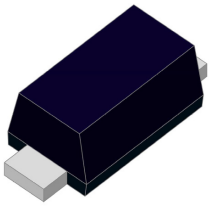
TENTATIVE DATA SHEET

P6SMZ6V8A P6SMZ75A

600W Surface Mount Transient Voltage Suppressor

SOD128



Voltage	Power
6.8 V to 75 V (Uni)	600 W/ms

FEATURE

- Low profile package
- Ideal for automated placement
- 600 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
- Available in uni-directional
- Solder dip 260º, 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 ºC

AUTOMOTIVE GRADE Available

Pb

e3

RoHS COMPLIANT

MECHANICAL DATA

- **Case:** SOD128. Epoxy meets UL 94V-0 flammability rating.
- **Polarity:** 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 low voltage high frecuency inverters, freewheeling, dc-to-dc converters, and polarity protection applications.

Maximun Ratings and Electrical Characteristics at 25 °C

P_{PPM}	Peak Pulse Power Dissipation with 10/1000 µs exponential pulse	600 W
I_{FSM}	Peak forward Surge Current 8.3 ms. (Jedec Method) (Note 1)	100 A
V_F	Max. Forward voltage drop at I_F = 100 A	3.5 V
T_j - T_{stg}	Operating and Storage Temperature Range	- 65 to +150 º C
$R_{th(j-l)}$	Maximum Thermal Resistance (Note 2)	20 º C/W

Note: 1. Mounted on 0.31 x 0.31" (8.0 x 8.0 mm) copper pads to each terminal
2. Thermal Resistance from Junction to Lead per diode

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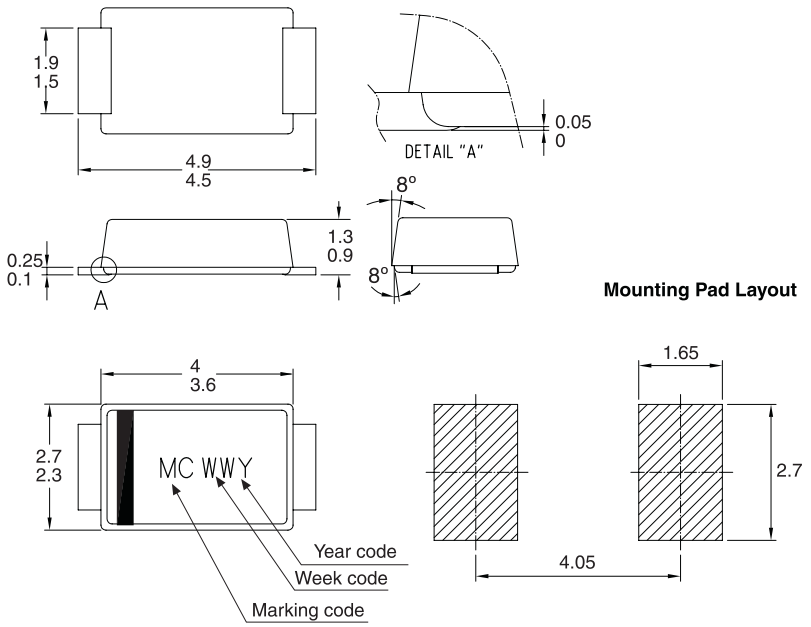
Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
P6SMZ36A HE3 TRTB	TRTB	13" diameter tape and reel	10,000	0.0180

