



# CHENMKO ENTERPRISE CO.,LTD

**GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR**  
**VOLTAGE-6.8 TO 200 VOLTS**  
**400 WATTS PEAK POWER 1.0 WATT STEADY STATE**

**P4SSMJ**  
**CA SERIES**

*Halogens free devices*

## FEATURES

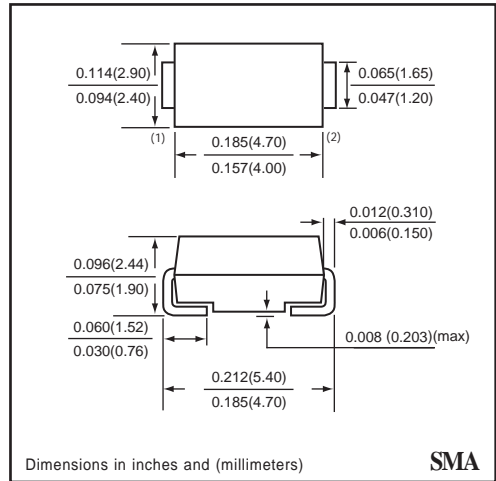
- \* Plastic package
- \* 400W surge capability at 1ms
- \* Glass passivated chip junction in SMA Package
- \* Excellent clamping capability
- \* Low Zener Impedance
- \* Fast response time: typically less than 1.0ps from 0 volts to BV min.
- \* Typical IR less than 1 uA above 10V
- \* High temperature soldering guaranteed : 260°C/10 seconds at terminals

## MECHANICAL DATA

**Case:** JEDEC SMA molded plastic  
**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity:** Bidirectional  
**Mounting Position:** Any  
**Weight:** 0.002 ounce, 0.064 gram



SMA



SMA

## 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%.

## DEVICES FOR BIDIRECTIONAL APPLICATIONS

For Bidirectional use C or CA Suffix for types P4SSMJ6.8A thru types P4SSMJ200A  
 Electrical characteristics apply in both directions.

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

RATINGS	SYMBOL	VALUE	UNITS
Peak Power Dissipation at TA = 25°C, Tp = 1ms ( Note 1 )	PPK	Minimum 400	Watts
Steady State Power Dissipation at TL = 75°C	PD	1.0	Watts
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load ( Note 2 )	IFSM	40	Amps
Operating and Storage Temperature Range	TJ, TSTG	-65 to +175	°C

NOTES : 1. Non-repetitive current pulse, per Fig. 3 and derated above TA = 25°C per Fig. 2.  
 2. 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum.  
 3. PC Board Mounted on 0.2 X 0.2" ( 5 X 5mm ) copper pad area.

