



# CHENMKO ENTERPRISE CO.,LTD

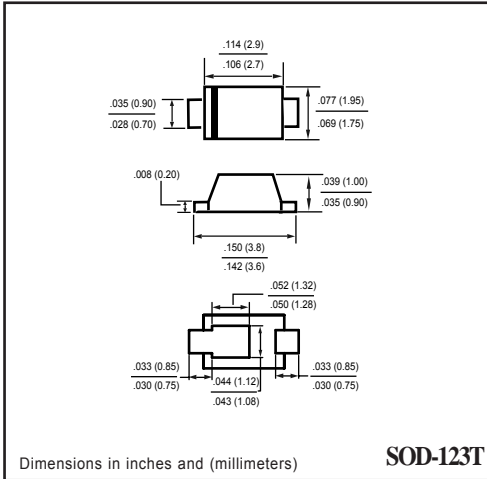
**GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR**  
**VOLTAGE-5.0 TO 51 VOLTS**  
**225 WATTS PEAK POWER 1.0 WATT STEADY STATE**

**TVSE  
SERIES**

*Halogens free devices*

### FEATURES

- \* □ Plastic package
- \* □ 225W surge capability at 1ms
- \* □ Glass passivated chip junction in SOD-123T 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



### 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 TVSE5.0APT thru types TVSE51APT  
 Electrical characteristics apply in both directions.

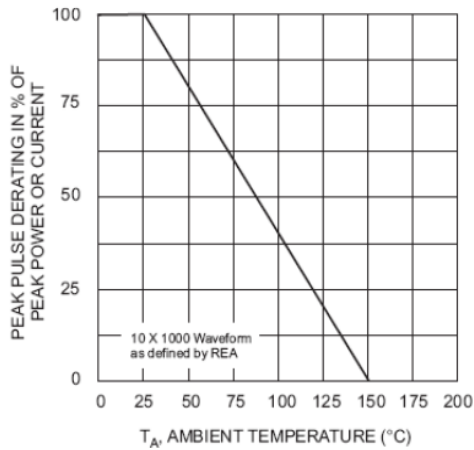
### MAXIMUM RATINGS ( At TA = 25°C unless otherwise noted )

RATINGS	SYMBOL	VALUE	UNITS
Peak Power Dissipation at TA = 25°C, Tp = 1ms ( Note1 )	PPK	Minimum 225	Watts
Steady State Power Dissipation at TL = 25°C	PD	1.0	Watts
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load ( Note 2 )	IFSM	50	Amps
Operating and Storage Temperature Range	TJ, TSTG	-65 to +175	°C

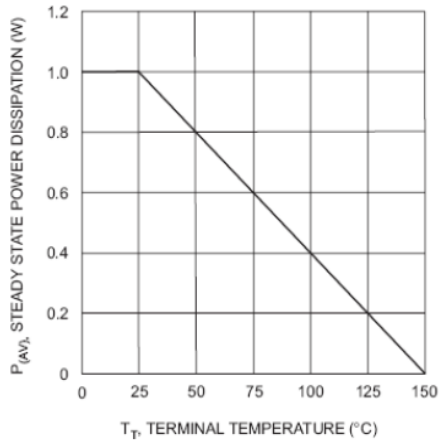
NOTES : 1. Non-repetitive current pulse, per Fig. 3 and derated above TA = 25°C per Fig. 2.  
 2. 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum.  
 3. PC Board Mounted on 0.2 X 0.2" ( 5 X 5mm ) copper pad area

