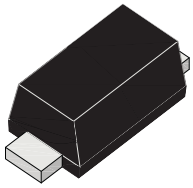
TENTATIVE DATA SHEET

TPSW6V8A TPSW43A

300 W Surface Mount Transient Voltage Suppressor

SOD123W



Voltage	Power
6.8 V to 43 V (Uni)	300 W /ms

FEATURES

- Low profile package
- Ideal for automated placement
- 300 W peak pulse power capability with a 10/1000 µs waveform, repetitive rate (duty cycle): 0.01 %
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- Solder dip 260°C, 10s
- AEC-Q101 qualified
- Component in accordance to RoHS 2011/65/EU and WEEE 2002/96/EC
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260° C

AUTOMOTIVE GRADE Available

Pb

e3

RoHS COMPLIANT

MECHANICAL DATA

- **Case:** SOD123W. Epoxy meets UL 94V-0 flammability rating.
- **Polarity:** For unidirectional types color band denotes cathode end.
- **Terminals:** Matte tin plated leads, solderable per MIL-STD-750 Method 2026, J-STD-002 and JESD22-B102. Consumer grade, meets JESD 201 class 1A whisker test.
- **HE3 suffix** for high reliability grade, meets JESD 201 class 2 whisker test.

TYPICAL APPLICATIONS

Used in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, automotive and telecommunication.

Maximun Ratings and Electrical Characteristics at 25°C

P_{PPM}	Peak Pulse Power Dissipation with 10/1000 µs exponential pulse	300 W
I_{FSM}	Peak Forward Surge Current 8.3 ms. (Jedec Method) (Note 1)	40 A
V_F	Max. forward voltage drop at I_F = 25 A	3.5 V
T_J -T_{STG}	Operating Junction and Storage Temperature Range	- 65 to + 150 °C

Note: 1. Mounted on 0.31 x 0.31" (8.0 x 8.0 mm) copper pads to each terminal

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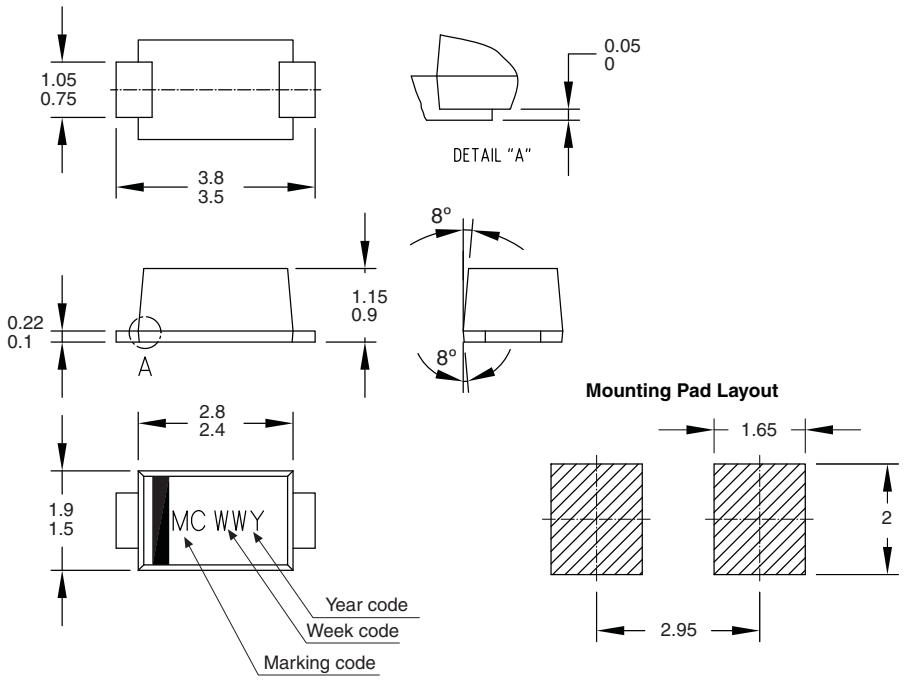
Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
TPSW33A TRTB	TRTB	13" diameter tape and reel	10,000	0.0165
TPSW33A HE3 TRTB	TRTB	13" diameter tape and reel	10,000	0.0165

