



# P1CH3.3A ~ P1CH36A Series

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

**Voltage**

**3.3~36 V**

**Power**

**150 W**

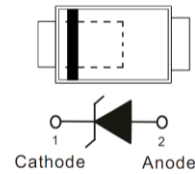
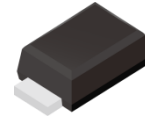
### Features

- Ultra thin profile package for space constrained utilization.
- High temperature soldering : 260°C/10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### Mechanical Data

- Case: Molded plastic, SOD-323HE
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color Band denotes cathode end

SOD-323HE



### Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Peak Pulse Power Dissipation(tp = 10/1000 us)	P <sub>PP</sub> <sup>(1,2)</sup>	150	W
Peak Pulse Current on tp = 10/1000 us waveform <sup>(Fig.2)</sup>	I <sub>PPM</sub> <sup>(1)</sup>	See table 1	A
ESD IEC61000-4-2(Air)	V <sub>ESD</sub>	±30	kV
ESD IEC61000-4-2(Contact)		±30	
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub> <sup>(3)</sup>	300	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C



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

Part Number	$V_{RWM}$	$V_{BR}$			$I_R@V_{RWM}$	$V_C@I_{PP}$		Marking Code
		Min.	Max.	$I_T$		V	A	
	V	V	V	mA	uA			
150W Transient Voltage Suppressor								
P1CH3.3A	3.3	5.2	6	10	50	8.5	17.6	2E1
P1CH5.0A	5	6.4	7	10	5	9.2	16.3	2E2
P1CH6.0A	6	6.67	7.37	10	5	10.3	14.5	2E3
P1CH6.5A	6.5	7.22	7.98	10	4	11.2	13.4	2E4
P1CH7.0A	7	7.78	8.6	10	4	12	12.5	2E5
P1CH7.5A	7.5	8.33	9.21	1	3	12.9	11.6	2E6
P1CH8.0A	8	8.89	9.83	1	2	13.6	11	2E7
P1CH8.5A	8.5	9.44	10.4	1	2	14.4	10.4	2E8
P1CH9.0A	9	10	11.1	1	1	15.4	9.7	2E9
P1CH10A	10	11.1	12.3	1	1	17	8.8	2EA
P1CH11A	11	12.2	13.5	1	1	18.2	8.2	2EC
P1CH12A	12	13.3	14.7	1	1	19.9	7.5	2ED
P1CH13A	13	14.4	15.9	1	0.5	21.5	7	2EE
P1CH14A	14	15.6	17.2	1	0.5	23.2	6.5	2EF
P1CH15A	15	16.7	18.5	1	0.5	24.4	6.1	2EH
P1CH16A	16	17.8	19.7	1	0.5	26	5.8	2EJ
P1CH17A	17	18.9	20.9	1	0.5	27.6	5.3	2EK
P1CH18A	18	20	22.1	1	0.5	29.2	5.1	2EL
P1CH20A	20	22	24.5	1	0.5	32.4	4.6	2EM
P1CH22A	22	24.4	26.9	1	0.5	35.5	4.2	2EN
P1CH24A	24	26.7	29.5	1	0.5	38.9	3.9	2EP
P1CH26A	26	28.9	31.9	1	0.5	42.1	3.6	2ER
P1CH28A	28	31.1	34.4	1	0.5	45.4	3.3	2ET
P1CH30A	30	33.3	36.8	1	0.5	48.4	3.1	2EU
P1CH33A	33	36.7	40.6	1	0.5	53.3	2.8	2EV
P1CH36A	36	40	44.2	1	0.5	58.1	2.6	2EW

**NOTES:**

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A = 25^\circ\text{C}$  per Fig.2
2. Mounted on a FR-4 PCB, single-sided copper, with  $100\text{cm}^2$  copper pad area
3. Mounted on a FR4 PCB, single-sided copper, mini pad
4. TVS is a transient protection device, it is strongly recommended not to use as a Zener.



