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*

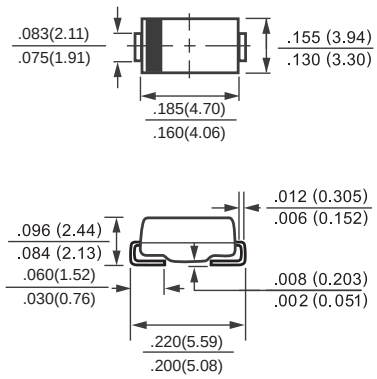
FEATURES

* 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

SMB (DO-214AA)



Dimensions in inches and (millimeters)

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%.

		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 T_A = 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	@T_A = 25°C	I_R	5.0						uAmps
at Rated DC Blocking Voltage	@T_A = 100°C		150						
Maximum Reverse Recovery Time (Note 3)		trr	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: IF=0.5A, IR=1.0A, IRR=0.25A.

NEXT BACK EXIT

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

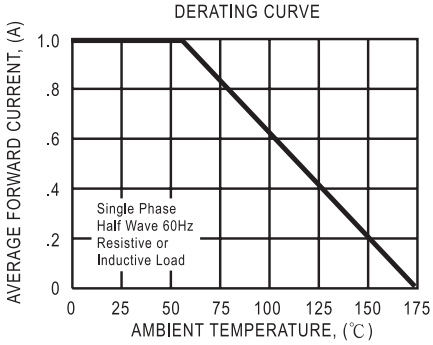


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

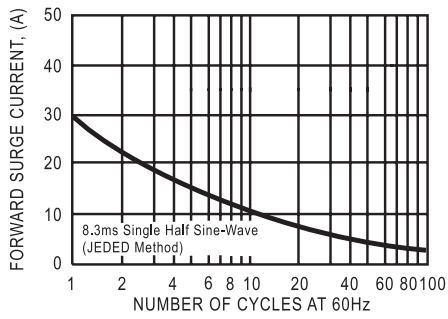


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

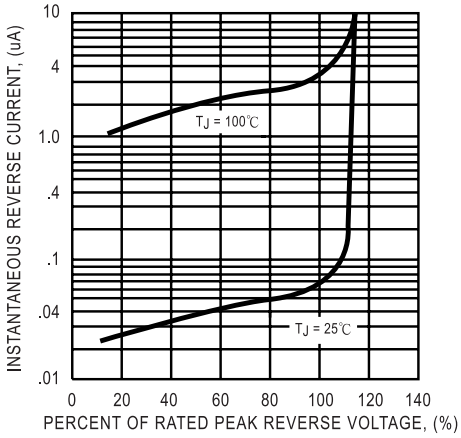


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

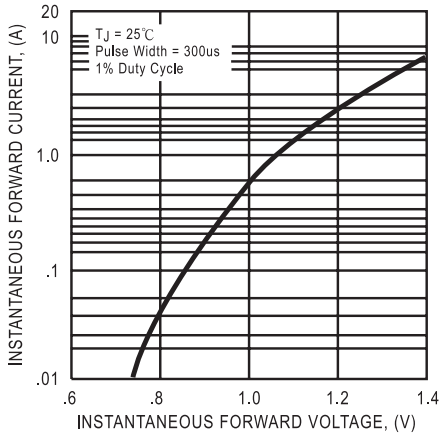
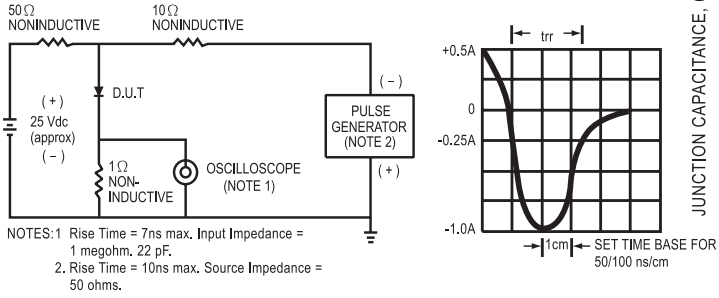


FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES:1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22 pF.
2. Rise Time = 10ns max. Source Impedance = 50 ohms.

FIG. 6 - TYPICAL JUNCTION CAPACITANCE