

**GLASS PASSIVATED SUPER FAST RECTIFIER**

**VOLTAGE RANGE 50 to 600 Volts CURRENT 16 Amperes**

**FEATURES**

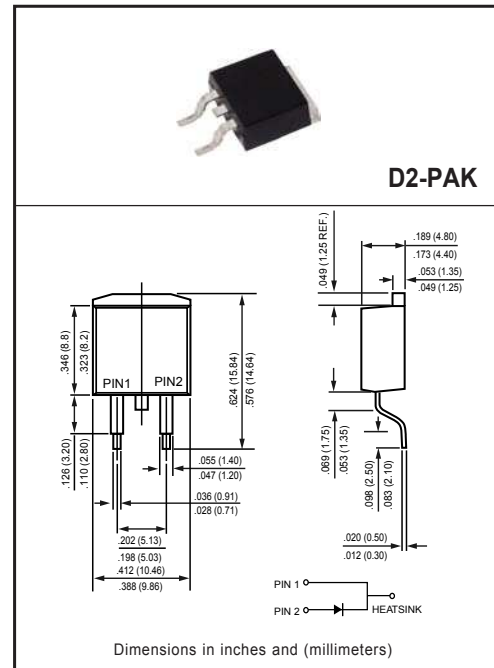
- \* Low switching noise
- \* Low forward voltage drop
- \* Low thermal resistance
- \* High current capability
- \* Super fast switching speed
- \* High reliability
- \* Good for switching mode circuit

**MECHANICAL DATA**

- \* Case: D2-PAK molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 1.35 grams

**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	SF161S	SF162S	SF163S	SF164S	SF165S	SF166S	SF167S	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>C</sub> = 100°C	I <sub>O</sub>	16.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	300							Amps
Typical Thermal Resistance (Note 4)	R <sub>θJA</sub>	16							°C/W
	R <sub>θJC</sub>	1.2							
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	400							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	SF161S	SF162S	SF163S	SF164S	SF165S	SF166S	SF167S	UNITS
Maximum Instantaneous Forward Voltage at 16.0A DC	V <sub>F</sub>	1.0				1.35		1.70	Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T <sub>A</sub> = 25°C	10							μAmps
	@T <sub>A</sub> = 100°C	500							
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. Suffix "R" for Reverse Polarity.  
4. Typical Thermal Resistance : Heat-sink mounted.  
5. "Fully ROHS compliant", "100% Sn plating (Pb-free)"

## RATING AND CHARACTERISTICS CURVES ( SF161S THRU SF167S )

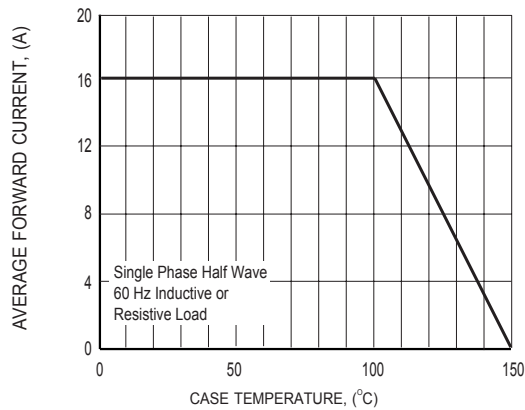


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

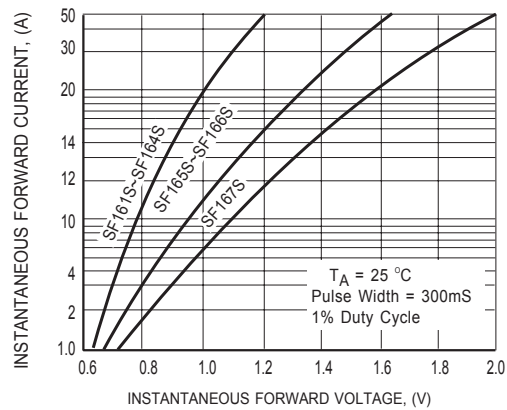


FIG.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

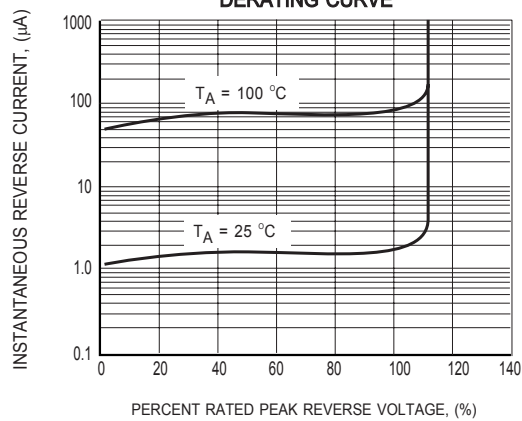


FIG.3 TYPICAL REVERSE CHARACTERISTICS

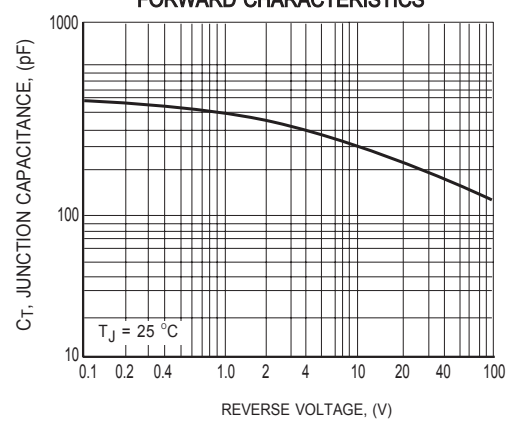


FIG.4 TYPICAL JUNCTION CAPACITANCE

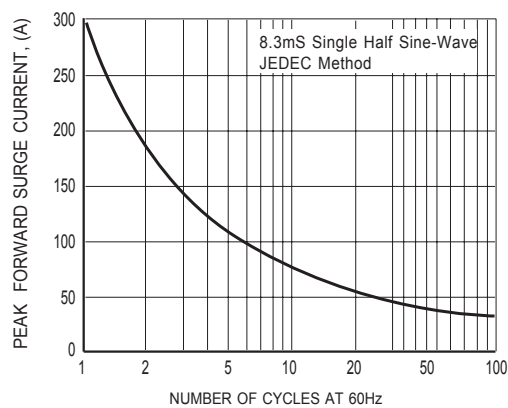


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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