



***FR2X SERIES***

***SURFACE MOUNT FAST RECOVERY RECTIFIER***

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# FR2A THRU FR2M

## SURFACE MOUNT FAST RECOVERY RECTIFIER



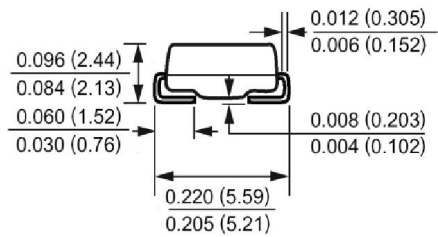
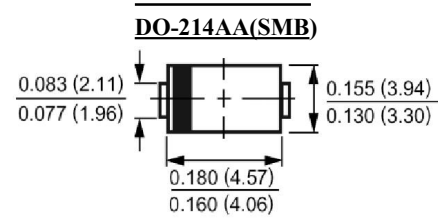
**REVERSE VOLTAGE:** 50 to 1000 VOLTS  
**FORWARD CURRENT:** 2.0 AMPERE

### 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
- High temperature soldering : 260°C /10 seconds at terminals

### MECHANICAL DATA

Case: Molded plastic, DO-214AA(SMB)  
 Terminals: Pure tin plated, lead free  
 Polarity: Indicated by cathode band  
 Packaging: 12mm tape per EIA STD RS-481  
 Weight: 0.093 gram



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	Symbols	FR2A	FR2B	FR2D	FR2G	FR2J	FR2K	FR2M	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>L</sub> =100°C	I <sub>(AV)</sub>	2.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	50							Amp
Maximum Forward Voltage at 2.0A	V <sub>F</sub>	1.3							Volts
Maximum Reverse Current at T <sub>A</sub> =25°C at Rated DC Blocking Voltage T <sub>A</sub> =125°C	I <sub>R</sub>	5 200							μAmp
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	40							pF
Typical Thermal Resistance (Note 2)	R <sub>θJL</sub> R <sub>θJA</sub>	18 55							°C/W
Maximum Reverse Recovery Time (Note 3)	T <sub>RR</sub>	150			250		500		nS
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150							°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150							°C

### NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to lead mounted on P.C.B. with 0.4 x 0.4" (10.0 x 10.0mm) copper pad areas

3- Reverse Recovery Test Conditions: I<sub>F</sub>=.5A, I<sub>R</sub>=1A, I<sub>RR</sub>=.25A.

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### RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

