

FR1A~FR1J

SURFACE MOUNT FAST RECOVERY RECTIFIER

VOLTAGE 50 to 600 Volts **CURRENT** 1.0 Ampere

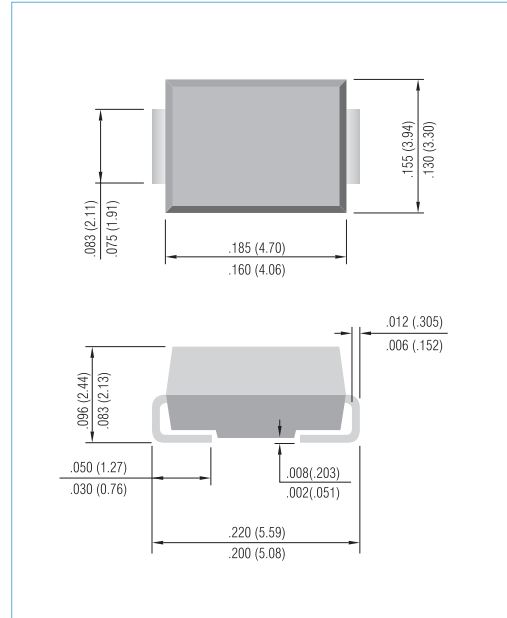
SMB / DO-214AA Unit: inch (mm)

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
- In compliance with EU RoHS 2002/95/EC directives

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: 0.0032 ounce, 0.092 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	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	V
Maximum Average Rectified Current at $T_L=90^{\circ}C$	$I_{F(AV)}$	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 $T_J=25^{\circ}C$ at Rated DC Blocking Voltage $T_J=125^{\circ}C$	I_R	1.0 150					μA
Maximum Reverse Recovery Time (Note 1)	t_{rr}	150				250	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.

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RATING AND CHARACTERISTIC CURVES

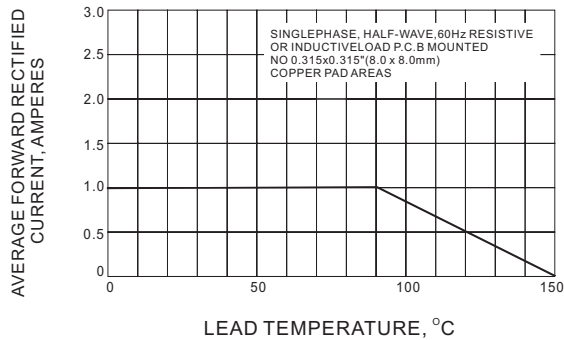


Fig.1 FORWARD CURRENT DERATING CURVE

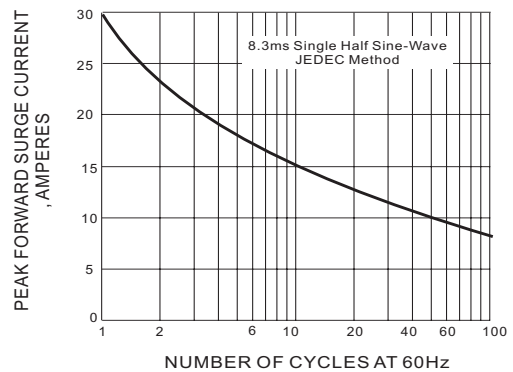


Fig.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

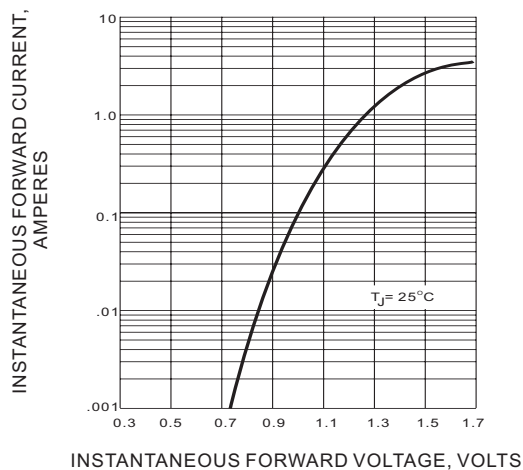


Fig.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

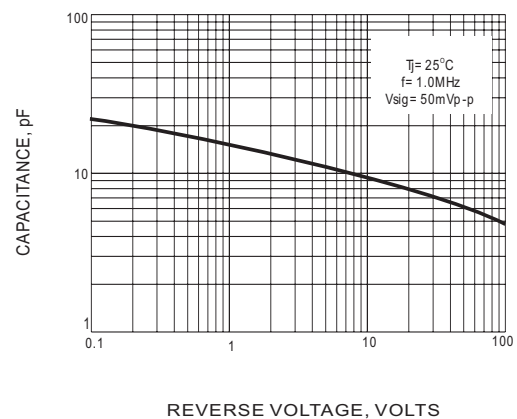


Fig.4 TYPICAL JUNCTION CAPACITANCE

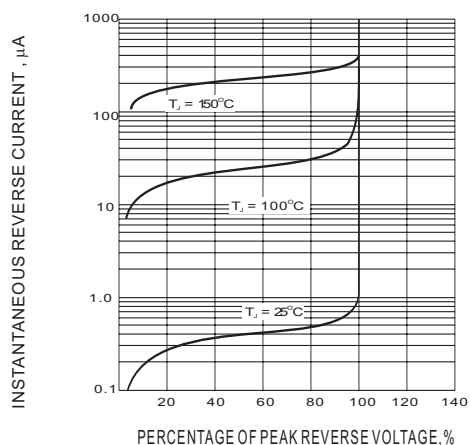
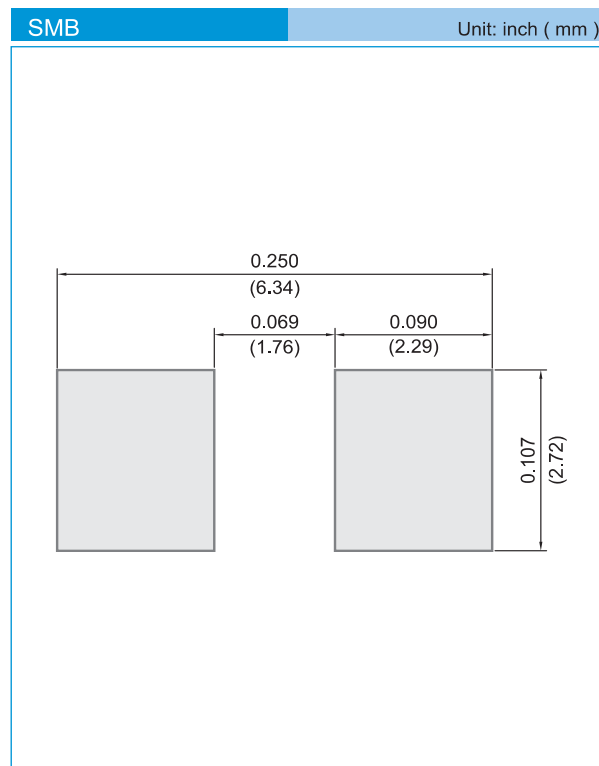


Fig.5-TYPICAL REVERSE CHARACTERISTIC



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
 - T/R - 3K per 13" plastic Reel
 - T/R - 0.5Kper 7" plastic Reel

LEGAL STATEMENT

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