

FR1A~FR1M

SURFACE MOUNT FAST RECOVERY RECTIFIER

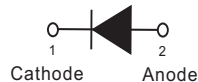
VOLTAGE 50 to 1000 Volt **CURRENT** 1 Ampere

FEATURES

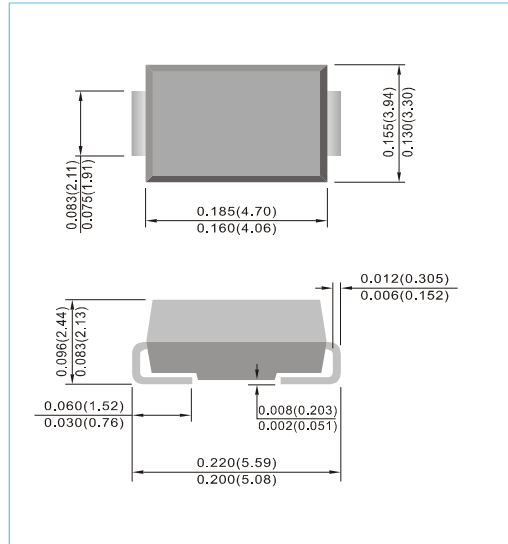
- For surface mounted applications in order to optimize board space
- Easy pick and place
- Fast Recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

MECHANICAL DATA

- Case: JEDEC DO-214AA molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard packaging: 12mm tape (EIA-481)
- Approx. Weight : 0.1089 grams
- Marking: Part number



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



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	FR1M	UNIT
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum Average Rectified Current	I _O	1							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	30							A
Maximum Forward Voltage at 1A	V _F	1.3							V
Maximum DC Reverse Current at Rated DC Blocking T _J =25°C T _J =125°C	I _R	1 150							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 _{θJA} R _{θJL}	100 32							°C / W
Operating Junction and Storage Temperature Rating	T _J , T _{STG}	-50 to +150							°C

NOTES:1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1A$, $I_{rr}=0.25A$
2. Measured at 1 MHz and applied $V_r = 4$ volts.
3. 8mm² (0.013mm thick) land areas.

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RATING AND CHARACTERISTIC CURVES

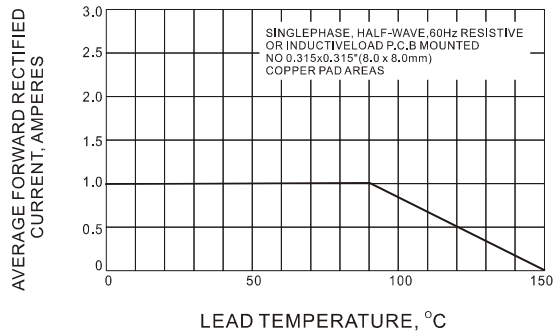


Fig.1 FORWARD CURRENT DERATING CURVE

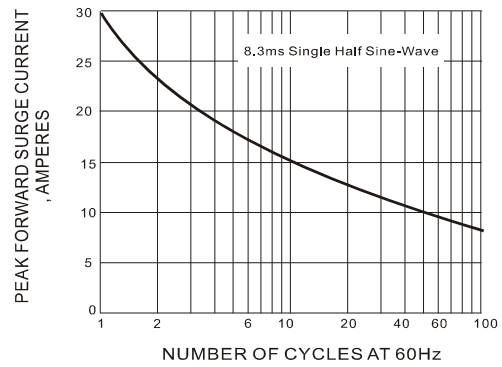


Fig.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

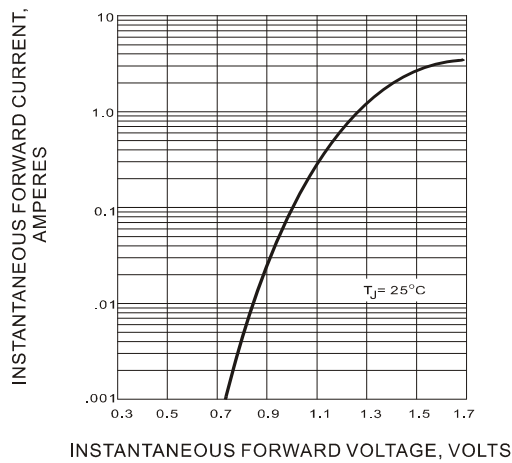


Fig.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

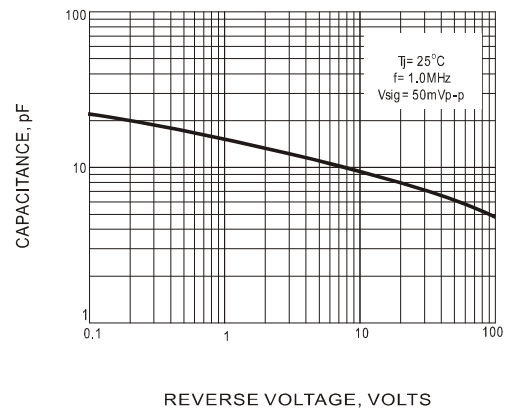


Fig.4 TYPICAL JUNCTION CAPACITANCE

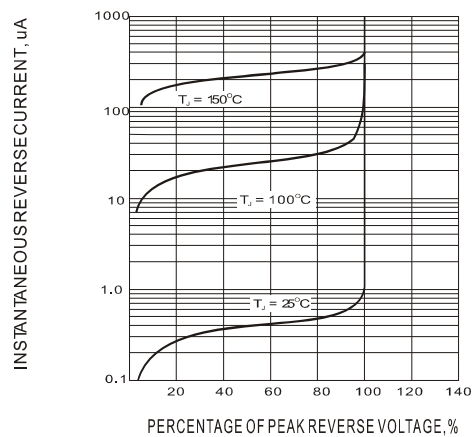


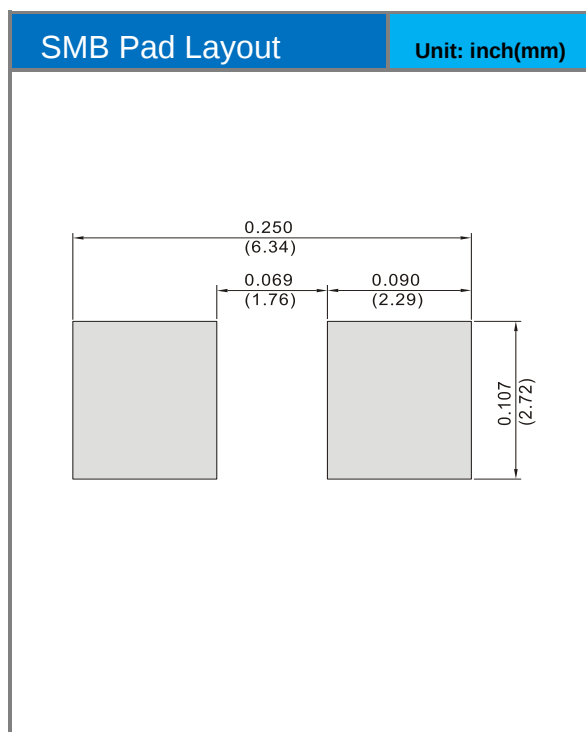
Fig.5-TYPICAL REVERSE CHARACTERISTIC

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
FR1x	SMB	0.8K pcs / 7" reel	See Table
FR1x	SMB	3K pcs / 13" reel	See Table

Mounting Pad Layout



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