



# THE DATASHEET OF FM301



**SURFACE MOUNT  
GLASS PASSIVATED SILICON RECTIFIER  
VOLTAGE RANGE 50 to 1000 Volts CURRENT 3.0 Amperes**

**FEATURES**

- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight:0.25gram
- \* P/N suffix V means AEC-Q101 qualified, e.g:FM301V
- \* Halogen-free

**MECHANICAL DATA**

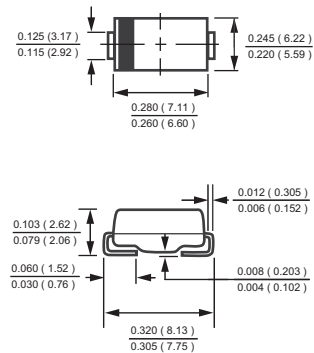
- \* Epoxy : Device has UL flammability classification 94V-0

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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



**SMC**



Dimensions in inches and (millimeters)

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

RATINGS	SYMBOL	FM301	FM302	FM303	FM304	FM305	FM306	FM307	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 Ambient Temperature	$I_O$	3.0							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)	$R_{\theta JA}$	47							°C/W
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$	13							°C/W
Typical Junction Capacitance (Note 2)	$C_J$	30							pF
Operating Temperature Range	$T_J$	-55 to +175							°C
Storage Temperature Range	$T_{STG}$	-55 to +175							°C

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

CHARACTERISTICS	SYMBOL	FM301	FM302	FM303	FM304	FM305	FM306	FM307	UNITS
Maximum Instantaneous Forward Voltage at 3.0A DC	$V_F$	1.0							Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage	@ $T_A = 25^\circ\text{C}$	1.0							uA
	@ $T_A = 150^\circ\text{C}$	800							uA

- NOTES : 1. Thermal Resistance :Mounted on PCB.  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
3."ROHScompliant".

