



# 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**

P4SSMJ6.8AAGP

**THRU**

P4SSMJ200AAGP

*Halogens free devices*

## FEATURES

- \* Plastic package
- \* 400W surge capability at 1ms
- \* Glass passivated chip junction in SMA-S 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

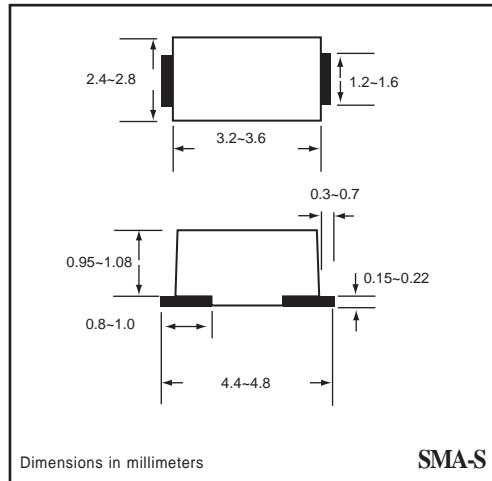
## MECHANICAL DATA

**Case:** JEDEC SMA-S molded plastic

**Polarity:** Color band denotes cathode end



SMA-S



Dimensions in millimeters

SMA-S

## 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  $T_A = 25^\circ\text{C}$  unless otherwise noted )

RATINGS	SYMBOL	VALUE	UNITS
Peak Power Dissipation at $T_A = 25^\circ\text{C}$ , $T_p = 1\text{ms}$ ( Note 1 )	PPK	Minimum 400	Watts
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$	P <sub>D</sub>	1.0	Watts
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load ( Note 2 )	I <sub>FSM</sub>	40	Amps
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C

- NOTES : 1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_A = 25^\circ\text{C}$  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

2007-10

PRODUCT NO.	Breakdown Voltage			@ IT ( mA )	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 )								
	MIN.	NOM.	MAX.	Vrwm ( V )	Ir ( uA )	Irsm ( A )	Vrsm ( V )	( %C )	
P4SSMJ6.8AAGP	6.45	6.8	7.14	10	5.80	1000	40	10.5	0.057
P4SSMJ7.5AAGP	7.13	7.5	7.88	10	6.40	500	37	11.3	0.061
P4SSMJ8.2AAGP	7.79	8.2	8.61	10	7.02	200	35	12.1	0.065
P4SSMJ9.1AAGP	8.65	9.1	9.55	1.0	7.78	50	31	13.4	0.068
P4SSMJ10AAGP	9.5	10	10.5	1.0	8.55	10	29	14.5	0.073
P4SSMJ11AAGP	10.5	11	11.6	1.0	9.40	5.0	27	15.6	0.075
P4SSMJ12AAGP	11.4	12	12.6	1.0	10.2	5.0	25	16.7	0.078
P4SSMJ13AAGP	12.4	13	13.7	1.0	11.1	5.0	23	18.2	0.081
P4SSMJ15AAGP	14.3	15	15.8	1.0	12.8	5.0	20	21.2	0.084
P4SSMJ16AAGP	15.2	16	16.8	1.0	13.6	5.0	19	22.5	0.086
P4SSMJ18AAGP	17.1	18	18.9	1.0	15.3	5.0	17	25.2	0.088
P4SSMJ20AAGP	19.0	20	21.0	1.0	17.1	5.0	15	27.7	0.090
P4SSMJ22AAGP	20.9	22	23.1	1.0	18.8	5.0	14	30.6	0.092
P4SSMJ24AAGP	22.8	24	25.2	1.0	20.5	5.0	13	33.2	0.094
P4SSMJ27AAGP	25.7	27	28.4	1.0	23.1	5.0	11.2	37.5	0.096
P4SSMJ30AAGP	28.5	30	31.5	1.0	25.6	5.0	10	41.4	0.097
P4SSMJ33AAGP	31.4	33	34.7	1.0	28.2	5.0	9	45.7	0.098
P4SSMJ36AAGP	34.2	36	37.8	1.0	30.8	5.0	8.4	49.9	0.099
P4SSMJ39AAGP	37.1	39	41.0	1.0	33.3	5.0	7.8	53.9	0.100
P4SSMJ43AAGP	40.9	43	45.2	1.0	36.8	5.0	7.1	59.3	0.101
P4SSMJ47AAGP	44.7	47	49.4	1.0	40.2	5.0	5.0	64.8	0.101
P4SSMJ51AAGP	48.5	51	53.6	1.0	43.6	5.0	6.0	70.1	0.102
P4SSMJ56AAGP	53.2	56	58.8	1.0	47.8	5.0	5.5	77.0	0.103
P4SSMJ62AAGP	58.9	62	65.1	1.0	53.0	5.0	5.0	85.0	0.104
P4SSMJ68AAGP	64.6	68	71.4	1.0	58.0	5.0	4.6	92.0	0.104
P4SSMJ75AAGP	71.3	75	78.8	1.0	64.1	5.0	4.1	103	0.105
P4SSMJ82AAGP	77.9	82	86.1	1.0	70.1	5.0	3.7	113	0.105
P4SSMJ91AAGP	86.5	91	95.5	1.0	77.8	5.0	3.4	125	0.106
P4SSMJ100AAGP	95.0	100	105	1.0	85.5	5.0	3.1	137	0.106
P4SSMJ110AAGP	105	110	116	1.0	94.0	5.0	2.8	152	0.107
P4SSMJ120AAGP	114	120	126	1.0	102	5.0	2.5	165	0.107
P4SSMJ130AAGP	124	130	137	1.0	111	5.0	2.3	179	0.107
P4SSMJ150AAGP	143	150	158	1.0	128	5.0	2.0	207	0.108
P4SSMJ160AAGP	152	160	168	1.0	136	5.0	1.9	219	0.108
P4SSMJ170AAGP	162	170	179	1.0	145	5.0	1.8	234	0.108
P4SSMJ180AAGP	171	180	189	1.0	154	5.0	1.7	246	0.108
P4SSMJ200AAGP	190	200	210	1.0	171	5.0	1.53	274	0.108

