



# CHENMKO ENTERPRISE CO.,LTD

Lead free devices

## SURFACE MOUNT GLASS PASSIVATED HIGH EFFICIENCY SILICON RECTIFIER

VOLTAGE RANGE 50 - 1000 Volts CURRENT 3.0 Amperes

**HPL31PT  
THRU  
HPL38PT**

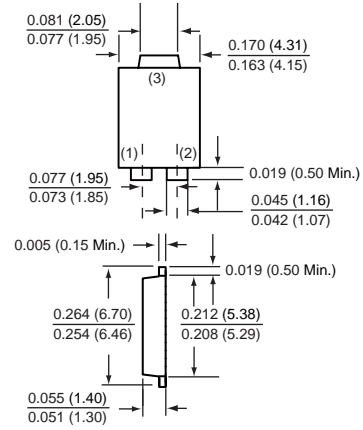
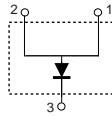
PROVISIONAL SPEC.

### FEATURE

- \*Small Surface Mounting Type. (SMP)
- \* Low forward voltage, high current capability
- \* Low leakage current
- \* Glass passivated junction
- \* High temperature soldering guaranteed :  
260°C/10 seconds at terminals

SMP

### CIRCUIT



Dimensions in inches and (millimeters)

SMP

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

RATINGS	SYMBOL	HPL31PT	HPL32PT	HPL33PT	HPL34PT	HPL35PT	HPL36PT	HPL37PT	HPL38PT	UNITS	
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	300	400	600	800	1000	Volts	
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	210	280	420	560	700	Volts	
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	300	400	600	800	1000	Volts	
Maximum Average Forward Rectified Current T <sub>L</sub> = 100°C	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>	100								Amps	
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	70					50				pF
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 )

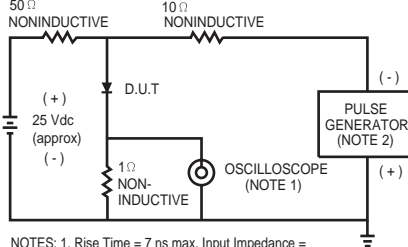
CHARACTERISTICS	SYMBOL	HPL31PT	HPL32PT	HPL33PT	HPL34PT	HPL35PT	HPL36PT	HPL37PT	HPL38PT	UNITS	
Maximum Instantaneous Forward Voltage at 3.0 A DC	V <sub>F</sub>	1.0			1.3		1.5		1.7	Volts	
Maximum DC Reverse Current at Rated DC Blocking Voltage	@ TA = 25°C	5.0								uAmps	
	@ TA = 100°C	500								uAmps	
Maximum Reverse Recovery Time (Note 2)	t <sub>rr</sub>	50					70				nSec

NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts  
2. Test Conditions : I<sub>F</sub> = 0.5 A, I<sub>R</sub> = -1.0 A, I<sub>RR</sub> = -0.25 A

2004-7

# RATING CHARACTERISTIC CURVES ( HPL31PT THRU HPL38PT )

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



NOTES: 1. Rise Time = 7 ns max. Input Impedance = 1 megohm, 22 pF.  
2. Rise Time = 10 ns max. Source Impedance = 50 ohms.

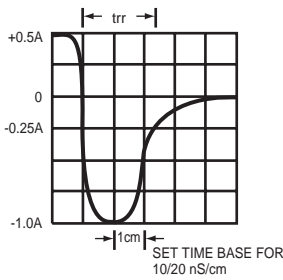


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

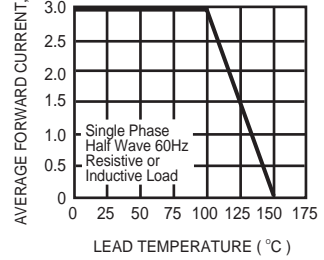


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

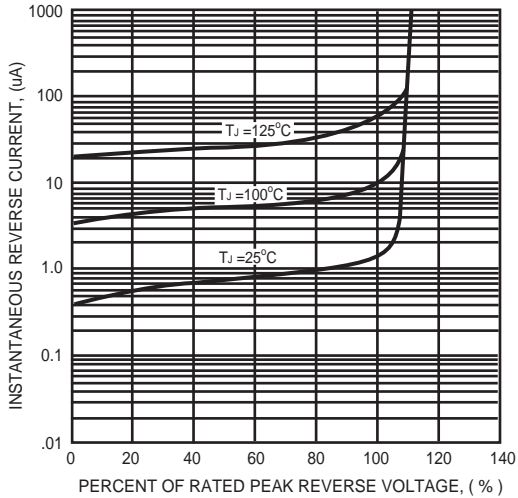


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

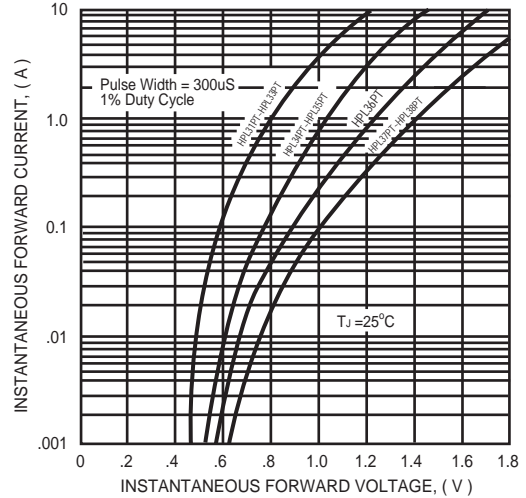


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

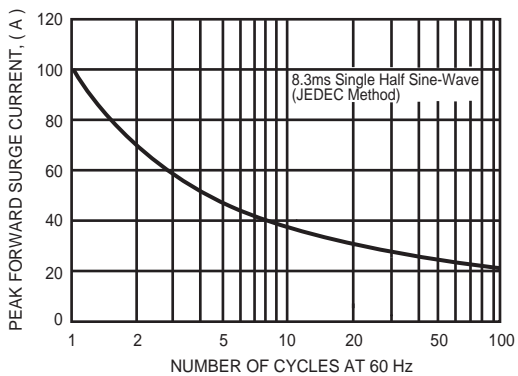


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

