

**SURFACE MOUNT  
GLASS PASSIVATED SILICON RECTIFIER  
VOLTAGE RANGE 50 to 1000 Volts CURRENT 5.0 Amperes**

**FEATURES**

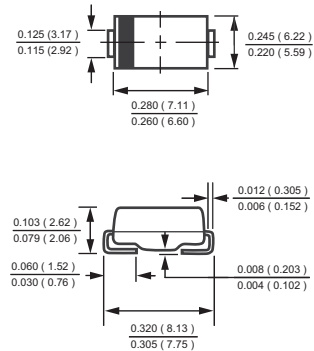
- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* P/N suffix V means AEC-Q101 qualified, eg:FM501V
- \* P/N suffix V means Halogen-free

**MECHANICAL DATA**

- \* Epoxy : Device has UL flammability classification 94V-0
- \* Mounting position: Any
- \* Weight: 0.24 gram



SMC



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
resistive or inductive load.

**MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)**

RATINGS	SYMBOL	FM501	FM502	FM503	FM504	FM505	FM506	FM507	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 TA = 75 °C	$I_O$	5.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	150							Amps
Typical Current Squared Time	$i^2T$	93.3							A <sup>2</sup> S
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	35							°C/W
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$	10							°C/W
Typical Junction Capacitance (Note 2)	$C_J$	60							pF
Operating Temperature Range	$T_J$	150							°C
Storage Temperature Range	$T_{STG}$	-55 to + 150							°C

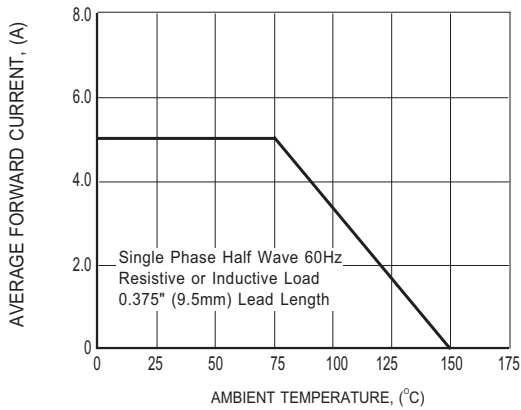
**ELECTRICAL CHARACTERISTICS (@TA=25 °C unless otherwise noted)**

CHARACTERISTICS	SYMBOL	FM501	FM502	FM503	FM504	FM505	FM506	FM507	UNITS
Maximum Instantaneous Forward Voltage at 5.0A DC	$V_F$	1.1							Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage	$I_R$	@T <sub>A</sub> = 25°C							μA
		@T <sub>A</sub> = 150°C							μA

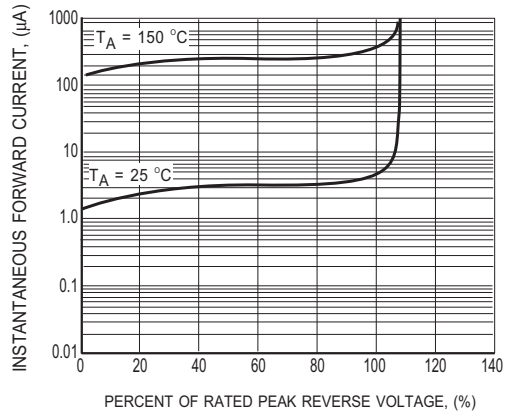
- NOTES : 1. Thermal Resistance :Mounted on PCB.  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
3. "ROHS compliant".  
4. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

2018-10  
REV: C

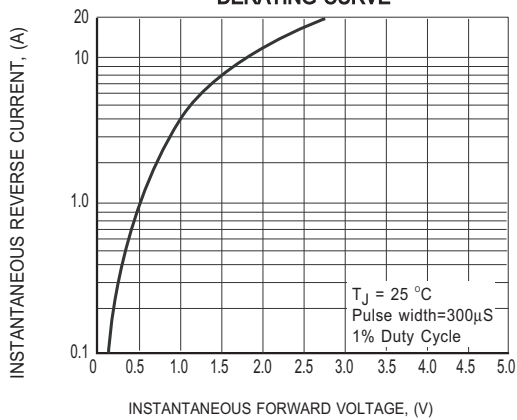
# RATING AND CHARACTERISTICS CURVES ( FM501 THRU FM507 )