# RATING CHARACTERISTIC CURVES ( P4SSMJ6.8AAGP~ P4SSMJ200AAGP )

FIG. 1 - PEAK PULSE POWER RATING CURVE

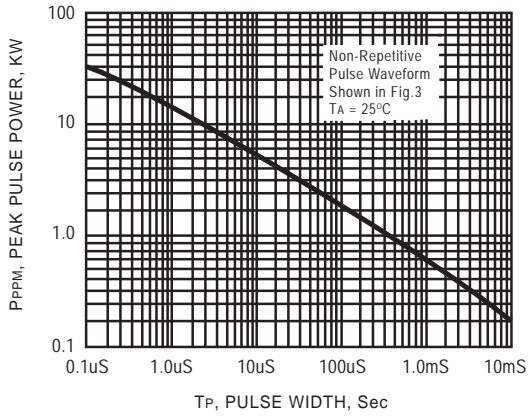


FIG. 2 - PULSE DERATING CURVE

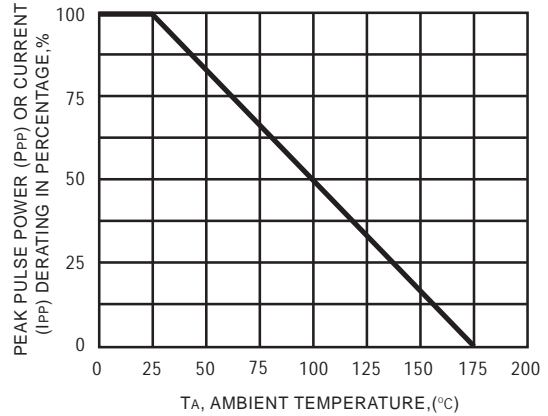


FIG. 3 - PULSE WAVEFORM

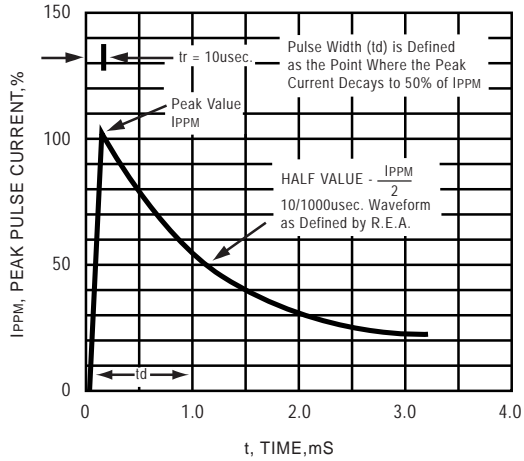
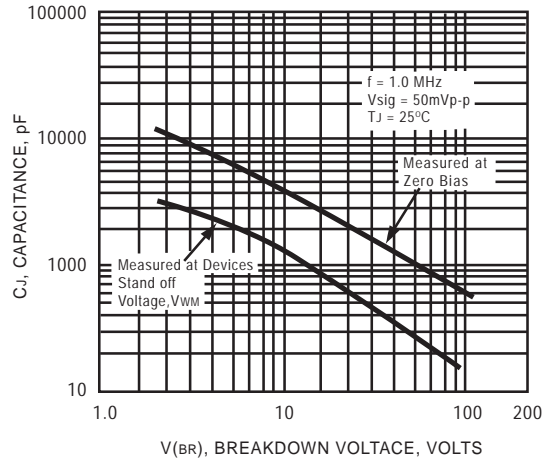


FIG. 4 - TYPICAL JUNCTION CAPACITANCE UNI-DIRECTIONAL



## RATING CHARACTERISTIC CURVES ( P4SSMJ6.8AAGP ~ P4SSMJ200AAGP )

FIG. 5 - STEADY STATE POWER DERATING CURVE

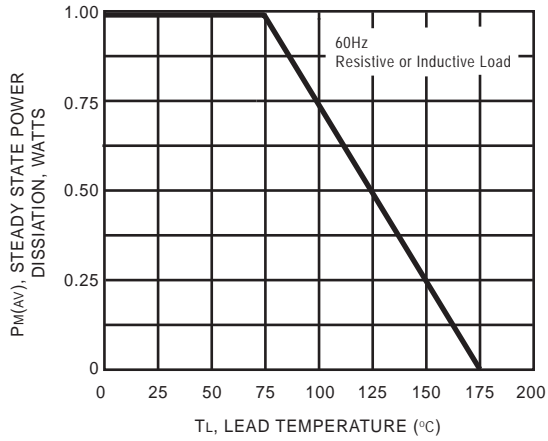


FIG. 6 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL

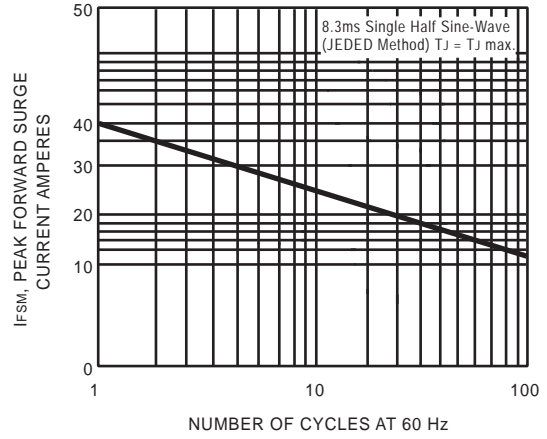


FIG. 7 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