Package Outline Dimensions: (mm) SOD128



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Type		Maximum Reverse Leakage Current I_{RM} at V_{RM}		(1) Breakdown Voltage V_{BR} at I_R (V)				Max. Clamping Voltage V_{CL} at I_{pp} max. 1ms. Expo.	
Unidirectional	Marking Code	(µA)	(V)	Min.	Nom.	Max.	(mA)	(V)	(A)
PS6MZ6V8A	9O	500	5.80	6.45	6.8	7.14	10	10.5	57
PS6MZ7V5A	9P	250	6.40	7.13	7.5	7.88	10	11.3	53
PS6MZ8V2A	9Q	100	7.02	7.79	8.2	8.61	10	12.1	50
PS6MZ9V1A	9R	25	7.78	8.65	9.1	9.55	1	13.4	45
PS6MZ10A	9S	5	8.55	9.50	10	10.5	1	14.5	41
PS6MZ11A	9T	2	9.40	10.5	11	11.6	1	15.6	38
PS6MZ12A	9U	2	10.2	11.4	12	12.6	1	16.7	36
PS6MZ13A	9V	2	11.1	12.4	13	13.7	1	18.2	33
PS6MZ15A	P0	1	12.8	14.3	15	15.8	1	21.2	28
PS6MZ16A	9X	1	13.6	15.2	16	16.8	1	22.5	27
PS6MZ18A	9Y	1	15.3	17.1	18	18.9	1	25.5	24
PS6MZ20A	9Z	1	17.1	19.0	20	21.0	1	27.7	22
PS6MZ22A	08	1	18.8	20.9	22	23.1	1	30.6	20
PS6MZ24A	09	1	20.5	22.8	24	25.2	1	33.2	18
PS6MZ27A	P4	1	23.1	25.7	27	28.4	1	37.5	16
PS6MZ30A	P5	1	25.6	28.5	30	31.5	1	41.4	14.4
PS6MZ33A	P6	1	28.2	31.4	33	34.7	1	45.7	13.2
PS6MZ36A	P7	1	30.8	34.2	36	37.8	1	49.9	12
PS6MZ39A	P8	1	33.3	37.1	39	41.0	1	53.9	11.2
PS6MZ43A	P9	1	36.8	40.9	43	45.2	1	59.3	10.1
PS6MZ47A	L9	1	40.2	44.7	47	49.4	1	64.8	9.3
PS6MZ51A	G8	1	43.6	48.5	51	53.6	1	70.1	8.6
PS6MZ56A	G9	1	47.8	53.2	56	58.8	1	77.0	7.8
PS6MZ62A	E8	1	53.0	58.9	62	65.1	1	85.0	7.1
PS6MZ68A	E9	1	58.1	64.6	68	71.4	1	92.0	6.5
PS6MZ75A	D8	1	64.1	71.3	75	78.8	1	103	5.8

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

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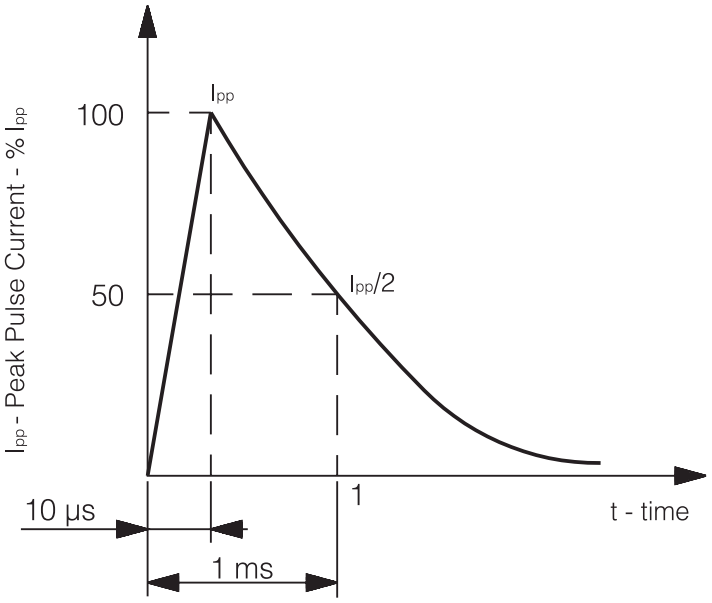
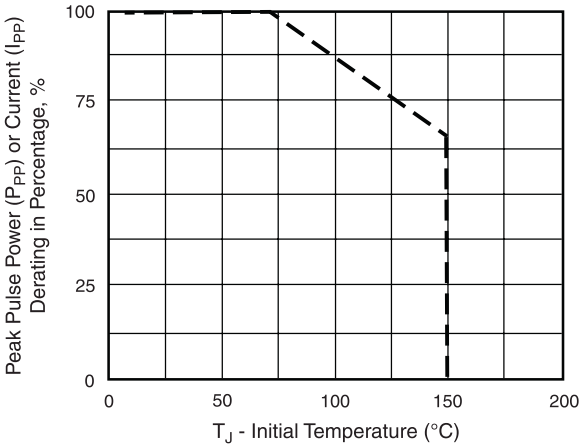
Rating and Characteristics (Ta 25 ºC unless otherwise noted)

