

**FAST RECOVERY**

**GLASS PASSIVATED RECTIFIER**

**VOLTAGE RANGE 50 to 100 Volts CURRENT 8.0 Amperes**

**FEATURES**

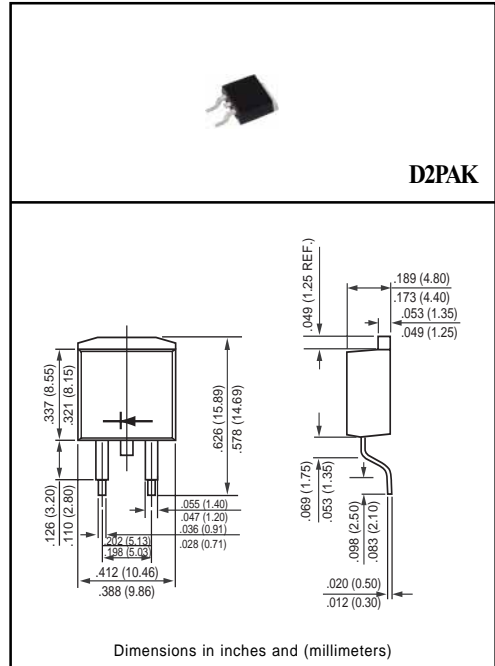
- \* Fast switching
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability
- \* High surge capability
- \* High reliability

**MECHANICAL DATA**

- \* Case: D2PAK molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 2.2 grams
- \* Polarity: As marking

**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** (At TA = 25°C unless otherwise noted)

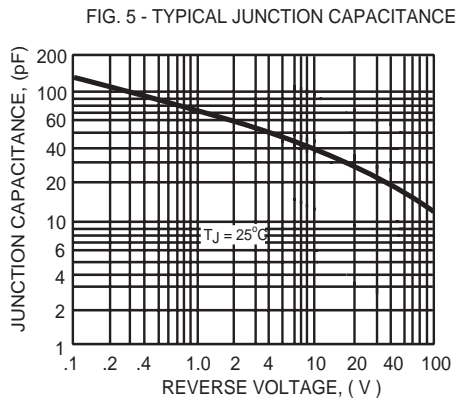
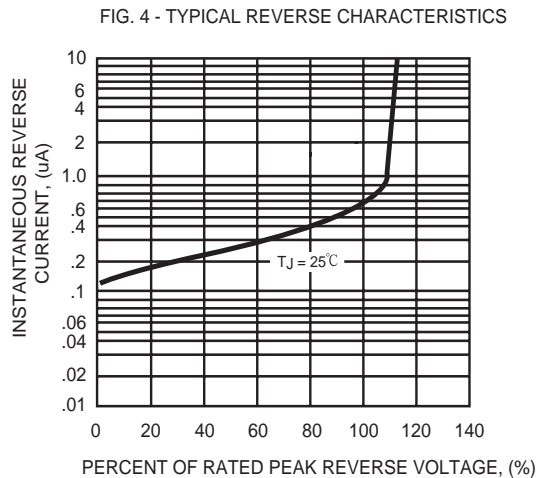
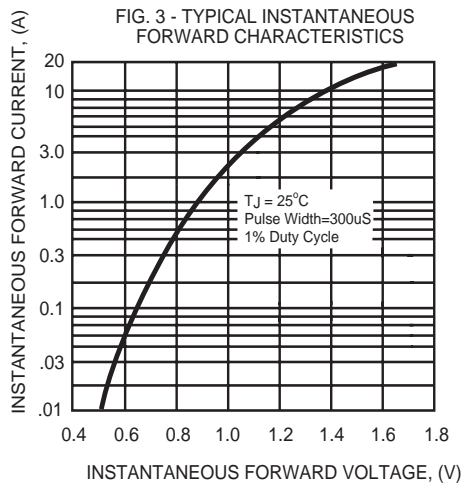
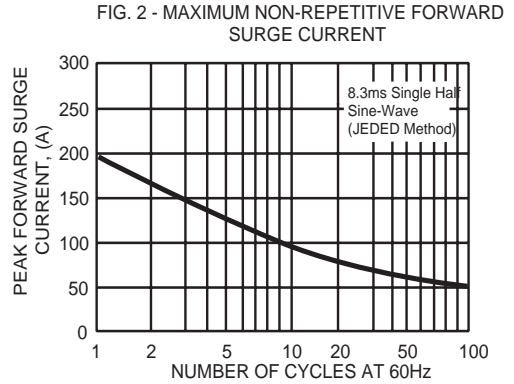
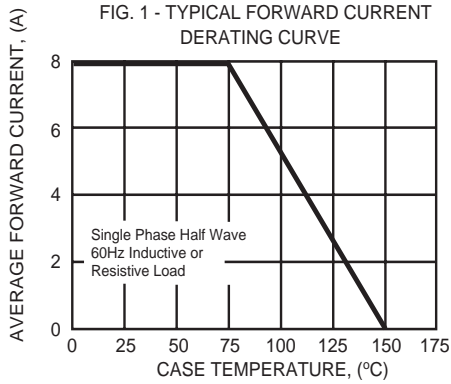
RATINGS	SYMBOL	FR801S	FR802S	FR803S	FR804S	FR805S	FR806S	FR807S	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at T <sub>C</sub> = 75°C	I <sub>O</sub>	8.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	200							Amps
Typical Thermal Resistance (Note 3)	R <sub>θJC</sub>	3							°C/W
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	50							pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 150							°C

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

CHARACTERISTICS	SYMBOL	FR801S	FR802S	FR803S	FR804S	FR805S	FR806S	FR807S	UNITS
Maximum Instantaneous Forward Voltage at 8.0A DC	V <sub>F</sub>	1.3							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage TA = 25°C	I <sub>R</sub>	10							uAmps
Maximum Full Load Reverse Current Average, Full Cycle at T <sub>C</sub> = 100°C		150							uAmps
Maximum Reverse Recovery Time (Note 1)	t <sub>rr</sub>	150			250		500		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. Thermal Resistance Junction to Case.  
 4. Suffix "R" for Reverse Polarity.

# RATING AND CHARACTERISTIC CURVES ( FR801S THRU FR807S )



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

