

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

VOLTAGE RANGE 20 to 200 Volts CURRENT 1.0 Ampere

FEATURES

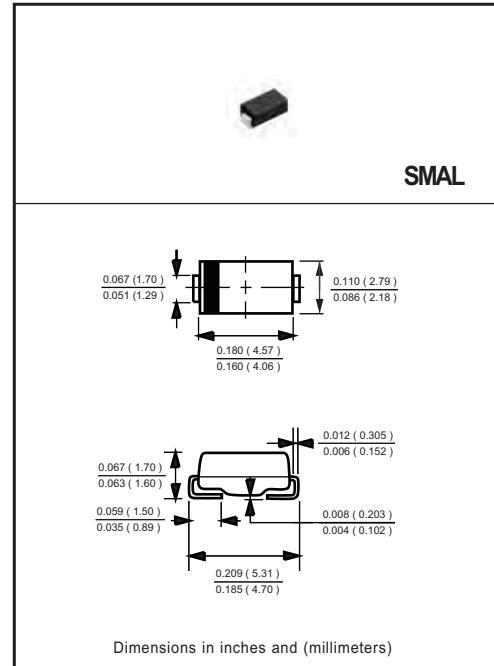
- * Low switching noise
- * Low forward voltage drop
- * High current capability
- * High switching capability
- * High surge capability
- * High reliability

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: Device has UL flammability classification 94V-0
- * Lead: MIL-STD-202E method 208C guaranteed
- * Metallurgically bonded construction
- * Mounting position: Any
- * Weight: 0.057 gram

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 | FM120L | FM130L | FM140L | FM150L | FM160L | FM180L | FM1100L | FM1150L | FM1200L | UNITS | |
|---|-----------------|--------------|--------|--------|--------|--------|--------|---------|---------|---------|-------|------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | Volts | |
| Maximum RMS Voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 56 | 70 | 105 | 140 | Volts | |
| Maximum DC Blocking Voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | Volts | |
| Maximum Average Forward Rectified Current at Derating Case Temperature | I_O | 1.0 | | | | | | | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 40 | | | | | | | | | | Amps |
| Typical Current Square Time | I^2T | 6.6 | | | | | | | | | | A ² S |
| Typical Thermal Resistance (Note 1) | $R_{\theta JA}$ | 85 | | | | | | | | | | °C/W |
| Typical Thermal Resistance (Note 1) | $R_{\theta JL}$ | 25 | | | | | | | | | | °C/W |
| Typical Junction Capacitance (Note 2) | C_J | 110 | | | | | | | | | | 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 | FM120L | FM130L | FM140L | FM150L | FM160L | FM180L | FM1100L | FM1150L | FM1200L | UNITS | |
|--|-----------------------------|--------|--------|--------|--------|--------|--------|---------|---------|---------|-------|----|
| Maximum Instantaneous Forward Voltage at 1.0A DC | V_F | .55 | | | .70 | | | .85 | | | Volts | |
| Maximum Average Reverse Current at Rated DC Blocking Voltage | @ $T_A = 25^\circ\text{C}$ | 0.2 | | | | | | | | | | mA |
| | @ $T_A = 100^\circ\text{C}$ | 2 | | | | | | | | | | mA |

- NOTES : 1. Thermal Resistance : Mounted on PCB.
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
 3. Also available in SMBL.
 4. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

RATING AND CHARACTERISTICS CURVES (FM120L THRU FM1200L)

