

## FR2A THRU FR2K

**SURFACE MOUNT ULTRAFAST RECTIFIER**  
**VOLTAGE - 50 TO 800 Volts    CURRENT - 2.0 Amperes**

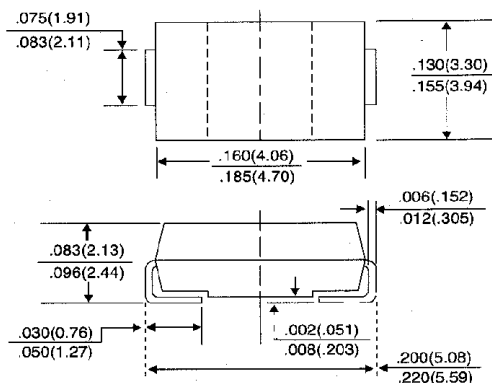
### FEATURES

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

### MECHANICAL DATA

Case: JEDEC DO-214AA molded plastic  
 Terminals: Solder plated solderable per MIL-STD-750, Method 2026  
 Polarity: Indicated by cathode band  
 Standard Packaging: 12mm tape (EIA-481)  
 Weight: 0.003 ounces, 0.093 gram

### SMB/DO-214AA



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
 Resistive or inductive load.  
 For capacitive load, derate current by 20%.

	SYMBOLS	FR2A	FR2B	FR2D	FR2G	FR2J	FR2K	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> = 90°C	I <sub>(AV)</sub>	2.0						Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	50.0						Amps
Maximum Instantaneous Forward Voltage at 2.0A	V <sub>F</sub>	1.30						Volts
Maximum DC Reverse Current    T <sub>A</sub> = 25°C at Rated DC Blocking Voltage    T <sub>A</sub> = 125°C	I <sub>R</sub>	5.0 200						μA
Maximum Reverse Recovery Time (NOTE 1) T <sub>J</sub> = 25°C	T <sub>RR</sub>	150				250	500	nS
Typical Junction Capacitance (NOTE 2)	C <sub>J</sub>	40						pf
Maximum Thermal Resistance (NOTE 3)	R <sub>θJL</sub>	20.0						°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> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts.
3. 8.0mm<sup>2</sup> (.013mm thick) land areas.

RATING AND CHARACTERISTIC CURVES  
FR2A THRU FR2K

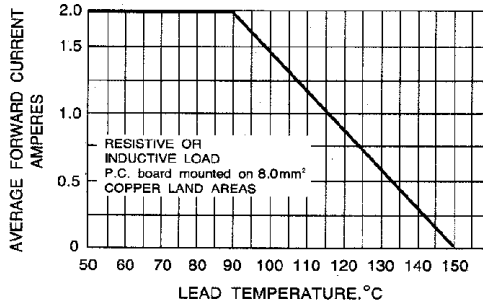


FIG. 1 - FORWARD CURRENT DERATING CURVE

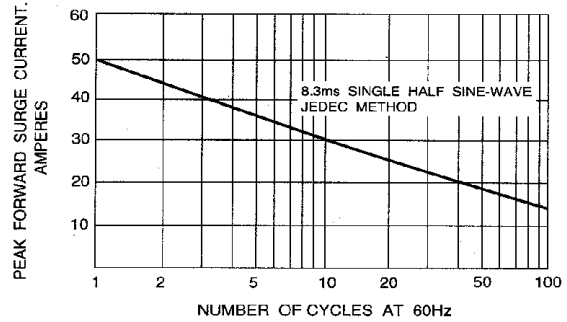


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

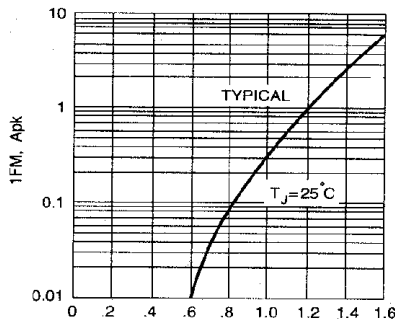


Fig. 3 - FORWARD CHARACTERISTICS

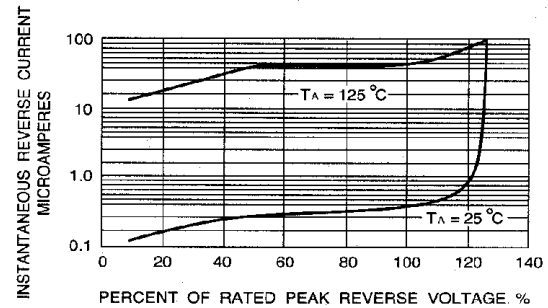


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

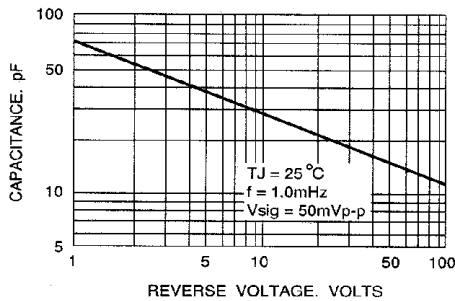


FIG. 5 - TYPICAL JUNCTION CHARACTERISTICS

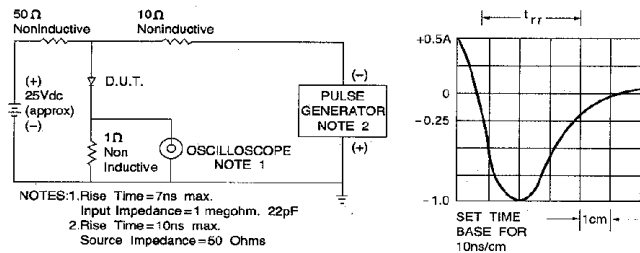


FIG. 6 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM