



# CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

## SURFACE MOUNT

GLASS PASSIVATED SILICON RECTIFIER

VOLTAGE RANGE 50 - 1000 Volts CURRENT 3.0 Amperes

MCL51GP

THRU

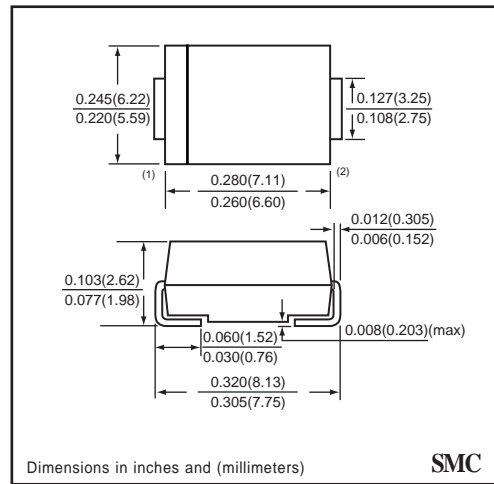
MCL57GP

### 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	MCL51GP	MCL52GP	MCL53GP	MCL54GP	MCL55GP	MCL56GP	MCL57GP	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current	Io	5.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	100							Amps
Typical Junction Capacitance ( Note )	CJ	20							pF
Operating and Storage Temperature Range	TJ, TSTG	-65 to +175							°C

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

CHARACTERISTICS	SYMBOL	MCL51GP	MCL52GP	MCL53GP	MCL54GP	MCL55GP	MCL56GP	MCL57GP	UNITS
Maximum Instantaneous Forward Voltage at 5.0 A DC	VF	1.15							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage at TA = 25°C	IR	10							uAmps
Maximum Full Load Reverse Current Average, Full Cycle at TA = 75°C		100							uAmps

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

2004-10

# RATING CHARACTERISTIC CURVES ( MCL51GP THRU MCL57GP )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

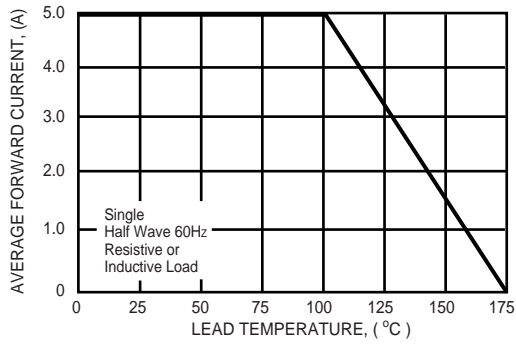


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

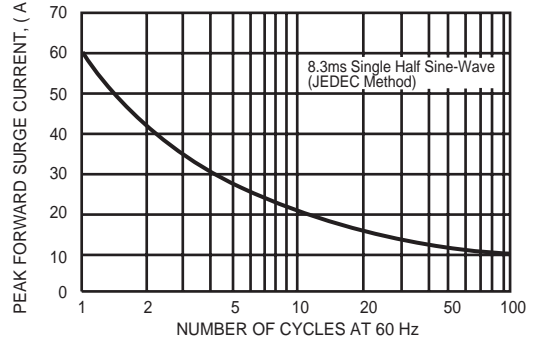


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT

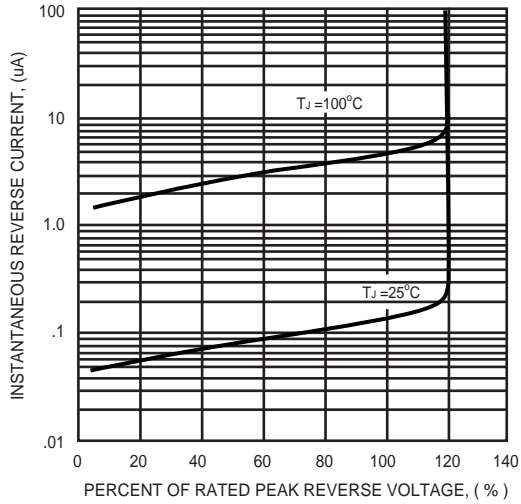


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

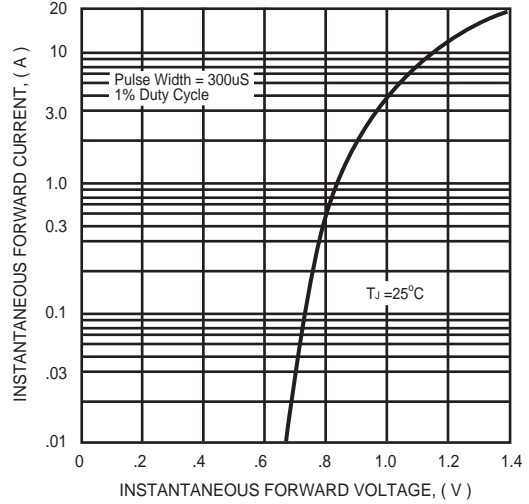


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

