

# DC COMPONENTS CO., LTD.

### RECTIFIER SPECIALISTS

FSM101 THRU FSM107

## TECHNICAL SPECIFICATIONS OF SURFACE MOUNT FAST RECOVERY RECTIFIER

#### VOLTAGE RANGE - 50 to 1000 Volts

CURRENT - 1.0 Ampere

#### **FEATURES**

- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Fast switching for high efficiency
- \* Glass passivated junction

#### MECHANICAL DATA

\* Case: Molded plastic

\* Epoxy: UL 94V-0 rate flame retardant \*Terminals: Solder plated solderable per

MIL-STD-202E, Method 208 guaranteed

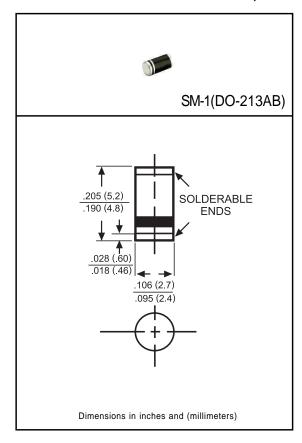
\* Polarity: Color band denotes cathode end

\* Mounting position: Any

\* Weight: 0.12 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%.



		SYMBOL	FSM101	FSM102	FSM103	FSM104	FSM105	FSM106	FSM107	UNITS
Maximum Recurrent Peak Reverse Voltage		VRRM	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage		VRMS	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage		VDC	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at TA = 55°C		lo	1.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		IFSM	30						Amps	
Maximum Forward Voltage at 1.0A DC		VF	1.3							Volts
Maximum DC Reverse Current at	@TA = 25°C	JR 5.0							uAmps	
Rated DC Blocking Voltage	@TA = 125°C	] IK	100							urtilips
Maximum Reverse Recovery Time (Note 3)		trr		150		250	500		nSec	
Maximum Thermal Resistance (Note 2)		RθJL	30						°C/W	
Typical Junction Capacitance (Note 1)		Cı	15							pF
Operating and Storage Temperature Range		TJ, TSTG	-65 to + 175							٥C

NOTES: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC

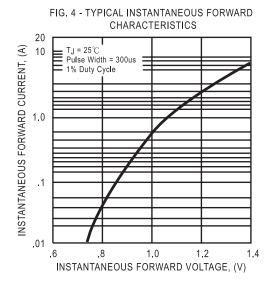
- 2. Thermal resistance (Junction to Ambient), .24in<sub>2</sub> (6.0mm<sub>2</sub>)copper pads to each terminal.
- 3. Test Conditions: IF = 0.5A, IR = 1.0A, IRR = 0.25A

#### RATING AND CHARACTERISTIC CURVES (FSM101 THRU FSM107)

FIG. 1 - TYPICAL FORWARD CURRENT **DERATING CURVE** AVERAGE FORWARD CURRENT, (A) 1.0 .8 .6 Single Phase Ha**l**f Wave 60Hz .2 Resistive or Inductive Load 0 50 100 0 25 75 125 150 175 AMBIENT TEMPERATURE, (°C )

FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT 50 FORWARD SURGE CURRENT, (A) 40 30 20 10 8.3ms Single Half (JEDEC Method) 0 6 8 10 20 40 60 80 100 NUMBER OF CYCLES AT 60Hz

FIG. 3 - TYPICAL REVERSE CHARACTERISTICS 10 INSTANTANEOUS REVERSE CURRENT, (uA) 4 TJ = 100°C 1.0 .4 .1 .04 = 25°C .01 0 40 100 20 60 80 120 140 PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)



40 100

