# CHENMKO ENTERPRISE CO.,LTD

## SURFACE MOUNT

SCHOTTKY BARRIER RECTIFIER

VOLTAGE RANGE 20 - 40 Volts  CURRENT 0.5 Ampere

**SSM5817SLPT**

**THRU**

**SSM5819SLPT**

Lead free devices

### FEATURES

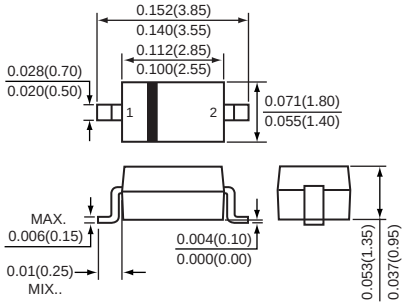
* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
* For surface mounted applications
* Low profile package
* Built-in strain relief
* Metal silicon junction, majority carrier conduction
* Low power loss, high efficiency
* High current capability, low forward voltage drop
* Power dissipation: 410mW
* For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
* High temperature soldering guaranteed : 260°C/10 seconds at terminals

### MECHANICAL DATA

**Case:** JEDEC SOD-123 molded plastic
**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
**Polarity:** Color band denotes cathode end
**Weight:** 0.001 ounce 0.032 gram



SOD-123




Dimensions in inches and (millimeters)

SOD-123

### 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 RATINGES** ( At $T_A$ = 25°C unless otherwise noted )

| RATINGS | SYMBOL | SSM5817SLPT | SSM5818SLPT | SSM5819SLPT | UNITS |
|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 20 | 30 | 40 | Volts |
| Maximum RMS Voltage | $V_{RMS}$ | 14 | 21 | 28 | Volts |
| Maximum DC Blocking Voltage | $V_{DC}$ | 20 | 30 | 40 | Volts |
| Maximum Average Forward Rectified Current at $T_L$ = 100°C | $I_O$ | 0.5 | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$ | 5.5 | | | Amps |
| Typic Junction Capacitance (Note 2) | $C_J$ | 170 | | | pF |
| Typical Thermal Resistance (Note 1) | $R_{\theta JL}$ | 240 | | | °C / W |
| Storage and Operating Temperature Range | $T_J$, $T_{STG}$ | -65 to +125 | | | °C |
| Voltage Rate of Change (Note 3) | di/dt | 1000 | | | V/uSec |

**ELECTRICAL CHARACTERISTICS** ( At $T_A$ = 25°C unless otherwise noted )

| CHARACTERISTICS | | SYMBOL | SSM5817SLPT | SSM5818SLPT | SSM5819SLPT | UNITS |
|---|---|---|---|---|---|---|
| Maximum Instantaneous Forward Voltage at $I_F$=0.5A | @ $T_A$ = 25°C | $V_F$ | 0.385 | 0.430 | 0.510 | Volts |
| | @ $T_A$ = 100°C | | 0.330 | 0.380 | 0.460 | Volts |
| Maximum Average Reverse Current at Ratied DC Blocking Voltage | @ $T_A$ = 25°C | $I_R$ | 250 | 130 | 20 | uAmps |
| | @ $T_A$ = 100°C | | 13 | 11 | 8 | mAmps |

NOTES : 1. Thermal Resistance ( Junction to Lead ) : PC Board Mounted on 0.06 X 0.06" ( 0.15X 0.15mm ) copper pad area.
2. Measured at 1.0 MHz and applied reverse voltage of 0 volt.
3. dv/dt measured at rated reverse voltage.

## RATING CHARACTERISTIC CURVES ( SSM5817SLPT THRU SSM5819SLPT )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

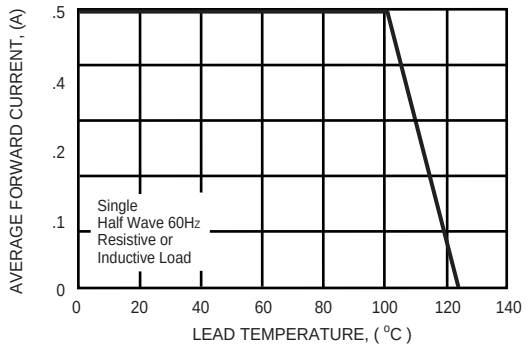



FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARCTERISTICS

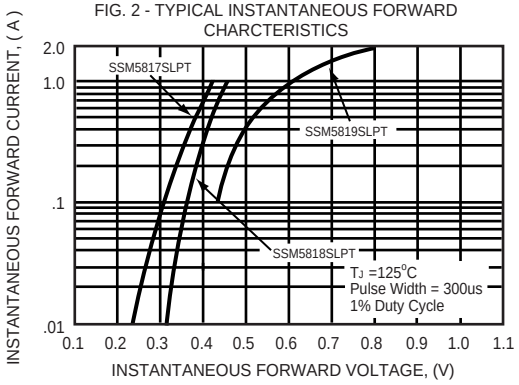



FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

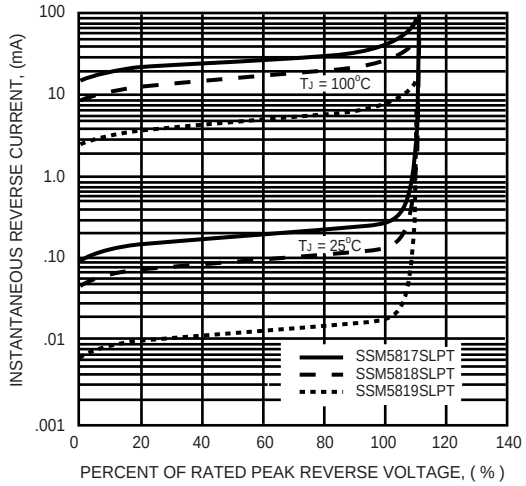



FIG. 4 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

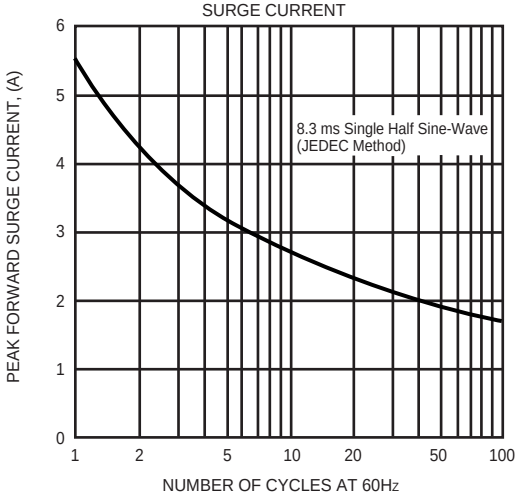



FIG. 5 - TYPICAL JUNCTION CAPACITANCE

