

## FR3A THRU FR3K

**FAST SWITCHING SURFACE MOUNT RECTIFIER**  
**VOLTAGE - 50 to 800 Volts    CURRENT - 3.0 Amperes**

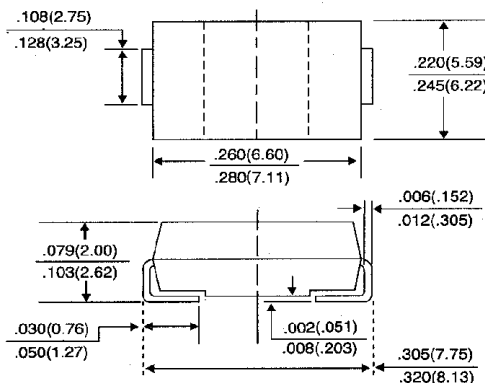
### FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- High temperature soldering:  
260 °C/10 seconds at terminals
- Fast recovery times for high efficiency

### MECHANICAL DATA

Case: JEDEC DO-214AB molded plastic  
 Terminals: Solder plated solderable per MIL-STD-750, Method 2026  
 Polarity: Indicated by cathode band  
 Standard Packaging: 16mm tape (EIA-481)  
 Weight: 0.007 ounces, 0.21 gram

### SMC/DO-214AB



Dimensions in inches and (millimeters)

### 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%.

	SYMBOLS	FR3A	FR3B	FR3D	FR3G	FR3J	FR3K	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	Volts
Maximum Average Forward Rectified Current at T <sub>L</sub> = 75°C	I(AV)	3.0						Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	100						Amps
Maximum Instantaneous Forward Voltage at 3.0A	V <sub>F</sub>	1.3						Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	10.0 300						μA
Maximum Reverse Recovery Time (NOTE 1)	T <sub>RR</sub>	150				250	500	nS
Typical Junction Capacitance (NOTE 2)	C <sub>J</sub>	60.0						pf
Maximum Thermal Resistance (NOTE 3)	R <sub>θJL</sub> R <sub>θJA</sub>	15 50						°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-50 to +150						°C

**NOTES:**

1. Reverse Recovery Test conditions: I<sub>F</sub> = 0.3A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A.
2. Measured at 1.0 MHz and applied V<sub>r</sub> = 4.0 volts.
3. 8.0mm<sup>2</sup> (.013mm thick) land areas.

**RATING AND CHARACTERISTIC CURVES  
FR3A THRU FR3K**

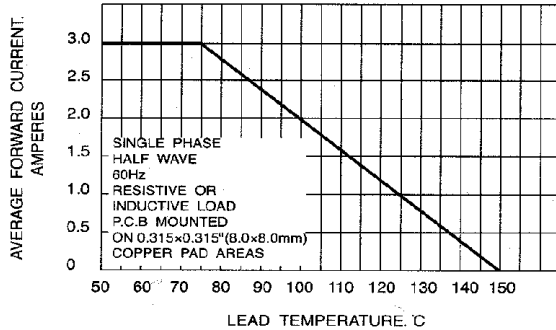


FIG. 1 - FORWARD CURRENT DERATING CURVE

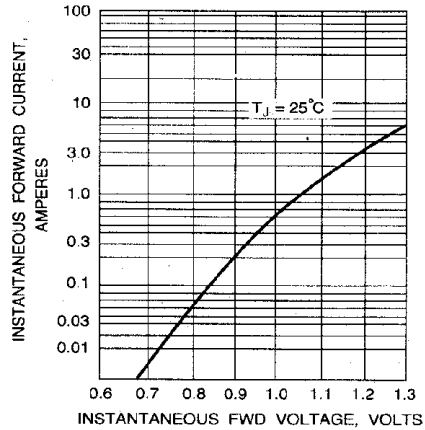


Fig. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

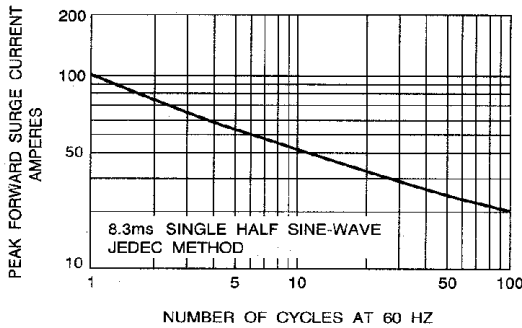


FIG. 3 - MAXIMUM NON-REPETITIVE SURGE CURRENT

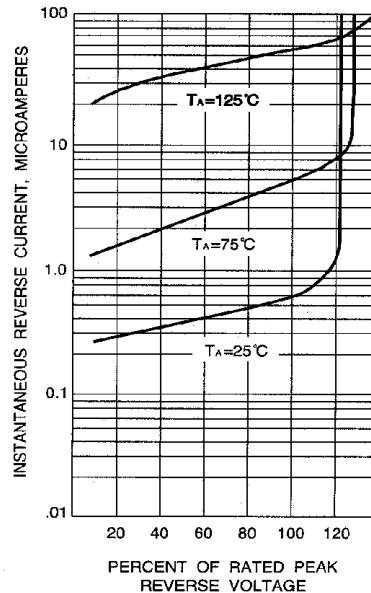


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

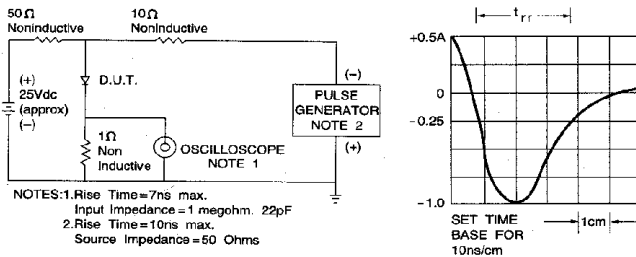


FIG. 5 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM