



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

FR1AFL
THRU
FR1MFL

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
- * High efficiency
- * Fast reverse recovery time

MECHANICAL DATA

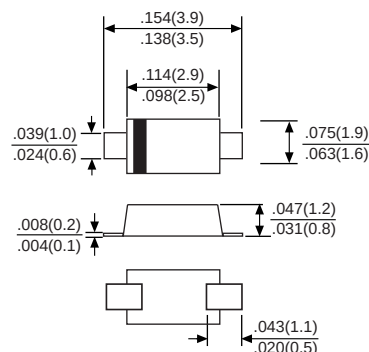
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- * Polarity: As marked
- * Mounting position: Any
- * Weight: 0.02 gram

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%.



SOD-123FL



Dimensions in inches and (millimeters)

		SYMBOL	FR1AFL	FR1BFL	FR1DFL	FR1GFL	FR1JFL	FR1KFL	FR1MFL	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 T _A = 65°C		I _O	1.0						Amps	
Peak Forward Surge Current I _{FM} (surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)		I _{FSM}	25						Amps	
Maximum Forward Voltage at 1.0A DC		V _F	1.3						Volts	
Maximum DC Reverse Current at Rated DC Blocking Voltage	@ T _A = 25°C	I _R	5.0						μAmps	
	@ T _A = 125°C		100							
Maximum Reverse Recovery Time (Note 1)		t _{rr}	150				250	500	nSec	
Typical Thermal Resistance (Note 2)		R _{θJA}	120						°C/W	
Typical Junction Capacitance (Note 3)		C _J	15						pF	
Operating and Storage Temperature Range		T _J , T _{STG}	-55 to +150						°C	

NOTES : 1. Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.

2. P.C.B. mounted with 0.2x0.2 in² (5x5mm²) copper pads to each terminal.

3. Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC.

RATING AND CHARACTERISTIC CURVES (FR1AFL THRU FR1MFL)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

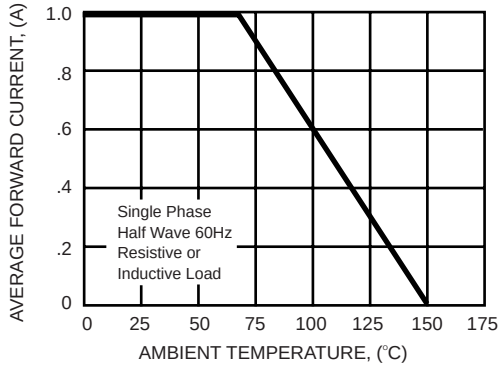


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

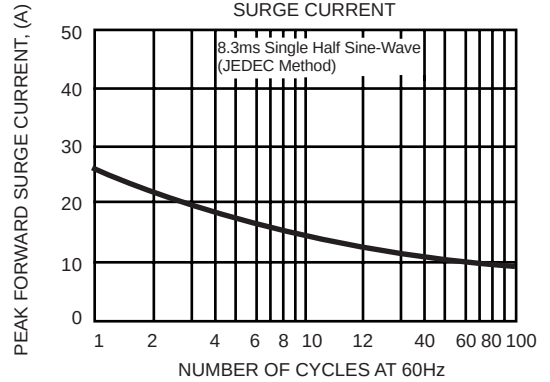


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

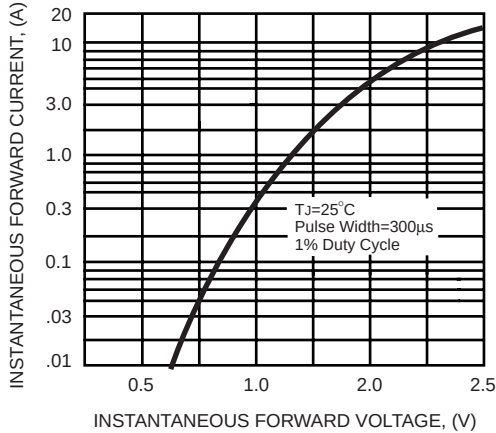


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

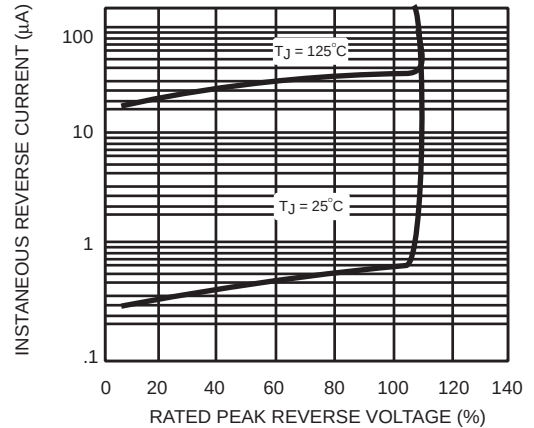


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

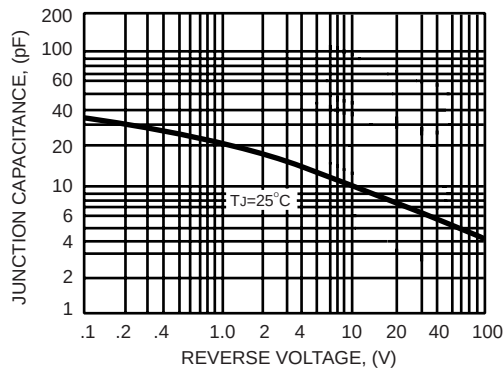
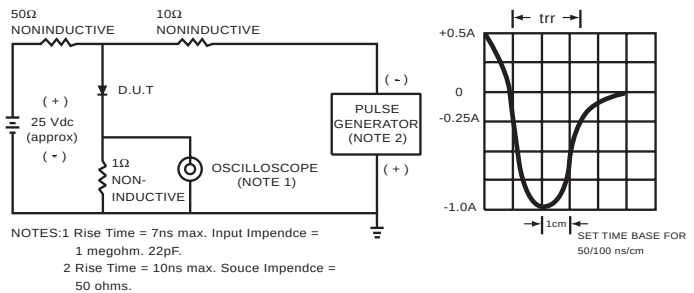


FIG. 6 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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