2003-01

PRODUCT NO.	Breakdown Voltage				Working Peak Reverse Voltage	Maximum Reverse Leakage at Vrwm	Maximum Reverse Current ( NOTE 2 )	Maximum Reverse Voltage at Irsm ( clamping )	Maximum Temperature Coefficient of Vbr
	VBR Volts ( NOTE 1 )			@ IT ( mA )					
	MIN.	NOM.	MAX.		Vrwm ( V )	Ir ( uA )	Irsm ( A )	Vrsm ( V )	( %C )
P4SSMJ6.8CAGP	6.45	6.8	7.14	10	5.80	2000	40	10.5	0.057
P4SSMJ7.5CAGP	7.13	7.5	7.88	10	6.40	1000	37	11.3	0.061
P4SSMJ8.2CAGP	7.79	8.2	8.61	10	7.02	400	35	12.1	0.065
P4SSMJ9.1CAGP	8.65	9.1	9.55	1.0	7.78	100	31	13.4	0.068
P4SSMJ10CAGP	9.5	10	10.5	1.0	8.55	20	29	14.5	0.073
P4SSMJ11CAGP	10.5	11	11.6	1.0	9.40	10	27	15.6	0.075
P4SSMJ12CAGP	11.4	12	12.6	1.0	10.2	5.0	25	16.7	0.078
P4SSMJ13CAGP	12.4	13	13.7	1.0	11.1	5.0	23	18.2	0.081
P4SSMJ15CAGP	14.3	15	15.8	1.0	12.8	5.0	20	21.2	0.084
P4SSMJ16CAGP	15.2	16	16.8	1.0	13.6	5.0	19	22.5	0.086
P4SSMJ18CAGP	17.1	18	18.9	1.0	15.3	5.0	17	25.2	0.088
P4SSMJ20CAGP	19.0	20	21.0	1.0	17.1	5.0	15	27.7	0.090
P4SSMJ22CAGP	20.9	22	23.1	1.0	18.8	5.0	14	30.6	0.092
P4SSMJ24CAGP	22.8	24	25.2	1.0	20.5	5.0	13	33.2	0.094
P4SSMJ27CAGP	25.7	27	28.4	1.0	23.1	5.0	11.2	37.5	0.096
P4SSMJ30CAGP	28.5	30	31.5	1.0	25.6	5.0	10	41.4	0.097
P4SSMJ33CAGP	31.4	33	34.7	1.0	28.2	5.0	9	45.7	0.098
P4SSMJ36CAGP	34.2	36	37.8	1.0	30.8	5.0	8.4	49.9	0.099
P4SSMJ39CAGP	37.1	39	41.0	1.0	33.3	5.0	7.8	53.9	0.100
P4SSMJ43CAGP	40.9	43	45.2	1.0	36.8	5.0	7.1	59.3	0.101
P4SSMJ47CAGP	44.7	47	49.4	1.0	40.2	5.0	5.0	64.8	0.101
P4SSMJ51CAGP	48.5	51	53.6	1.0	43.6	5.0	6.0	70.1	0.102
P4SSMJ56CAGP	53.2	56	58.8	1.0	47.8	5.0	5.5	77.0	0.103
P4SSMJ62CAGP	58.9	62	65.1	1.0	53.0	5.0	5.0	85.0	0.104
P4SSMJ68CAGP	64.6	68	71.4	1.0	58.0	5.0	4.6	92.0	0.104
P4SSMJ75CAGP	71.3	75	78.8	1.0	64.1	5.0	4.1	103	0.105
P4SSMJ82CAGP	77.9	82	86.1	1.0	70.1	5.0	3.7	113	0.105
P4SSMJ91CAGP	86.5	91	95.5	1.0	77.8	5.0	3.4	125	0.106
P4SSMJ100CAGP	95.0	100	105	1.0	85.5	5.0	3.1	137	0.106
P4SSMJ110CAGP	105	110	116	1.0	94.0	5.0	2.8	152	0.107
P4SSMJ120CAGP	114	120	126	1.0	102	5.0	2.5	165	0.107
P4SSMJ130CAGP	124	130	137	1.0	111	5.0	2.3	179	0.107
P4SSMJ150CAGP	143	150	158	1.0	128	5.0	2.0	207	0.108
P4SSMJ160CAGP	152	160	168	1.0	136	5.0	1.9	219	0.108
P4SSMJ170CAGP	162	170	179	1.0	145	5.0	1.8	234	0.108
P4SSMJ180CAGP	171	180	189	1.0	154	5.0	1.7	246	0.108
P4SSMJ200CAGP	190	200	210	1.0	171	5.0	1.53	274	0.108

