



# CHENMKO ENTERPRISE CO.,LTD

## SURFACE MOUNT GLASS PASSIVATED SUPER FAST SILICON RECTIFIER

VOLTAGE RANGE 50 - 1000 Volts CURRENT 3.0 Amperes

**UCM31PT  
THRU  
UCM38PT**

*Lead free devices*

### FEATURES

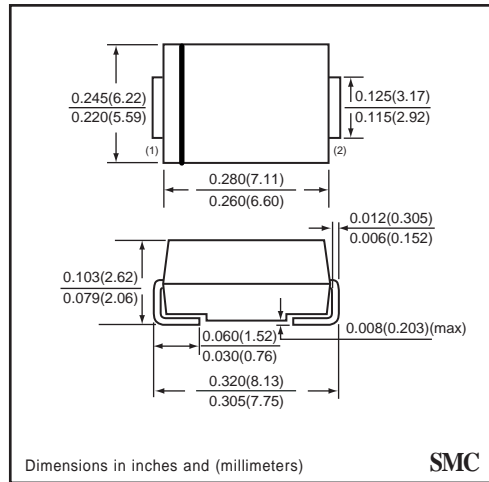
- \* For surface mounted applications
- \* Low profile package
- \* Built-in strain relief
- \* Superfast recovery times for high efficiency
- \* Metallurgically bonded construction
- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* Glass passivated junction
- \* 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	UCM31PT	UCM32PT	UCM33PT	UCM34PT	UCM35PT	UCM36PT	UCM37PT	UCM38PT	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	300	400	600	800	1000	Volts
Maximum RMS Voltage	VRMS	35	70	140	210	280	420	560	700	Volts
Maximum DC Blocking Voltage	Vdc	50	100	200	300	400	600	800	1000	Volts
Maximum Average Forward Rectified Current TL = 100°C	Io	3.0								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 1)	CJ	50				30				pF
Operating and Storage Temperature Range	TJ, TSTG	-65 to +150								°C

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

CHARACTERISTICS	SYMBOL	UCM31PT	UCM32PT	UCM33PT	UCM34PT	UCM35PT	UCM36PT	UCM37PT	UCM38PT	UNITS
Maximum Instantaneous Forward Voltage at 3.0 A DC	VF	0.95			1.27		1.75			Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@ TA = 25°C	10								uAmps
	@ TA = 100°C	200								uAmps
Maximum Reverse Recovery Time (Note 2)	trr	35				45				nSec

NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts  
 2. Test Conditions : IF = 0.5 A, IR = -1.0 A, IRR = -0.25 A

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# RATING CHARACTERISTIC CURVES ( UCM31PT THRU UCM38PT )

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

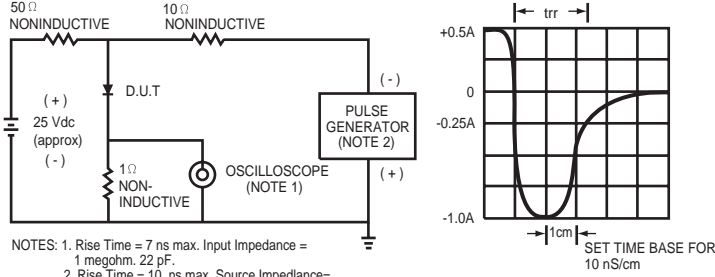


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

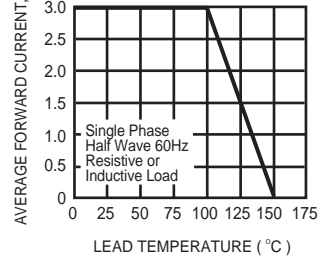


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

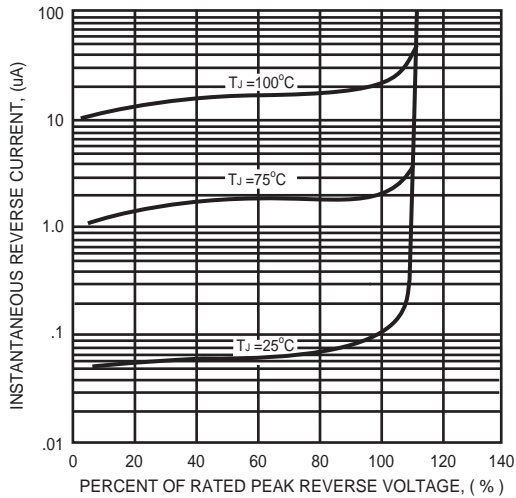


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

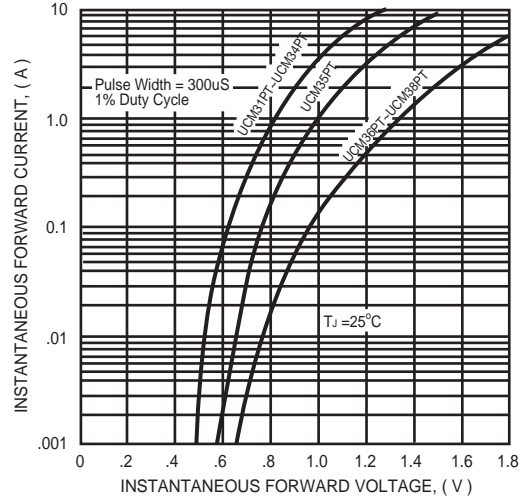


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

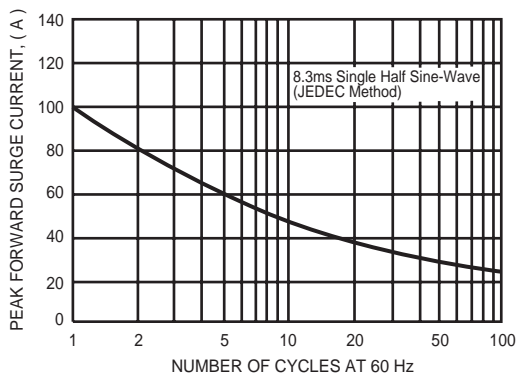


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