Package Outline Dimensions: (mm) SOD123W



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Type		Maximum Reverse Leakage Current I_{RM} at V_{RM}		(1) Breakdown Voltage V_{BR} at (V)			I_R	T_j = 150°C Maximum Reverse Leakage at V_{RM}	Max. Clamping Voltage V_{CL} at I_{pp} max. 1ms. Expo.	
Unidirectional	Marking Code	(µA)	(V)	Min.	Nom.	Max.	(mA)	(µA)	(V)	(A)
TPSW6V8A	4A	500	5.80	6.45	6.8	7.14	10	1000	10.5	30.0
TPSW7V5A	4B	250	6.40	7.13	7.5	7.88	10	500	11.3	26.6
TPSW8V2A	4C	100	7.02	7.79	8.2	8.61	10	200	12.1	24.8
TPSW9V1A	4D	25	7.78	8.65	9.1	9.55	1	50	13.4	22.4
TPSW10A	4E	5	8.55	9.50	10	10.5	1	20	14.5	20.7
TPSW11A	4F	2	9.40	10.5	11	11.6	1	5.0	15.6	19.3
TPSW12A	4G	2	10.2	11.4	12	12.6	1	5.0	16.7	18.0
TPSW13A	4H	2	11.1	12.4	13	13.7	1	5.0	18.2	16.5
TPSW15A	4I	1	12.8	14.3	15	15.8	1	5.0	21.2	14.2
TPSW16A	4J	1	13.6	15.2	16	16.8	1	5.0	22.5	13.4
TPSW18A	4K	1	15.3	17.1	18	18.9	1	5.0	25.5	11.8
TPSW20A	4L	1	17.1	19.0	20	21.0	1	5.0	27.7	10.9
TPSW22A	4M	1	18.8	20.9	22	23.1	1	5.0	30.6	9.9
TPSW24A	4N	1	20.5	22.8	24	25.2	1	5.0	33.2	9.1
TPSW27A	4O	1	23.1	25.7	27	28.4	1	5.0	37.5	8.0
TPSW30A	4P	1	25.6	28.5	30	31.5	1	5.0	41.4	7.3
TPSW33A	4Q	1	28.2	31.4	33	34.7	1	5.0	45.7	6.6
TPSW36A	4S	1	30.8	34.2	36	37.8	1	5.0	49.9	6.1
TPSW39A	4T	1	33.3	37.1	39	41.0	1	5.0	53.9	5.6
TPSW43A	4U	1	36.8	40.9	43	45.2	1	5.0	59.3	5.1

(1) Tested with pulses.
Pulse test: tp ≤ 50 ms; δ < 2%

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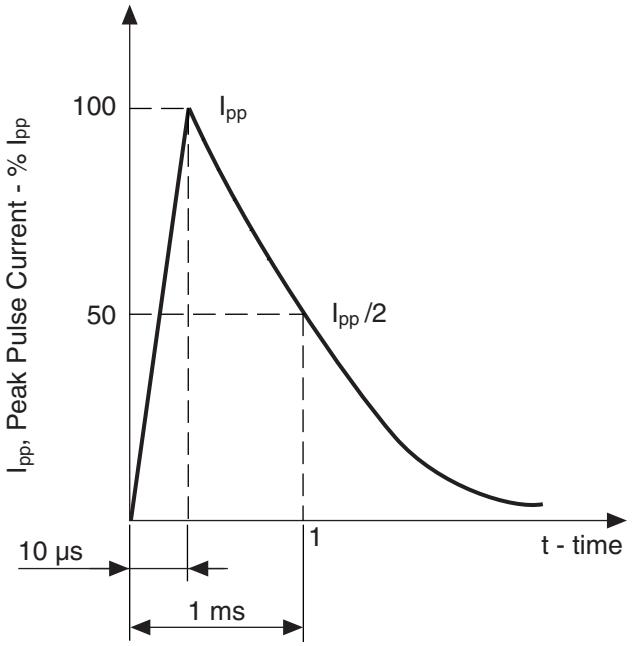
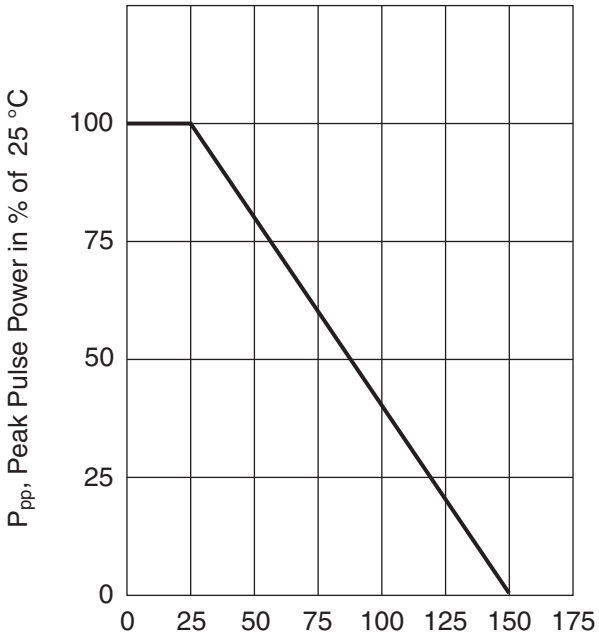
Ratings and Characteristics (Ta 25 ºC unless otherwise noted)

