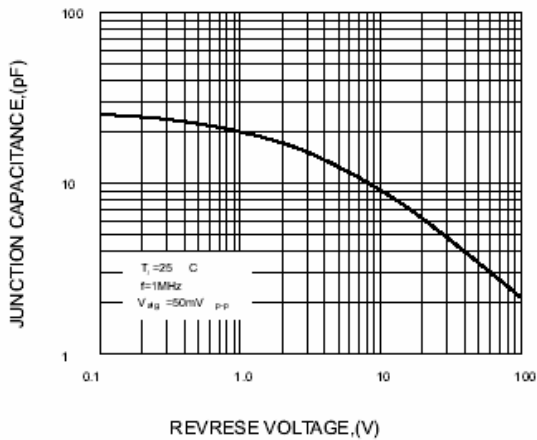


FIG.6-TEST CIRCUIT DIAGRAM AND  
REVERSE RECOVERY TIME CHARACTERISTIC