Part Number	Reverse Standoff Voltage	Breakdown Voltage $V_{BR}$ @ $I_T$		Test Current	Max. Reverse Leakage @ $V_{RWM}$	Max. Clamping Voltage @ $I_{PP}$	Max. Peak Pulse Current $I_{PP}$
		Min(V)	Max(V)				
TVSE5.0AGP	5.0	6.40	7.0	10	400	9.2	24.5
TVSE6.0AGP	6.0	6.67	7.37	10	400	10.3	21.8
TVSE6.5AGP	6.5	7.22	7.98	10	250	11.2	20.1
TVSE7.0AGP	7.0	7.78	8.60	10	100	12.0	18.8
TVSE7.5AGP	7.5	8.33	9.21	1.0	50	12.9	17.4
TVSE8.0AGP	8.0	8.89	9.83	1.0	25	13.6	16.5
TVSE8.5AGP	8.5	9.44	10.4	1.0	10	14.4	15.6
TVSE9.0AGP	9.0	10.0	11.1	1.0	5.0	15.4	14.6
TVSE10AGP	10	11.1	12.3	1.0	2.5	17.0	13.2
TVSE11AGP	11	12.2	13.5	1.0	2.5	18.2	12.4
TVSE12AGP	12	13.3	14.7	1.0	2.5	19.9	11.3
TVSE13AGP	13	14.4	15.9	1.0	1.0	21.5	10.5
TVSE14AGP	14	15.6	17.2	1.0	1.0	23.2	9.7
TVSE15AGP	15	16.7	18.5	1.0	1.0	24.4	9.22
TVSE16AGP	16	17.8	19.7	1.0	1.0	26.0	8.65
TVSE17AGP	17	18.9	20.9	1.0	1.0	27.6	8.15
TVSE18AGP	18	20.0	22.1	1.0	1.0	29.2	7.71
TVSE20AGP	20	22.2	24.5	1.0	1.0	32.4	6.94
TVSE22AGP	22	24.4	26.9	1.0	1.0	35.5	6.34
TVSE24AGP	24	26.7	29.5	1.0	1.0	38.9	5.78
TVSE26AGP	26	28.9	31.9	1.0	1.0	42.1	5.35
TVSE27AGP	27	30	33.15	1.0	1.0	43.7	5.15
TVSE28AGP	28	31.1	34.4	1.0	1.0	45.4	4.96
TVSE30AGP	30	33.3	36.8	1.0	1.0	48.4	4.65
TVSE33AGP	33	36.7	40.6	1.0	1.0	53.3	4.22
TVSE36AGP	36	40.0	44.2	1.0	1.0	58.1	3.87
TVSE40AGP	40	44.4	49.1	1.0	1.0	64.5	3.49
TVSE43AGP	43	47.8	52.8	1.0	1.0	69.4	3.24
TVSE45AGP	45	50.0	55.3	1.0	1.0	72.7	3.10
TVSE48AGP	48	53.3	58.9	1.0	1.0	77.4	2.91
TVSE51AGP	51	56.7	62.7	1.0	1.0	82.4	2.73

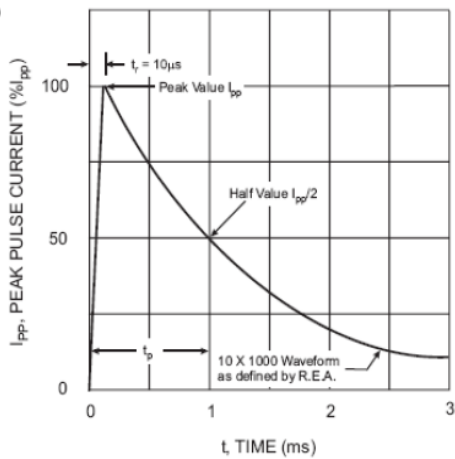
## RATING CHARACTERISTIC CURVES ( TVSE5.0AGP ~ TVSE51AGP )



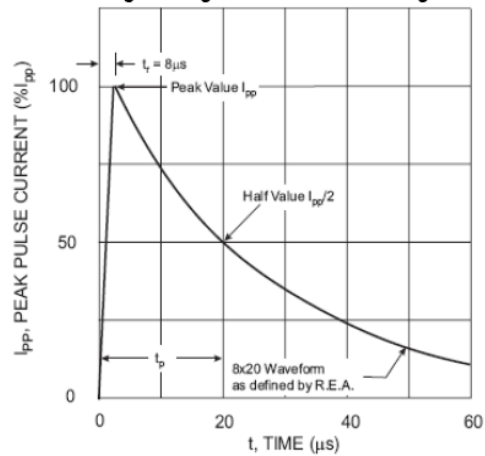
**Fig1. Pulse Derating Curve**



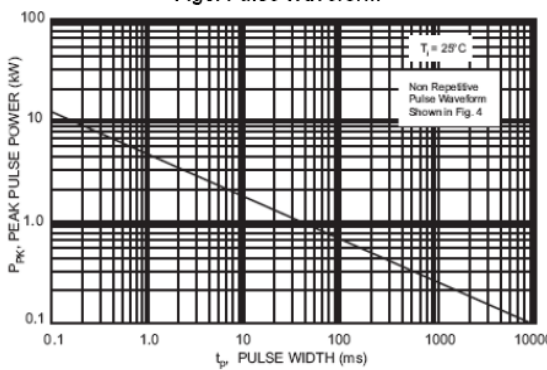
**Fig2. Steady State Power Derating**



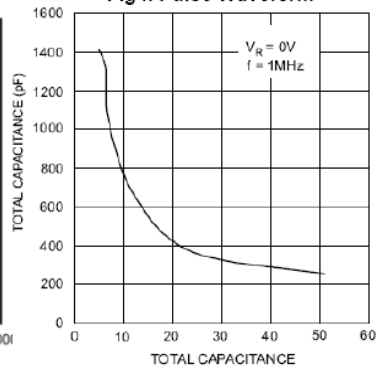
**Fig3. Pulse Waveform**



**Fig4. Pulse Waveform**



**Fig5. Pulse Rating Curve**



**Fig6.  $V_{RWM}$  (V)**