

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

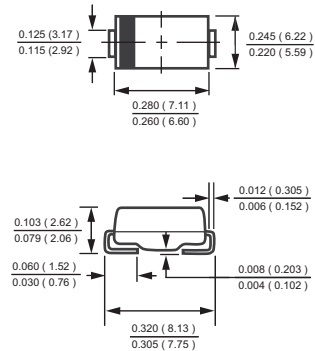
- * Epoxy : Device has UL flammability classification 94V-0

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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



SMC



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 ² 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 | I_R | 1.0 | | | | | | | uA |
| at Rated DC Blocking Voltage | | 800 | | | | | | | uA |

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

2020-06
REV:E

RATING AND CHARACTERISTICS CURVES (FM301 THRU FM307)

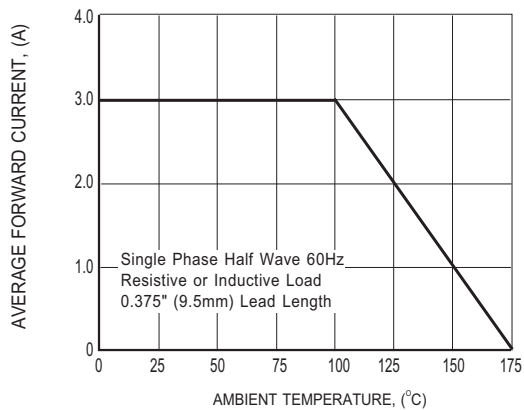


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

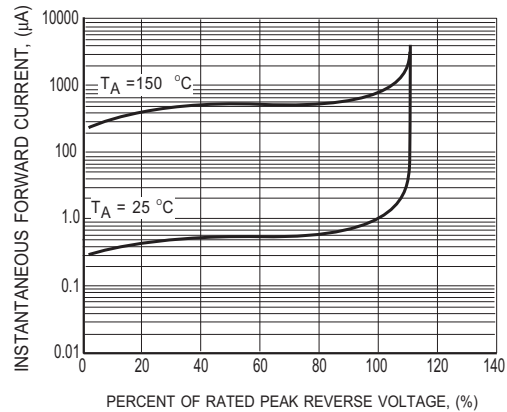


FIG.2 MAXIMUM REVERSE CHARACTERISTICS

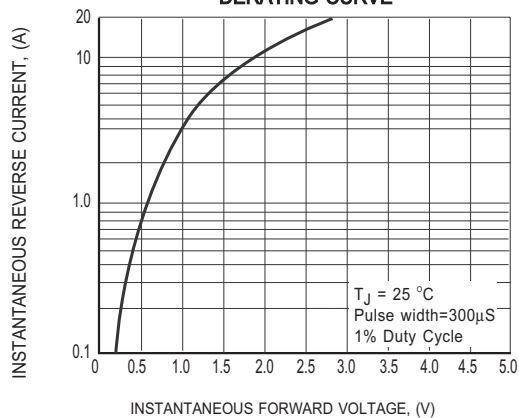


FIG.3 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

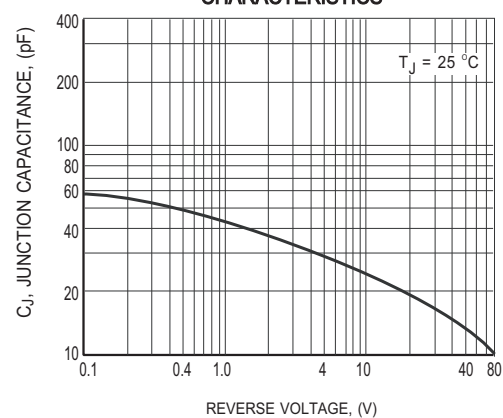


FIG.4 TYPICAL JUNCTION CAPACITANCE

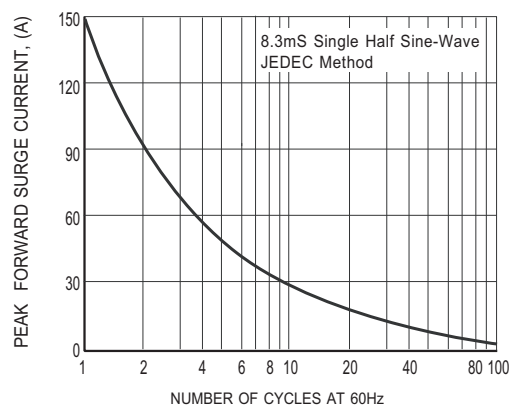
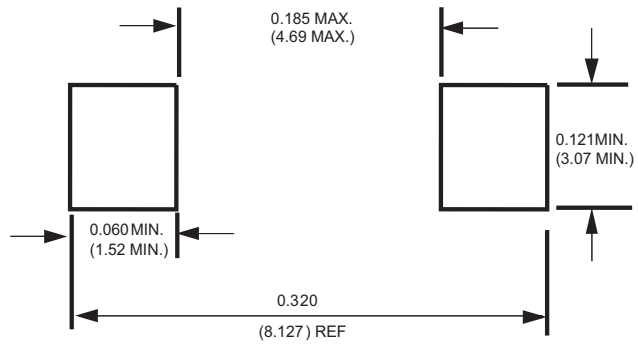


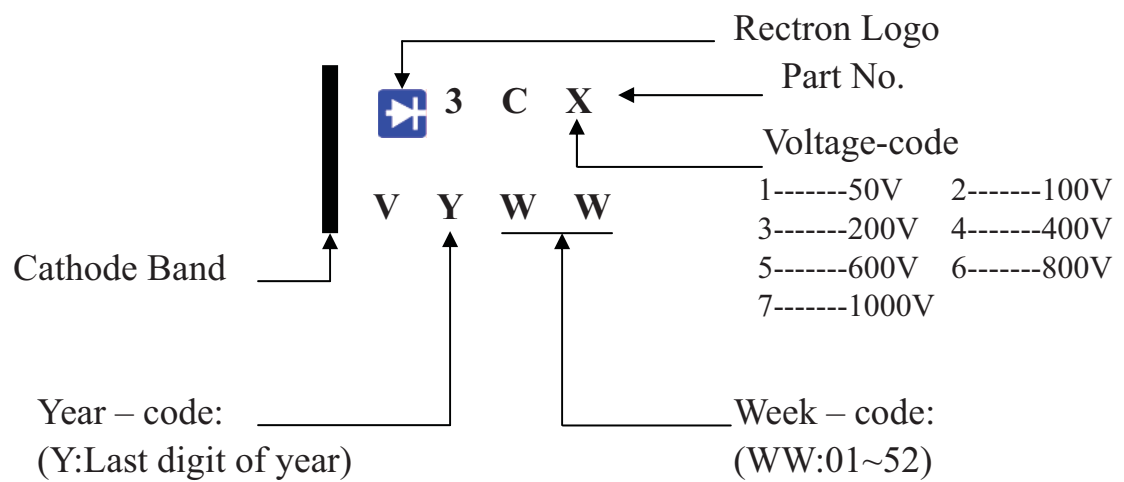
FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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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