



# CHENMKO ENTERPRISE CO.,LTD

## SURFACE MOUNT GLASS PASSIVATED FAST RECOVERY SILICON RECTIFIER

VOLTAGE RANGE 50 - 1000 Volts CURRENT 1.0 Ampere

**FSM11PT  
THRU  
FSM17PT**

Lead free devices

### FEATURES

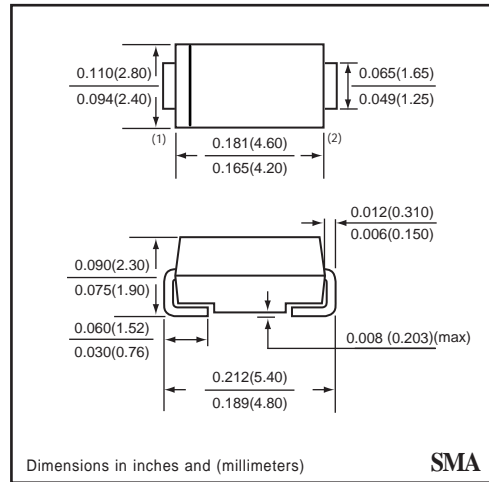
- \* Low leakage current
- \* Ideal for surface mounted applications
- \* Metallurgically bonded construction
- \* Fast recovery times for high efficiency
- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* Glass passivated junction
- \* High temperature soldering guaranteed : 260°C/10 seconds at terminals

### MECHANICAL DATA

**Case:** JEDEC SMA molded plastic  
**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026  
**Polarity:** Indicated by cathode band  
**Weight:** 0.002 ounces, 0.064 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60 Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.



### MAXIMUM RATINGS ( At TA = 25°C unless otherwise noted )

| RATINGS   |          | SYMBOL                            | FSM11PT     | FSM12PT | FSM13PT | FSM14PT | FSM15PT | FSM16PT | FSM17PT | UNITS  |
|---|----------|-----------------------------------|-------------|---------|---------|---------|---------|---------|---------|--------|
| Maximum Recurrent Peak Reverse Voltage  |          | V <sub>RRM</sub>                  | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | Volts  |
| Maximum RMS Voltage   |          | V <sub>RMS</sub>                  | 35          | 70      | 140     | 280     | 420     | 560     | 700     | Volts  |
| Maximum DC Blocking Voltage   |          | V <sub>DC</sub>                   | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | Volts  |
| Maximum Average Forward Rectified Current TL = 110°C  |          | I <sub>O</sub>                    | 1.0         |         |         |         |         |         |         | Amps   |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) |          | I <sub>FSM</sub>                  | 30          |         |         |         |         |         |         | Amps   |
| Typical Junction Capacitance (Note 1)   |          | C <sub>J</sub>                    | 15          |         |         |         |         |         |         | pF     |
| Maximum Thermal Resistance  | (Note 2) | R <sub>θJL</sub>                  | 30          |         |         |         |         |         |         | °C / W |
|   | (Note 3) | R <sub>θJA</sub>                  | 75          |         |         |         |         |         |         | °C / W |
| Operating and Storage Temperature Range   |          | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 |         |         |         |         |         |         | °C     |

### ELECTRICAL CHARACTERISTICS ( At TA = 25°C unless otherwise noted )

| CHARACTERISTICS  | SYMBOL          | FSM11PT | FSM12PT | FSM13PT | FSM14PT | FSM15PT | FSM16PT | FSM17PT | UNITS |       |
|--|-----------------|---------|---------|---------|---------|---------|---------|---------|-------|-------|
| Maximum Instantaneous Forward Voltage at 1.0 A DC                    | V <sub>F</sub>  | 1.3     |         |         |         |         |         |         |       | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage at TA = 25°C | I <sub>R</sub>  | 5.0     |         |         |         |         |         |         |       | uAmps |
| Maximum Full Load Reverse Current Average, Full Cycle at TA = 55°C   |                 | 100     |         |         |         |         |         |         |       | uAmps |
| Maximum Reverse Recovery Time (Note 4)                               | t <sub>rr</sub> | 150     |         |         |         | 250     |         | 500     |       | nSec  |

- NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts  
 2. Thermal Resistance Junction to terminal 6.0 mm<sup>2</sup> copper pads to each terminal  
 3. Thermal Resistance Junction to ambient 6.0 mm<sup>2</sup> copper pads to each terminal  
 4. Test Conditions : I<sub>F</sub> = 0.5 A, I<sub>R</sub> = -1.0 A, I<sub>RR</sub> = -0.25 A

# RATING CHARACTERISTIC CURVES ( FSM11PT THRU FSM17PT )

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

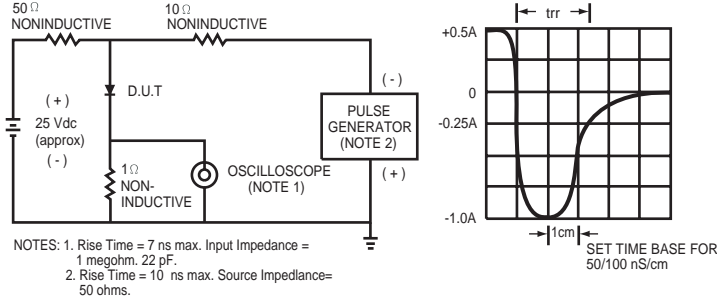


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

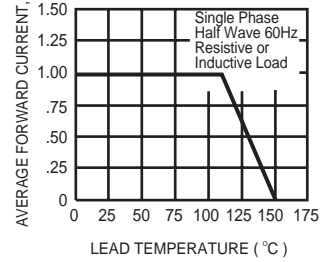


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

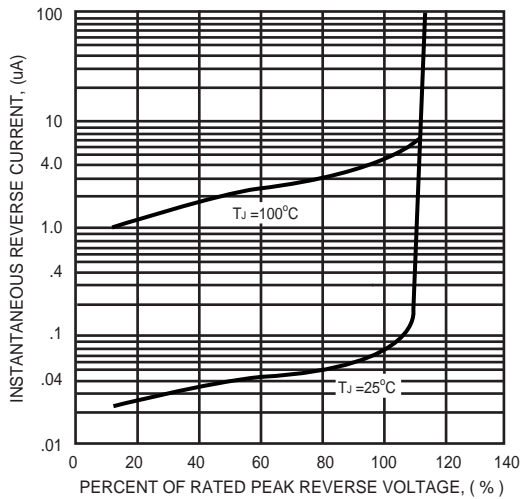


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

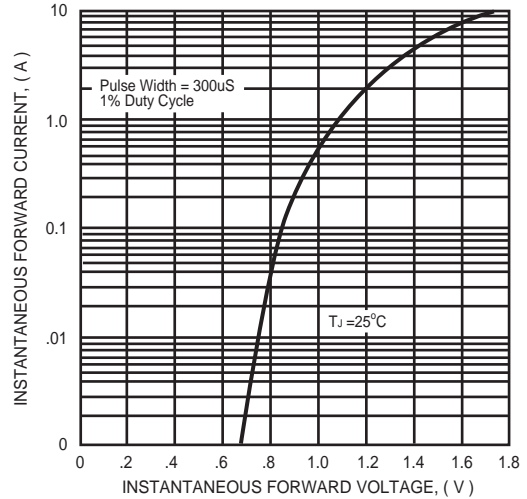


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

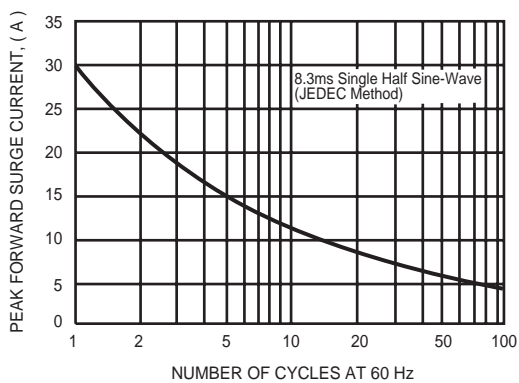


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

