

**GLASS PASSIVATED SUPER FAST RECTIFIER**

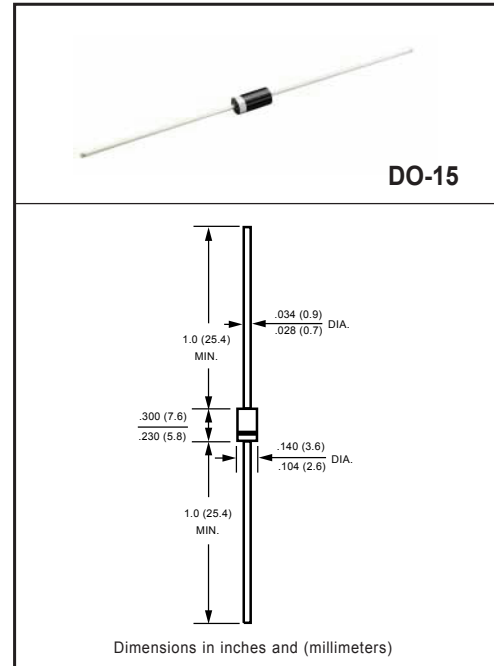
**VOLTAGE RANGE 50 to 600 Volts CURRENT 2.0 Ampere**

**FEATURES**

- \* High reliability
- \* Low leakage
- \* Low forward voltage
- \* High current capability
- \* Super fast switching speed
- \* High surge capability
- \* Good for switching mode circuit

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.35 gram



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

**MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)**

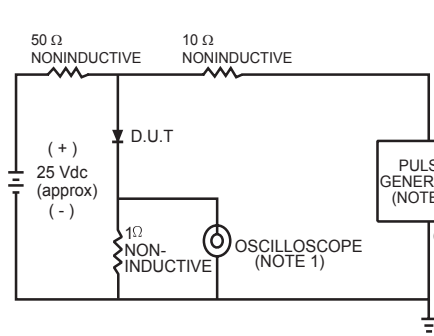
RATINGS	SYMBOL	SF21	SF22	SF23	SF24	SF25	SF26	SF27	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at T <sub>A</sub> = 55°C	I <sub>O</sub>	2.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	75							Amps
Typical Thermal Resistance (Note 3)	R <sub>θJA</sub>	40							°C/W
	R <sub>θJL</sub>	15							
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	50				30			pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 150							°C

**ELECTRICAL CHARACTERISTICS (@TA=25 °C unless otherwise noted)**

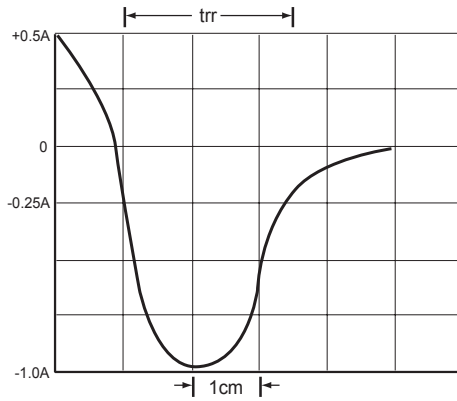
CHARACTERISTICS	SYMBOL	SF21	SF22	SF23	SF24	SF25	SF26	SF27	UNITS
Maximum Instantaneous Forward Voltage at 2.0A DC	V <sub>F</sub>	0.95				1.25		1.50	Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	@T <sub>A</sub> = 25°C							μAmps
		@T <sub>A</sub> = 100°C							
Maximum Reverse Recovery Time (Note 1)	t <sub>rr</sub>	35						50	nSec

NOTES : 1. Test Conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = -1.0A, I<sub>RR</sub> = -0.25A  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
3. Typical Thermal Resistance : At 9.5mm lead lengths,PCB mounted.  
4. "Fully ROHS compliant", "100% Sn plating (Pb-free)"