PULSE WAVEFORM

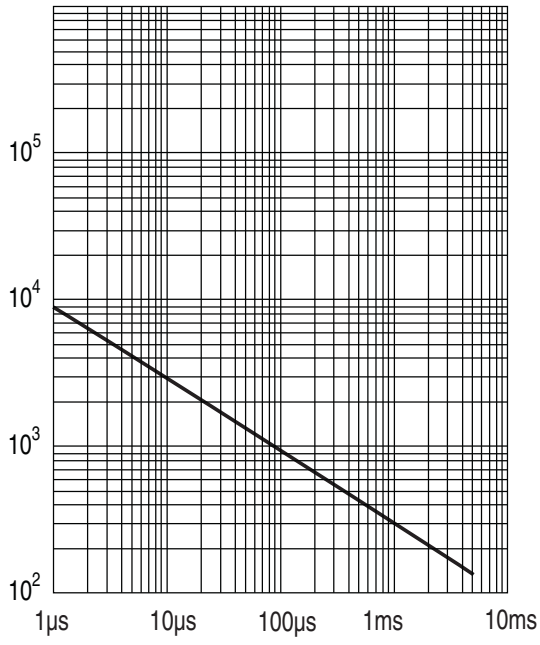


Pulse wave form 10/1000

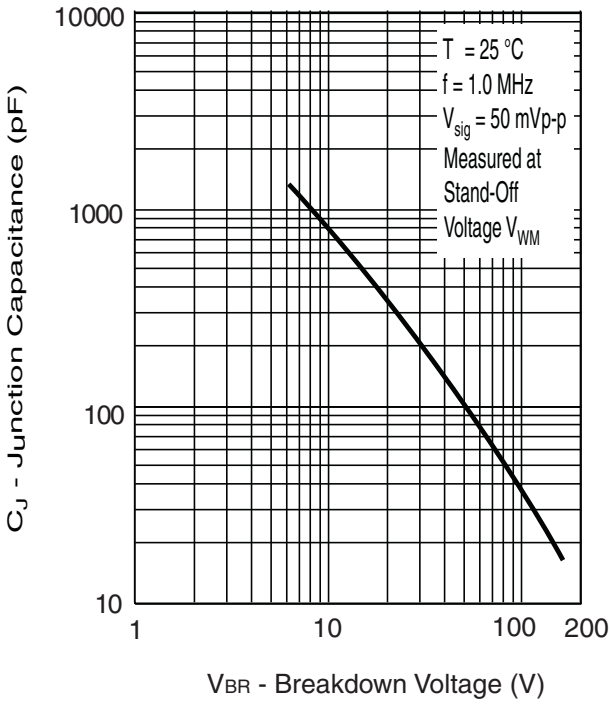
DERATING CURVE



PEAK PULSE POWER RATING CURVE



TYPICAL JUNCTION CAPACITANCE



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Revision History

Date	Revision	Description of Changes
29-Apr-2013	0	Original Data Sheet

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