



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

**FR1A
THRU
FR1K**

TECHNICAL SPECIFICATIONS OF SURFACE MOUNT FAST RECOVERY RECTIFIER

VOLTAGE RANGE - 50 to 800 Volts

CURRENT - 1.0 Ampere

FEATURES

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

MECHANICAL DATA

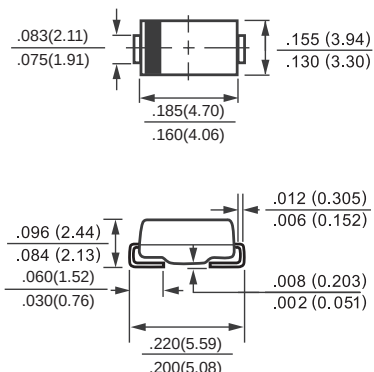
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- * Polarity: As marked
- * Mounting position: Any
- * Weight: 0.093 gram

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%.



SMB (DO-214AA)



Dimensions in inches and (millimeters)

		SYMBOL	FR1A	FR1B	FR1D	FR1G	FR1J	FR1K	UNITS
Maximum Recurrent Peak Reverse Voltage		V _{RRM}	50	100	200	400	600	800	Volts
Maximum RMS Voltage		V _{RMS}	35	70	140	280	420	560	Volts
Maximum DC Blocking Voltage		V _{DC}	50	100	200	400	600	600	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	I _R	5.0						uAmps
	@ TA = 100°C		150						
Maximum Reverse Recovery Time (Note 3)		t _{rr}	150			250	500		nSec
Typical Thermal Resistance (Note 2)		RθJL	12						°C/W
Typical Junction Capacitance (Note 1)		C _J	30						pF
Operating and Storage Temperature Range		T _J ,T _{STG}	-65 to + 175						° C

NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Thermal Resistance (Junction to Ambient), 0.2x0.2in² (5X5mm²) copper pads to each terminal.
3. Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.

RATING AND CHARACTERISTIC CURVES (FR1A THRU FR1K)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

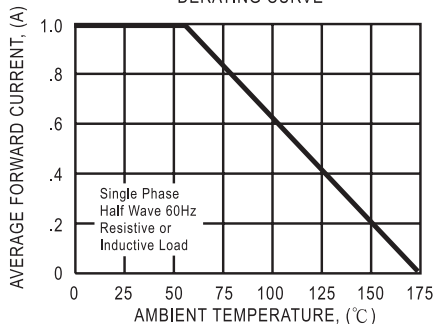


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

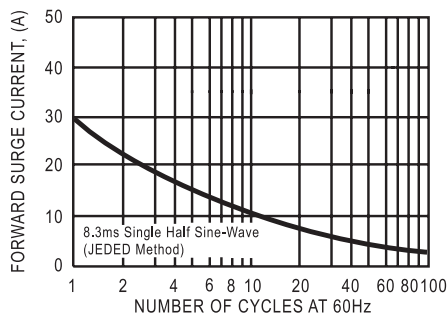


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

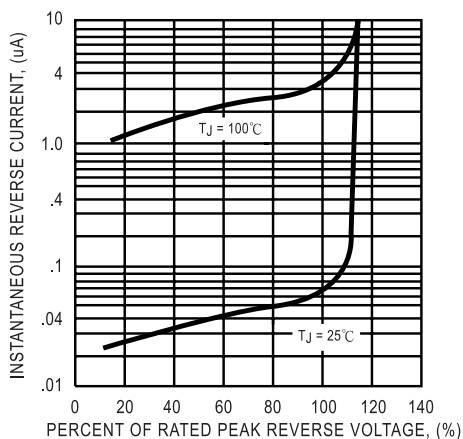


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

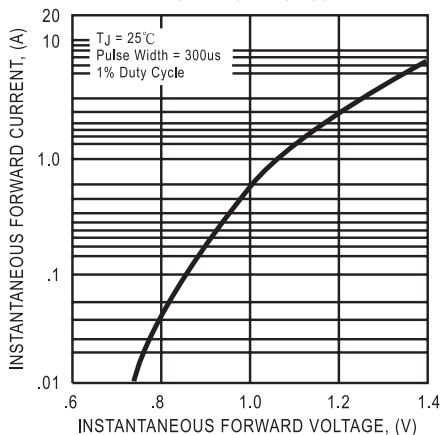


FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

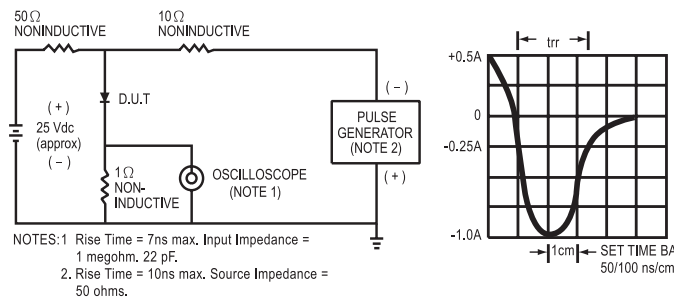
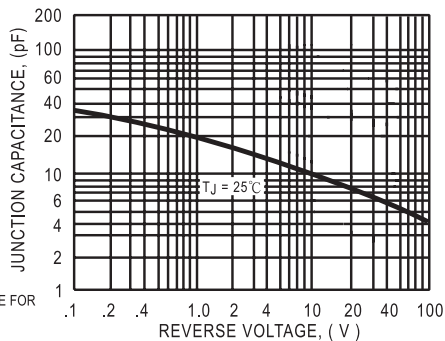


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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