



# CHENMKO ENTERPRISE CO.,LTD

## SURFACE MOUNT

GLASS PASSIVATED SILICON RECTIFIER

VOLTAGE RANGE 50 - 1000 Volts CURRENT 3.0 Amperes

**MCL31PT**

**THRU**

**MCL37PT**

*Lead free devices*

### FEATURES

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

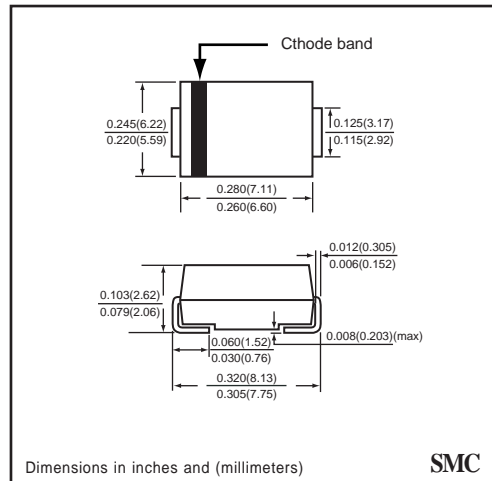
### MECHANICAL DATA

**Case:** JEDEC SMC molded plastic

**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity:** Indicated by cathode band

**Weight:** 0.003 ounces, 0.093 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	MCL31PT	MCL32PT	MCL33PT	MCL34PT	MCL35PT	MCL36PT	MCL37PT	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	I <sub>O</sub>	3.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	60							Amps
Typical Junction Capacitance ( Note )	C <sub>J</sub>	20							pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175							°C

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

CHARACTERISTICS	SYMBOL	MCL31PT	MCL32PT	MCL33PT	MCL34PT	MCL35PT	MCL36PT	MCL37PT	UNITS
Maximum Instantaneous Forward Voltage at 3.0 A DC	V <sub>F</sub>	1.0							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 = 75°C		50							uAmps

NOTES : Measured at 1.0 MHz and applied reverse voltage of 4.0 volts

2002-2

## RATING CHARACTERISTIC CURVES ( MCL31PT THRU MCL37PT )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

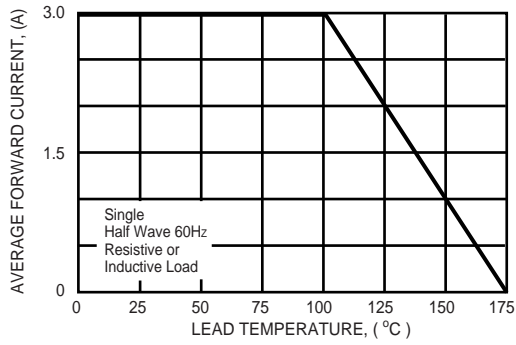


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

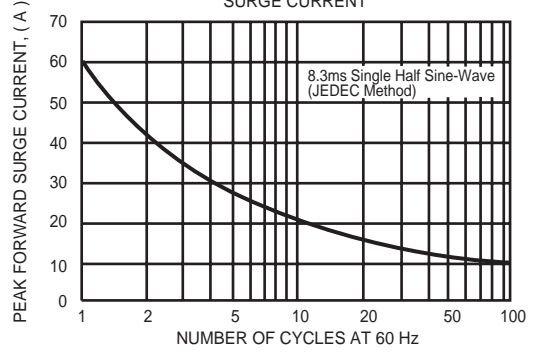


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT

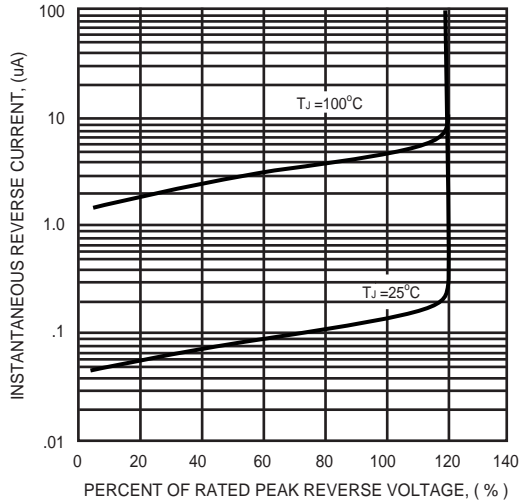


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

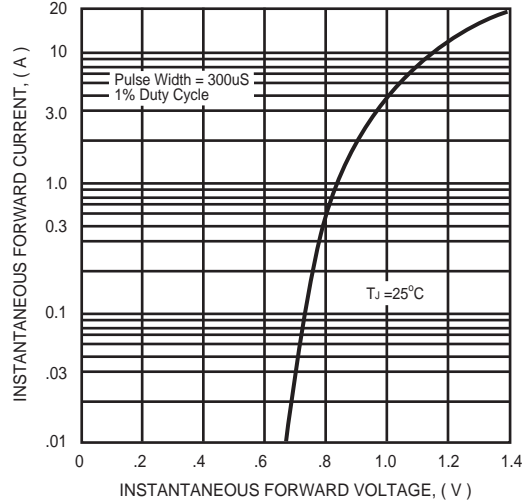


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