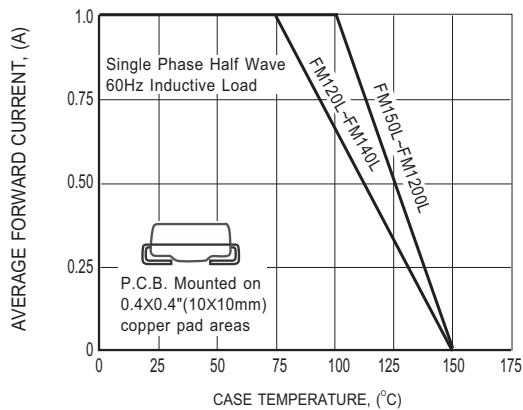


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

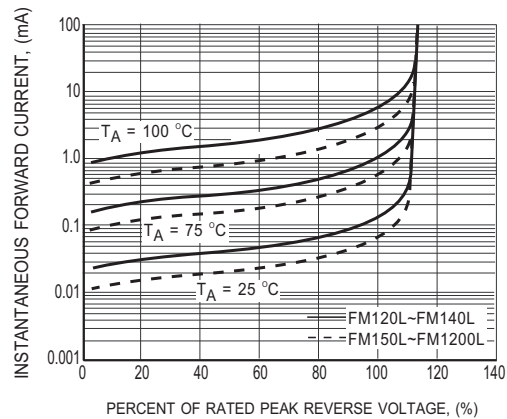


FIG.2 TYPICAL REVERSE CHARACTERISTICS

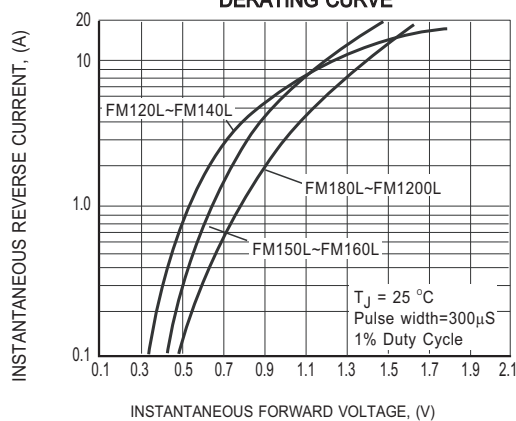


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

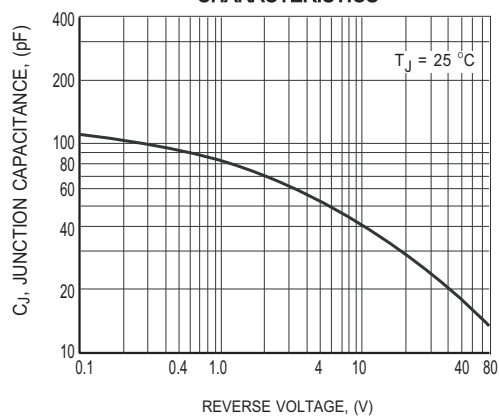


FIG.4 TYPICAL JUNCTION CAPACITANCE

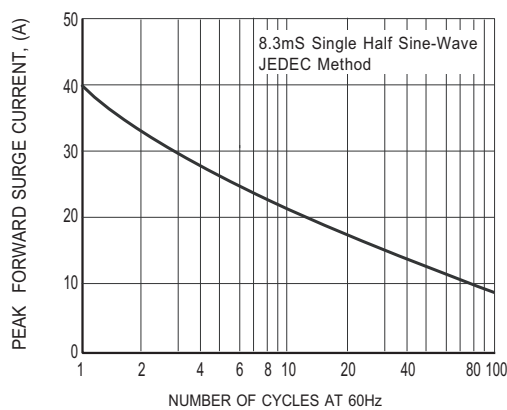
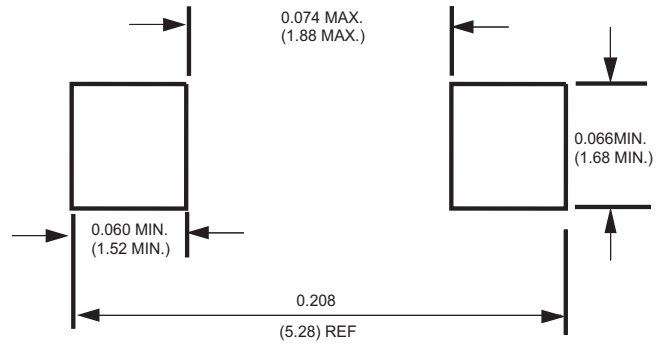


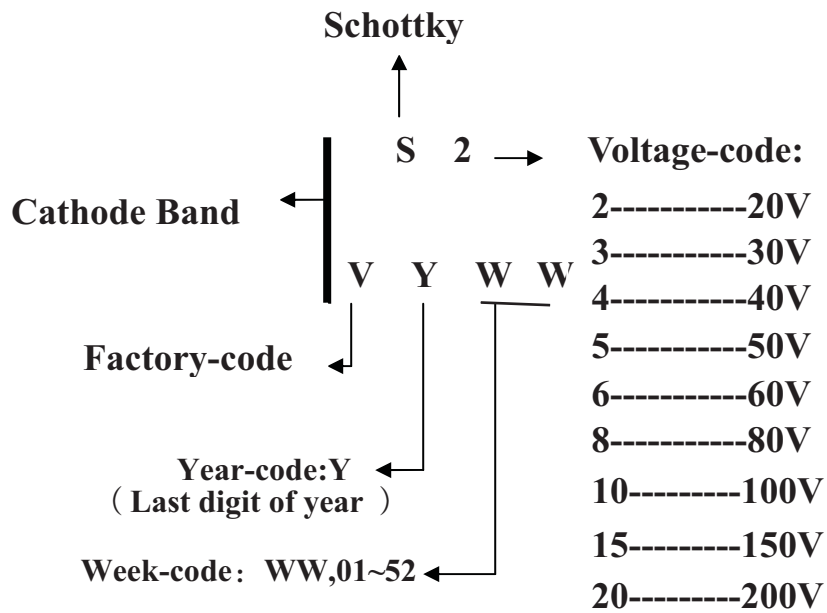
FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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) |
|---------|--------------|-------------|------------------|----------------------|-----------------|---------------|------------------|---------------|------------------|
| SMA | -T | 1,500 | 6,000 | --- | --- | 178 | 390*205*310 | 48,000 | 8.40 |
| SMA | -W | 5,000 | 10,000 | --- | --- | 330 | 360*355*360 | 80,000 | 14.20 |