



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

FR1A
THRU
FR1M

TECHNICAL SPECIFICATIONS OF FAST RECOVERY RECTIFIER

VOLTAGE RANGE - 50 to 1000 Volts

CURRENT - 1.0 Ampere

FEATURES

- * Ideal for surface mounted applications
- * Low leakage current
- * Glass passivated junction

MECHANICAL DATA

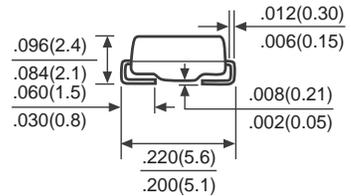
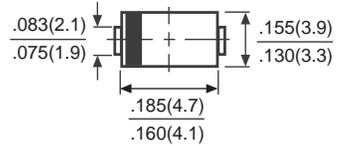
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rated flame retardant
- * Lead: Solder plated, solderable per MIL-STD-750, Method 2026
- * Polarity: As marked
- * Mounting position: Any
- * Weight: 0.093 gram approx.

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%.



SMB(DO-214AA)



Dimensions in inches and (millimeters)

	SYMBOL	FR1A	FR1B	FR1D	FR1G	FR1J	FR1K	FR1M	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at TA = 75°C	I _O	1.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	30							Amps
Maximum Instantaneous Forward Voltage at 1.0A DC	V _F	1.3							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@TA=25°C	5.0							μAmps
	@TA=125°C	150							
Maximum Thermal Resistance (Note 2)	RθJL	30							°C/W
Maximum Reverse Recovery Time (Note 3)	t _{rr}	150			250		500		nSec
Typical Junction Capacitance (Note 1)	C _J	15							pF
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150							°C

- NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC
 2. Thermal Resistance (Junction to Ambient), .24in² (6.0mm²) copper pads to each terminal.
 3. Test Conditions: IF = 0.5A, IR = 1.0A, IRR = 0.25A

RATING AND CHARACTERISTIC CURVES (FR1A THRU FR1M)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

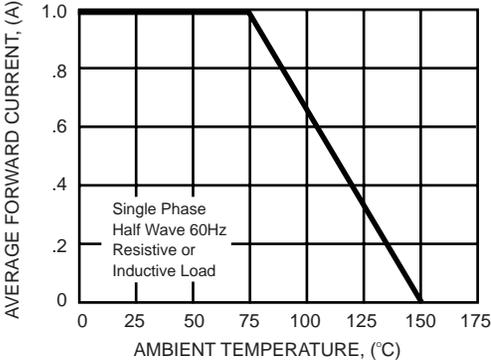


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

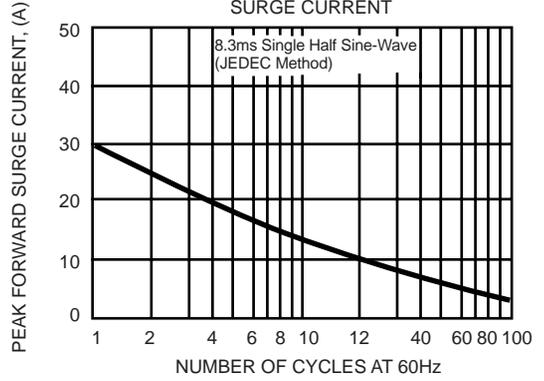


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

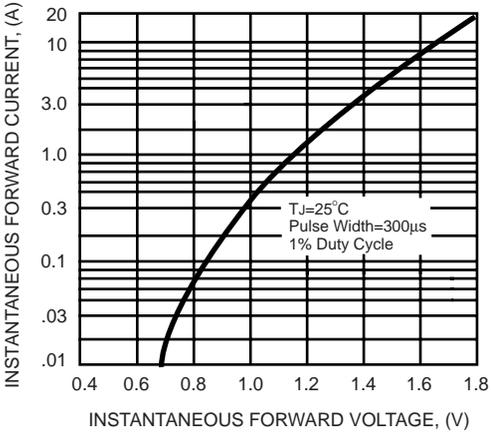


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

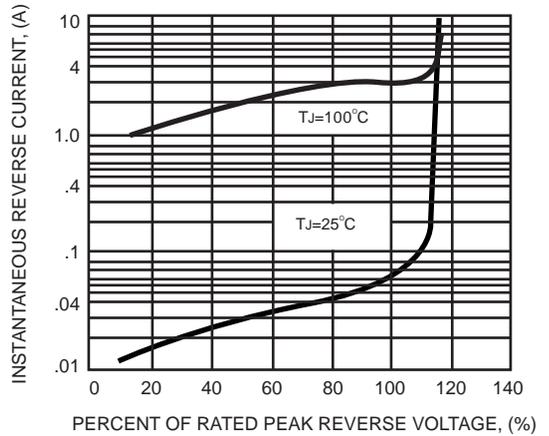


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

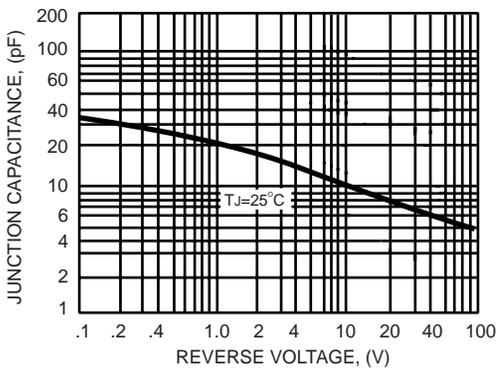
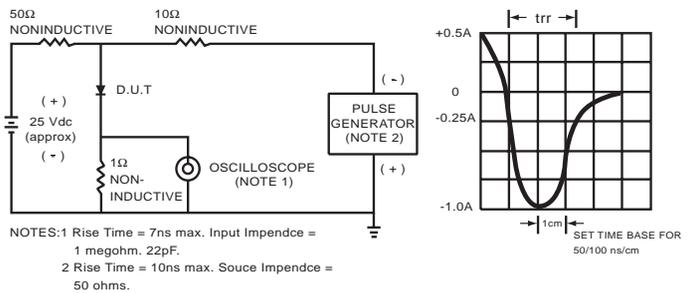


FIG. 6 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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