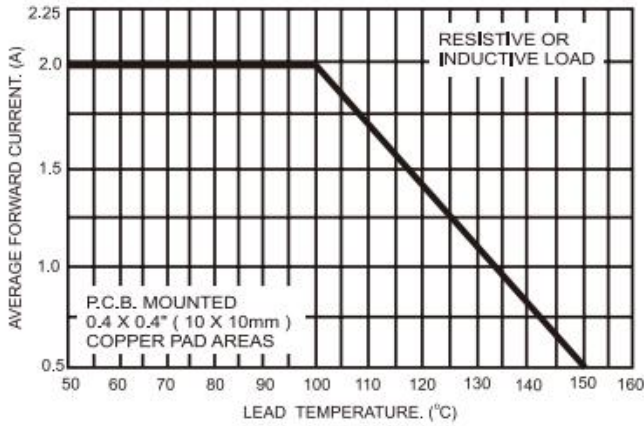


FIG.2- TYPICAL REVERSE CHARACTERISTICS

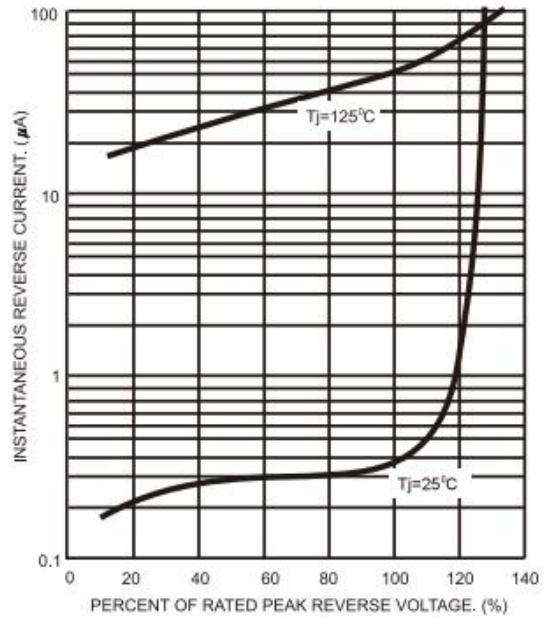


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

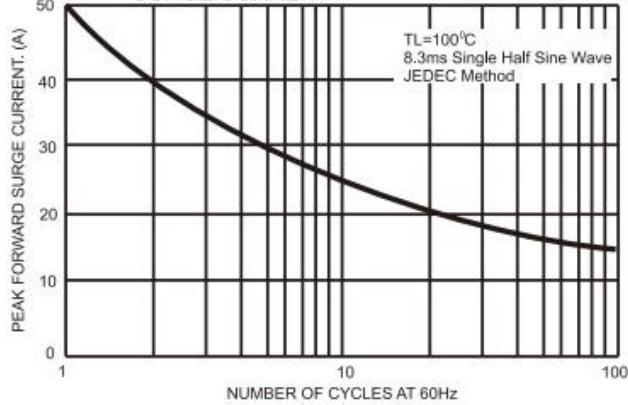


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

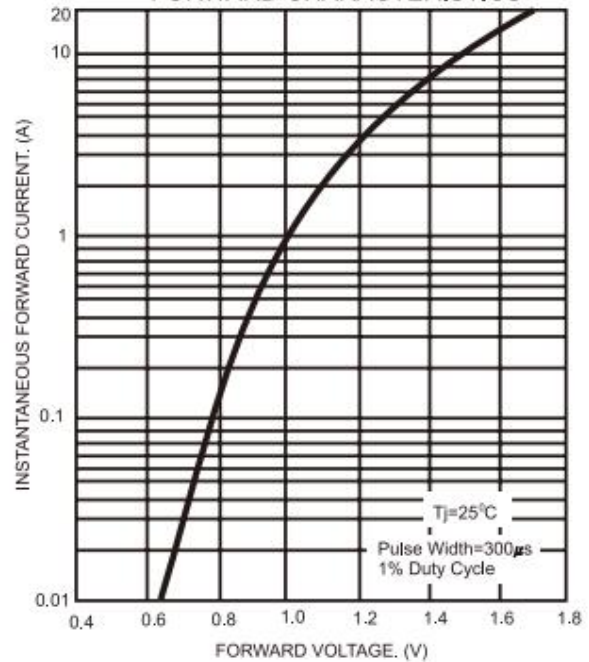


FIG.4- TYPICAL JUNCTION CAPACITANCE

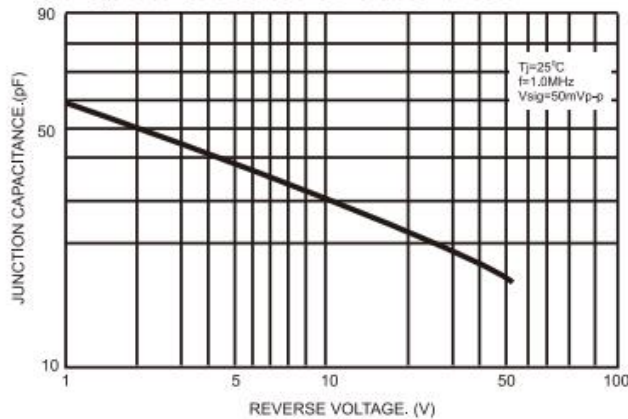


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