## RATING AND CHARACTERISTICS CURVES ( FM301 THRU FM307 )

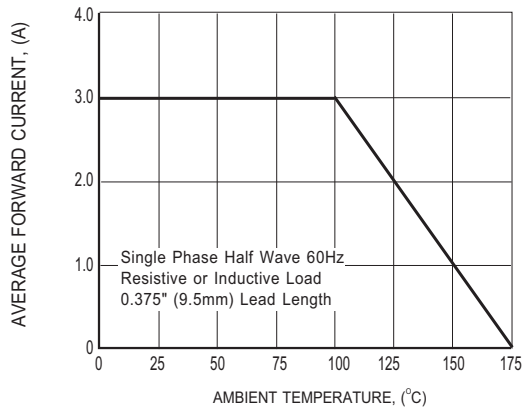


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

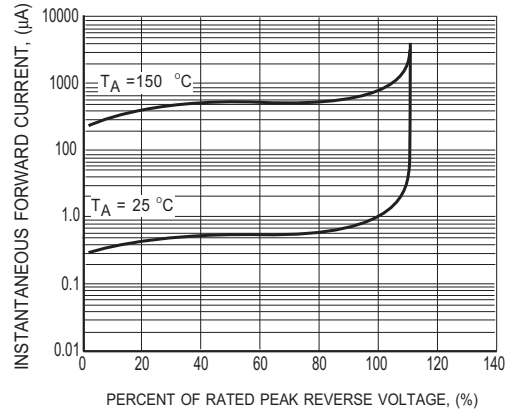


FIG.2 MAXIMUM REVERSE CHARACTERISTICS

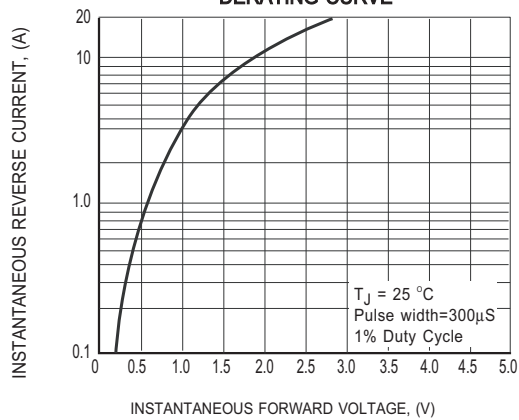


FIG.3 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

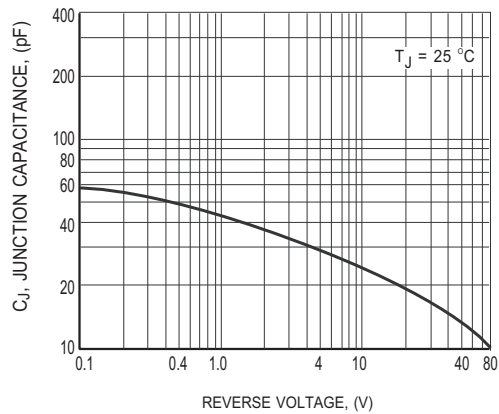


FIG.4 TYPICAL JUNCTION CAPACITANCE

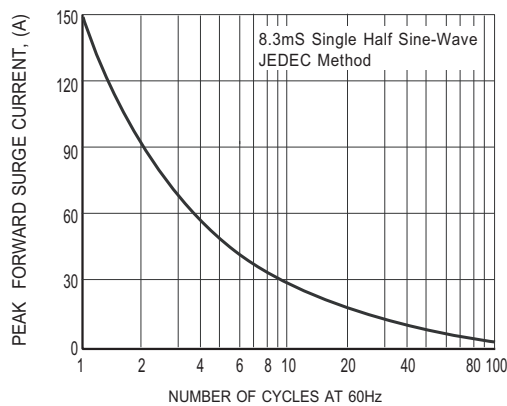
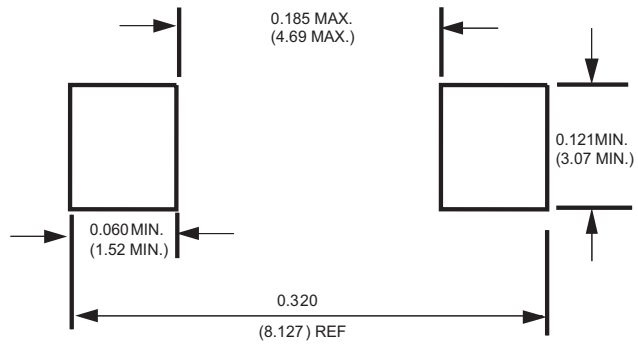


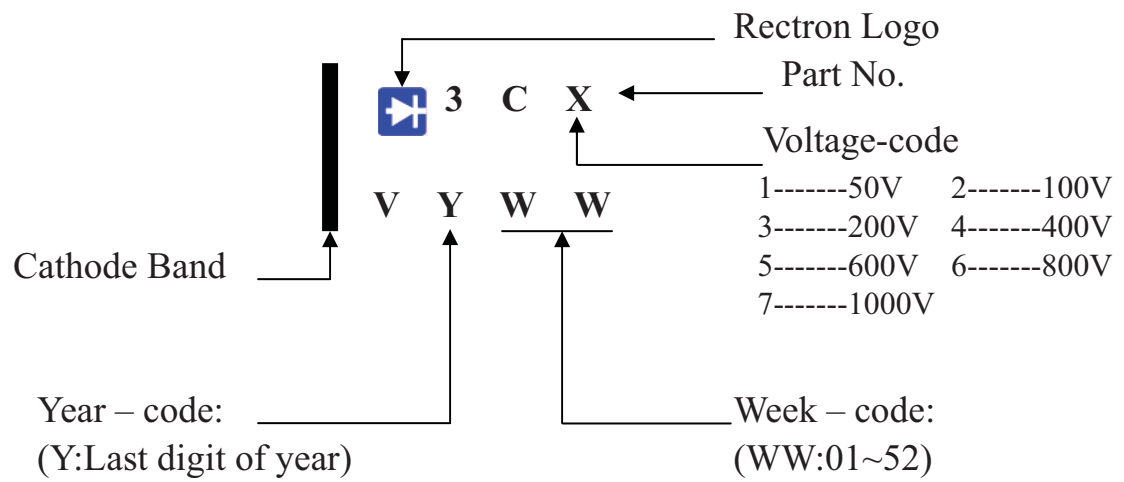
FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

## Mounting Pad Layout



Dimensions in inches and (millimeters)

## Marking Description



## 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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