## RATING AND CHARACTERISTICS CURVES ( SF21 THRU SF27 )



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



SET TIME BASE FOR 50/100 ns/cm

FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

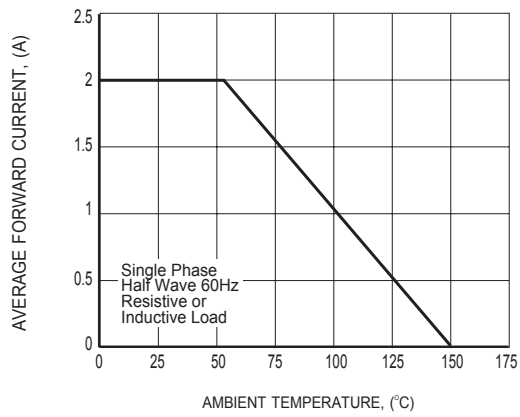


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

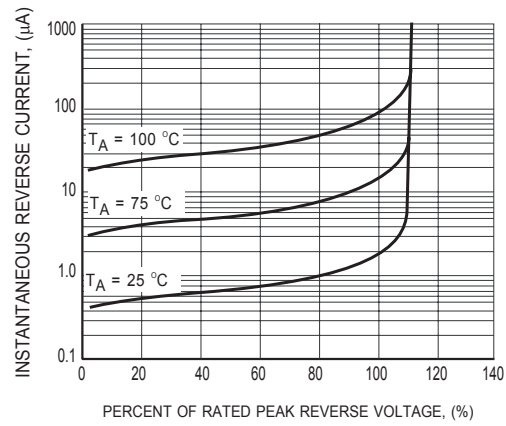


FIG.3 TYPICAL REVERSE CHARACTERISTICS

## RATING AND CHARACTERISTICS CURVES ( SF21 THRU SF27 )

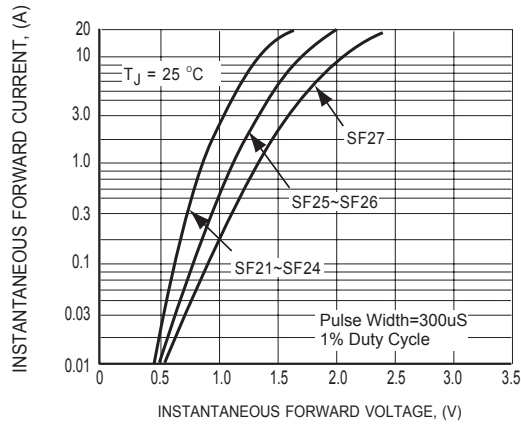


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

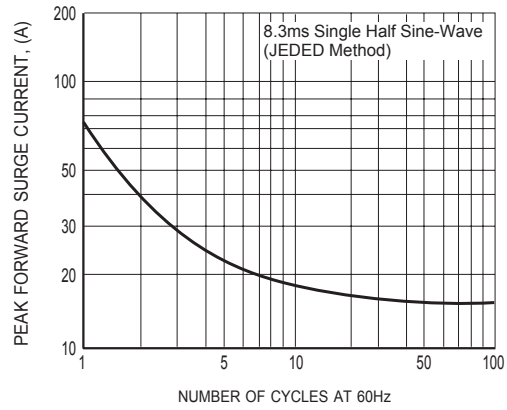


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

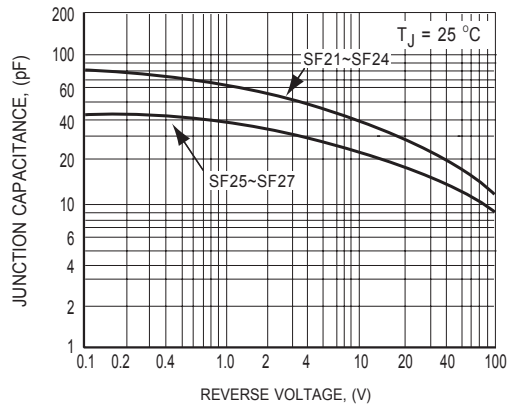


FIG.6 TYPICAL JUNCTION CAPACITANCE

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