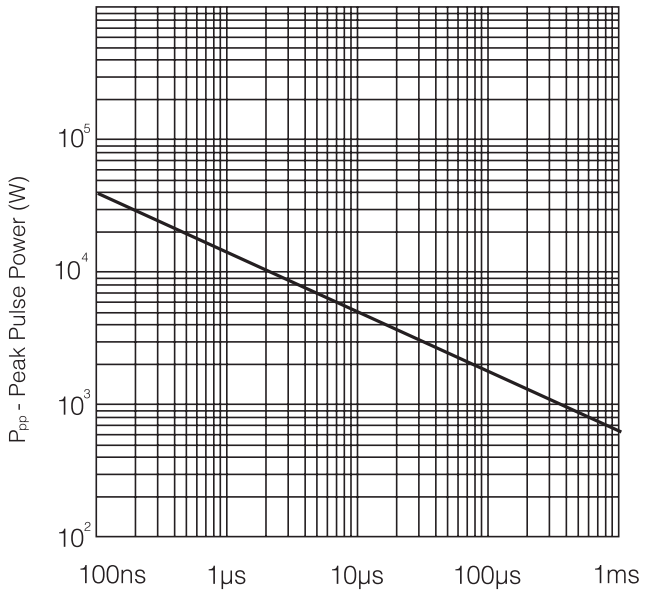


Pulse wave form 10/1000



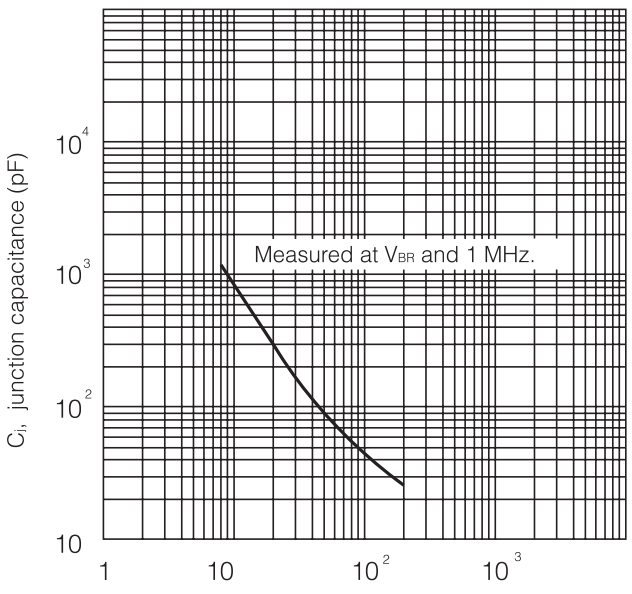
Pulse Power or Current vs. Initial Junction Temperature

PEAK PULSE POWER RATING CURVE



Pulse time - t

TYPICAL JUNCTION CAPACITANCE



V_{BR} - Breakdown voltage (V)

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Revision History

DATE	REVISION	DESCRIPTION OF CHANGES
21-Mar-2018	0	Tentative Data Sheet

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