



# DATA SHEET

## FR2A~FR2K

### SURFACE MOUNT FAST RECOVERY RECTIFIER

**VOLTAGE** 50 to 800 Volts **CURRENT** 2.0 Ampere

**SMB/DO-214AA**

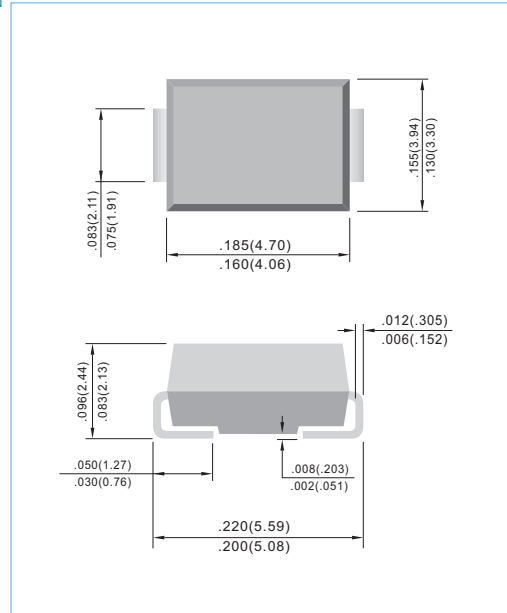
Unit: inch (mm)

#### 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
- Both normal and Pb free product are available :  
Normal : 80~95% Sn, 5~20% Pb  
Pb free: 98.5% Sn above

#### 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 ounce, 0.093 gram



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

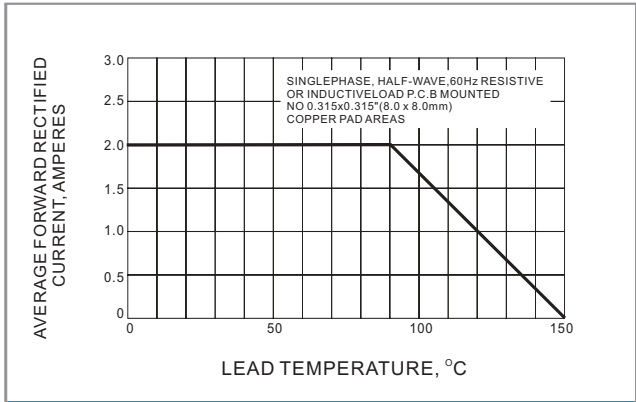
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

PARAMETER	SYMBOL	FR2A	FR2B	FR2D	FR2G	FR2J	FR2K	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	V
Maximum Average Rectified Current at $T_L=90^\circ\text{C}$	$I_o$	2.0						A
Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load(JEDEC method)	$I_{FSM}$	50						A
Maximum Forward Voltage at 2.0A	$V_F$	1.3						V
Maximum DC Reverse Current $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=125^\circ\text{C}$	$I_R$	5.0 150						$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	$T_{RR}$	150				250	500	ns
Maximum Junction capacitance (Note 2)	$C_J$	40						pF
Typical Junction Resistance(Note 3)	$R_{\theta JL}$	20						$^\circ\text{C} / \text{W}$
Operating Junction and Storage Temperature Rating	$T_J, T_{STG}$	-50 TO +150						$^\circ\text{C}$

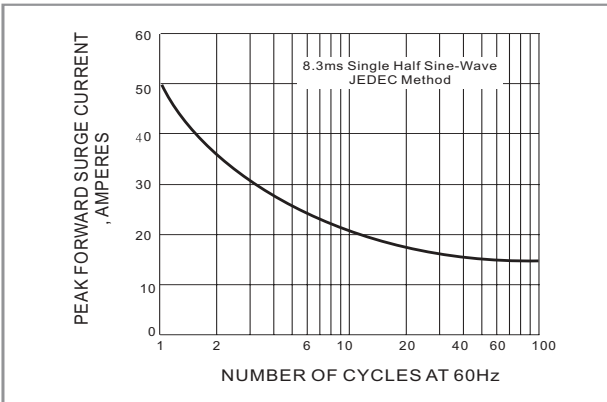
NOTES:1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$   
 2. Measured at 1 MHz and applied  $V_r = 4.0$  volts.  
 3.  $8.0 \text{ mm}^2$  ( .013mm thick ) land areas.



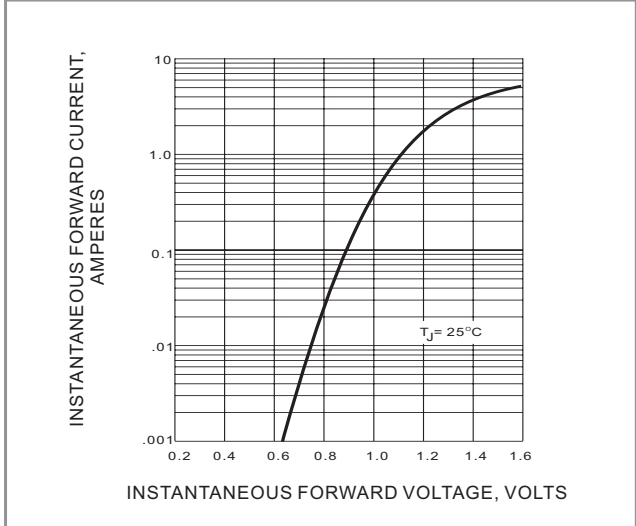
**RATING AND CHARACTERISTIC CURVES**



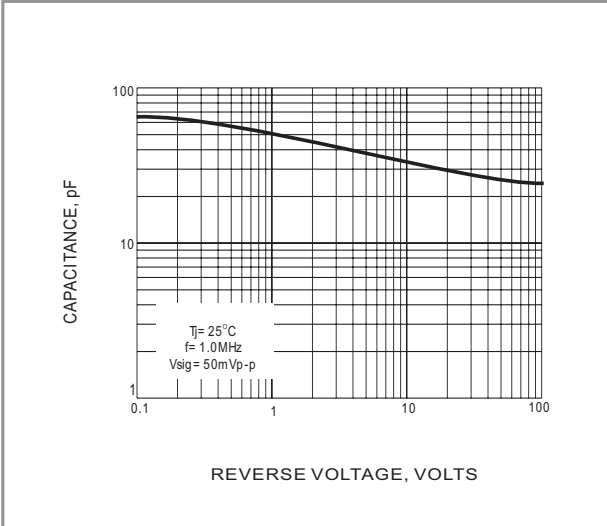
**Fig.1 FORWARD CURRENT DERATING CURVE**



**Fig.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**Fig.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**Fig.4 TYPICAL JUNCTION CAPACITANCE**