



DATA SHEET

FR1A~FR1K

SURFACE MOUNT FAST RECOVERY RECTIFIER

VOLTAGE 50 to 800 Volts **CURRENT** 1.0 Ampere

SMB/DO-214AA

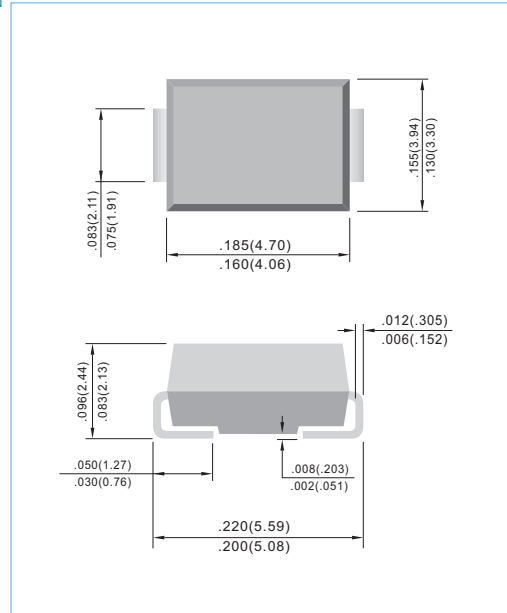
Unit: inch (mm)

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	FR1A	FR1B	FR1D	FR1G	FR1J	FR1K	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 $T_L=90^\circ C$	I_o	1.0						A
Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load(JEDEC method)	I_{FSM}	30						A
Maximum Forward Voltage at 1.0A	V_F	1.3						V
Maximum DC Reverse Current $T_A=25^\circ C$ at Rated DC Blocking Voltage $T_A=125^\circ C$	I_R	5.0 150						μA
Maximum Reverse Recovery Time (Note 1)	T_{RR}	150				250	500	ns
Maximum Junction capacitance (Note 2)	C_J	12						pF
Typical Junction Resistance(Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	100 32						$^\circ C / W$
Operating Junction and Storage Temperature Rating	T_J, T_{STG}	-50 TO +150						$^\circ C$

NOTES:1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $I_{rr}=0.25A$
 2. Measured at 1 MHz and applied $V_r = 4.0$ volts.
 3. 8.0 mm² (.013mm thick) land areas.



RATING AND CHARACTERISTIC CURVES

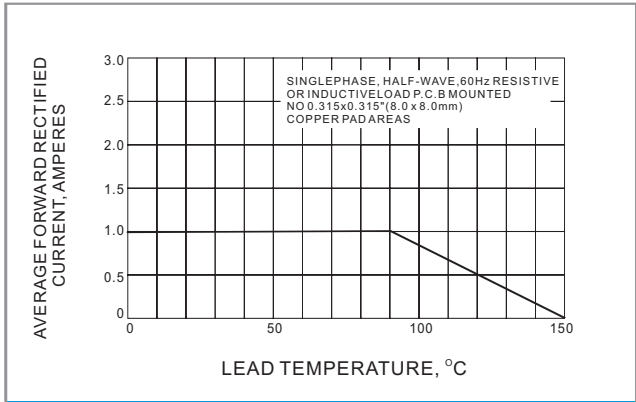


Fig.1 FORWARD CURRENT DERATING CURVE

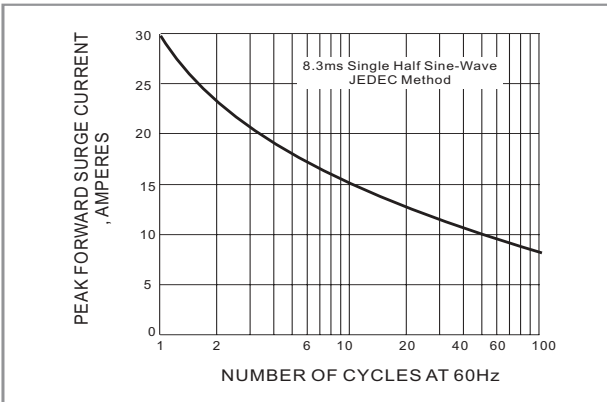


Fig.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

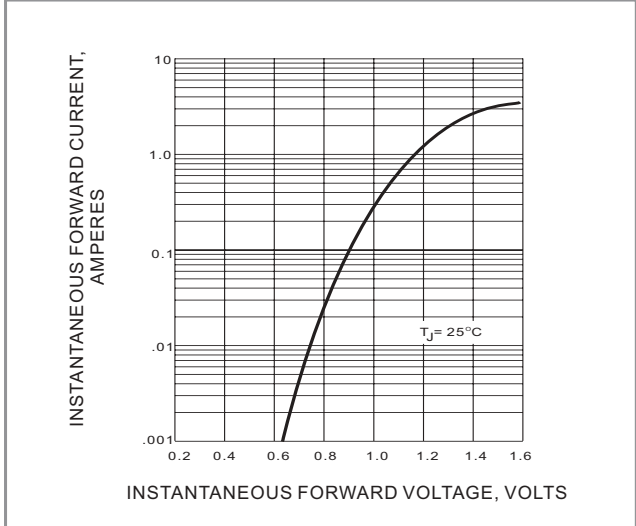


Fig.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

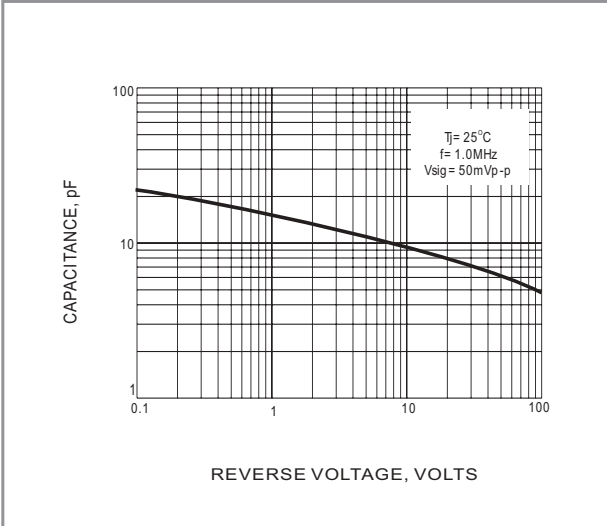


Fig.4 TYPICAL JUNCTION CAPACITANCE