

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

FEATURES

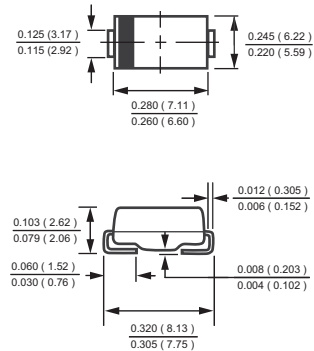
- * Glass passivated device
- * Ideal for surface mounted applications
- * Low leakage current
- * Metallurgically bonded construction
- * P/N suffix V means AEC-Q101 qualified, eg:FM501V
- * P/N suffix V means Halogen-free

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 ² 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 | I_R | 5.0 | | | | | | | μA |
| at Rated DC Blocking Voltage | | 500 | | | | | | | 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.

RATING AND CHARACTERISTICS CURVES (FM501 THRU FM507)

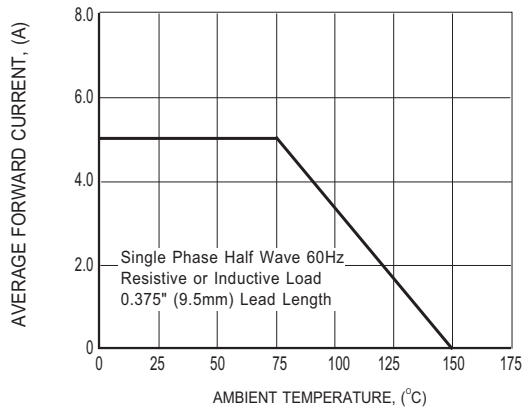


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

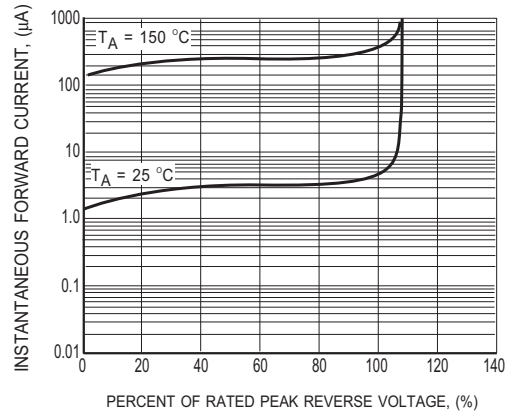


FIG.2 MAXIMUM REVERSE CHARACTERISTICS

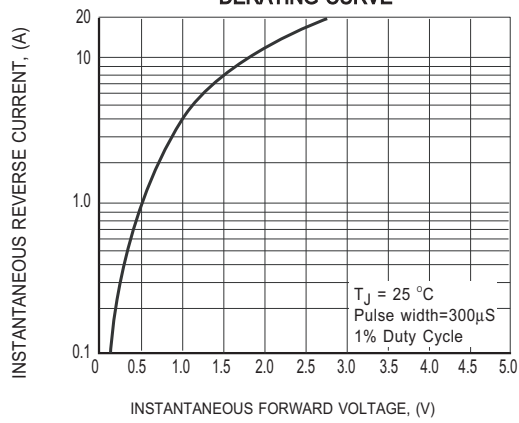


FIG.3 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

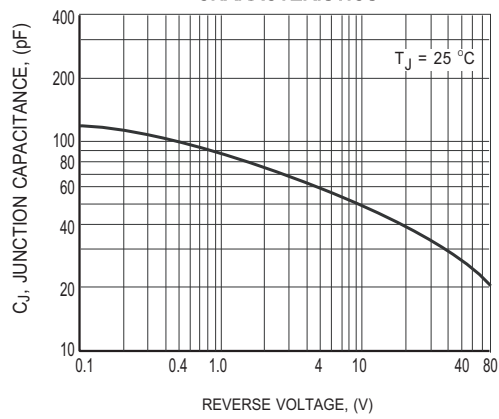


FIG.4 TYPICAL JUNCTION CAPACITANCE

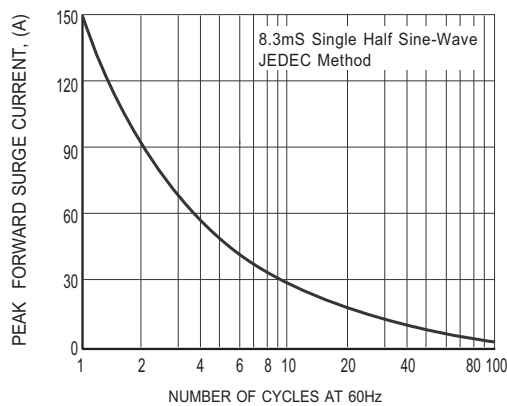
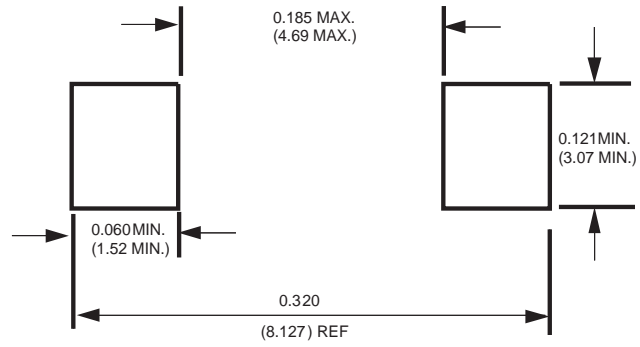


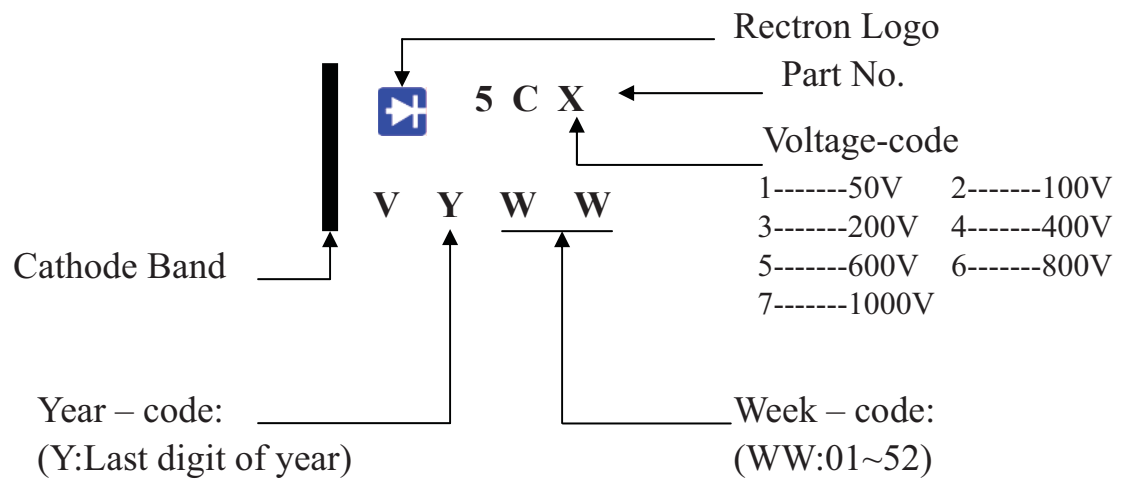
FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

Mounting Pad Layout



Dimensions in inches and (millimeters)

Marking Description



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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