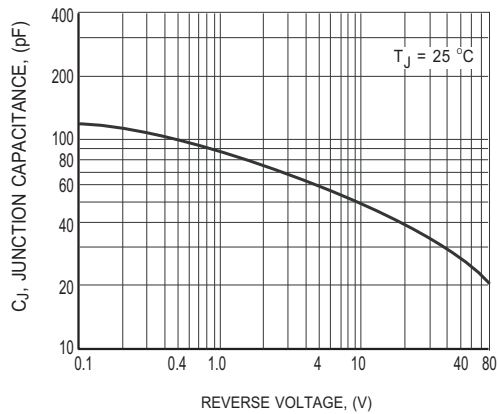
**FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE**



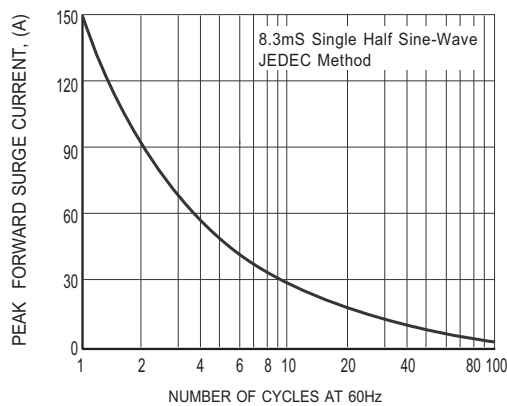
**FIG.2 MAXIMUM REVERSE CHARACTERISTICS**



**FIG.3 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS**



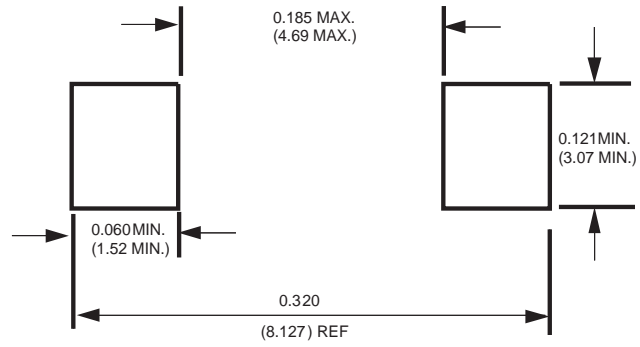
**FIG.4 TYPICAL JUNCTION CAPACITANCE**



**FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



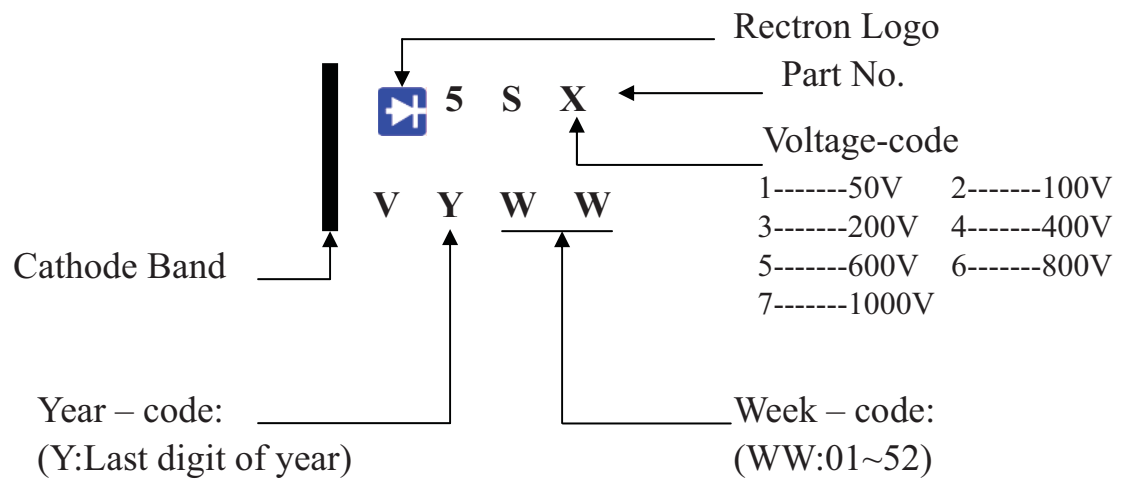
## Mounting Pad Layout



Dimensions in inches and (millimeters)



## Marking Description



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## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SMC	-W/-T	3,000	3,000	---	---	330	360*355*360	24,000	11.50

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