## RATING CHARACTERISTIC CURVES ( P4SSMJ6.8CAGP ~ P4SSMJ200CAGP )

FIG. 1 - PEAK PULSE POWER RATING CURVE

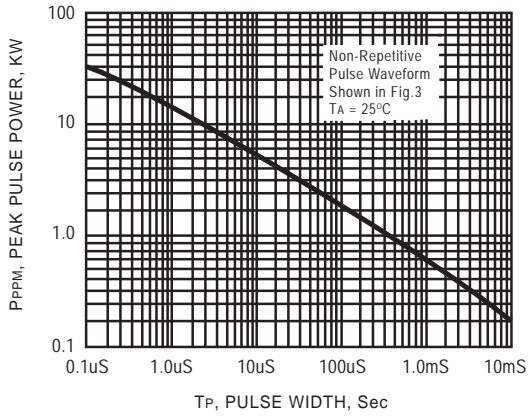


FIG. 2 - PULSE DERATING CURVE

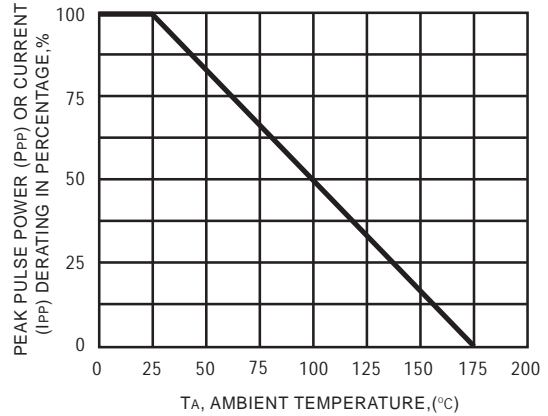


FIG. 3 - PULSE WAVEFORM

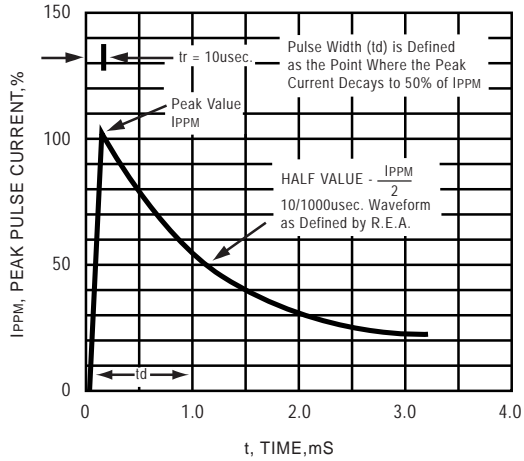
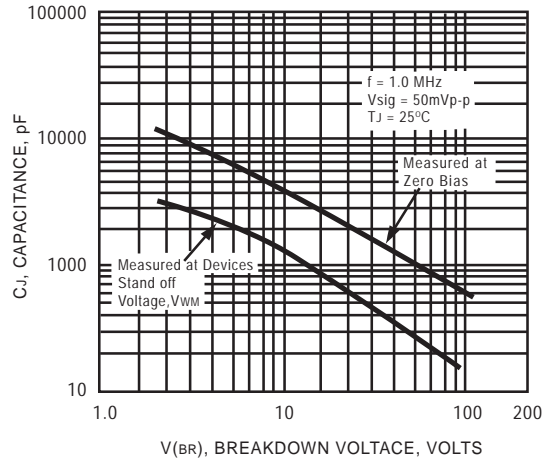


FIG. 4 - TYPICAL JUNCTION CAPACITANCE UNI-DIRECTIONAL



# RATING CHARACTERISTIC CURVES( P4SSMJ6.8CAGP~P4SSMJ200CAGP )

FIG. 5 - STEADY STATE POWER DERATING CURVE

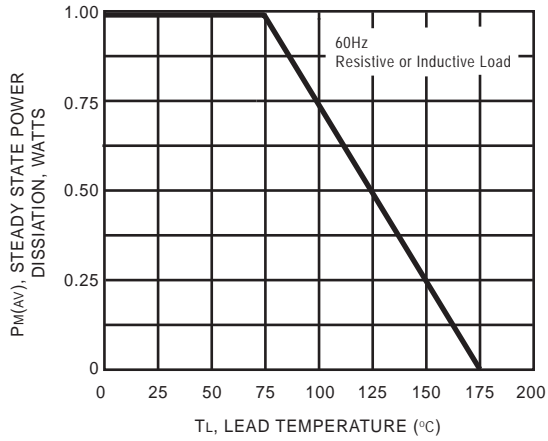


FIG. 6 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL

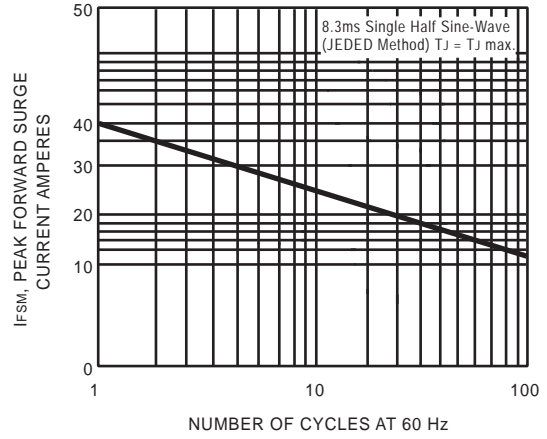


FIG. 7 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

