

**FAST RECOVERY GLASS PASSIVATED RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 8.0 Amperes**

**FEATURES**

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

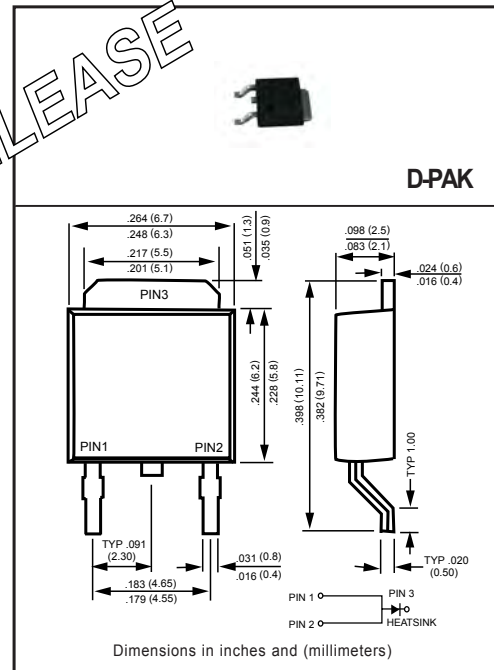
**MECHANICAL DATA**

- \* Case: D-PAK molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.33 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%.

NEW RELEASE



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

RATINGS	SYMBOL	FR801K	FR802K	FR803K	FR804K	FR805K	FR806K	FR807K	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>A</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 1)	R <sub>θJC</sub>	3							°C/W
	R <sub>θJA</sub>	16							
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 (@TA=25 °C unless otherwise noted)**

CHARACTERISTICS	SYMBOL	FR801K	FR802K	FR803K	FR804K	FR805K	FR806K	FR807K	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	@T <sub>A</sub> = 25°C	2							uAmps
	@T <sub>A</sub> = 100°C	150							
Maximum Reverse Recovery Time (Note 3)	t <sub>rr</sub>	150			250		500		nSec

- NOTES : 1. Thermal Resistance : Heat-sink case mounted or if PCB mounted.  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.□  
3. Test conditions: I<sub>F</sub>= 0.5A, I<sub>R</sub>= -0.1A, I<sub>RR</sub>=-0.25A.  
4. "Fully ROHS compliant", "100% Sn plating (Pb-free)".  
5. Suffix "R" for Reverse Polarity.  
6. Suffix "S" for D2-PAK Pkg.

## RATING AND CHARACTERISTICS CURVES ( FR801K THRU FR807K )

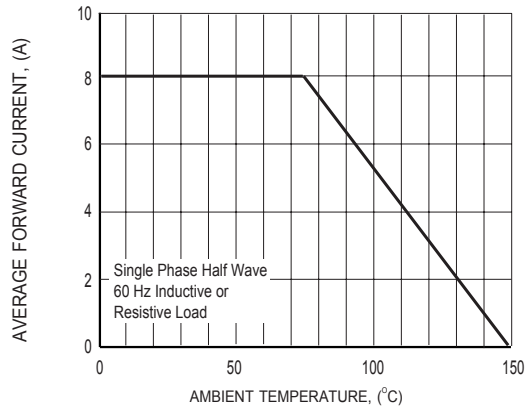


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

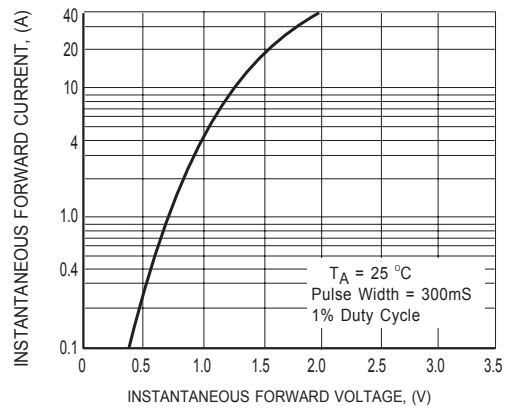


FIG.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

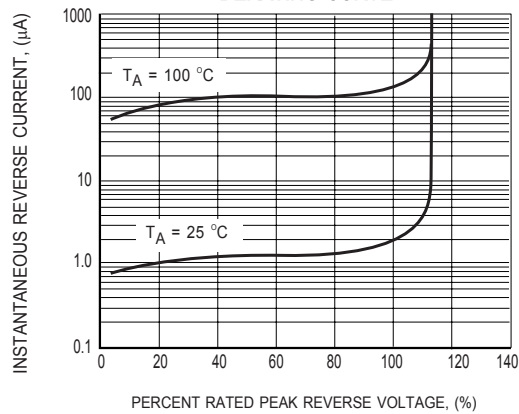


FIG.3 TYPICAL REVERSE CHARACTERISTICS

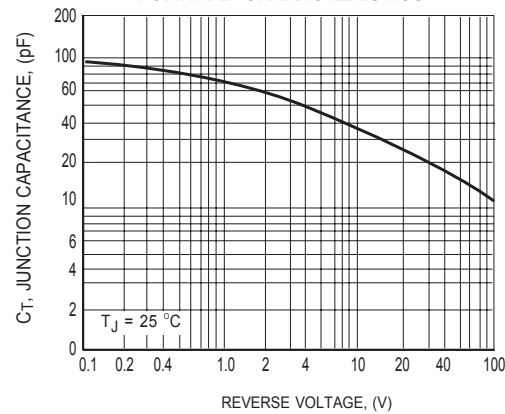


FIG.4 TYPICAL JUNCTION CAPACITANCE

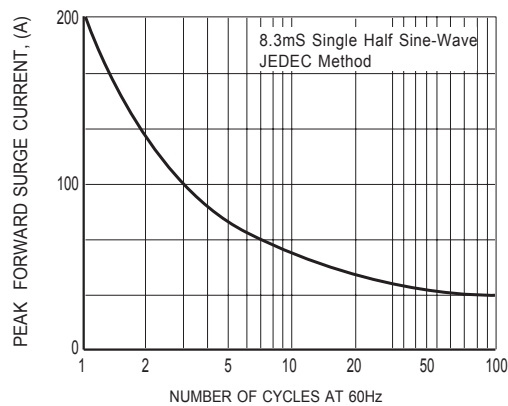


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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