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## TYPICAL CHARACTERISTIC CURVES

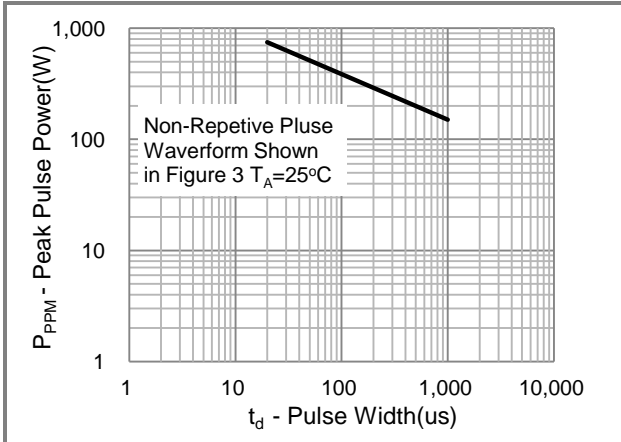


Fig.1 Pulse Power Rating Curve

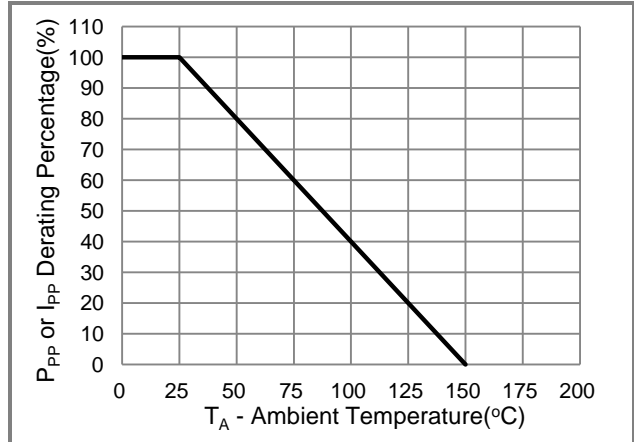


Fig.2 Derating Curve

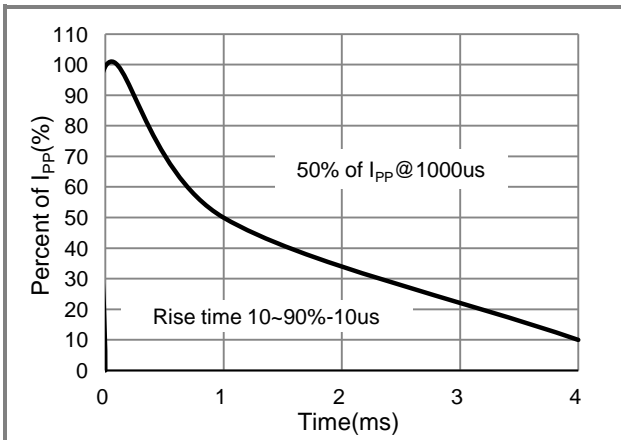


Fig.3 Pulse Waveform

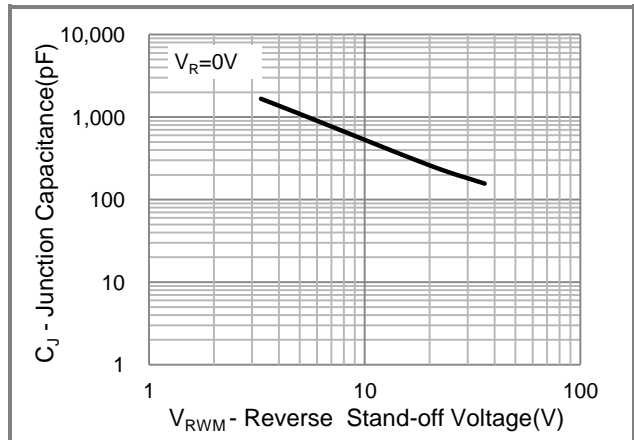


Fig.4 Typical Capacitance

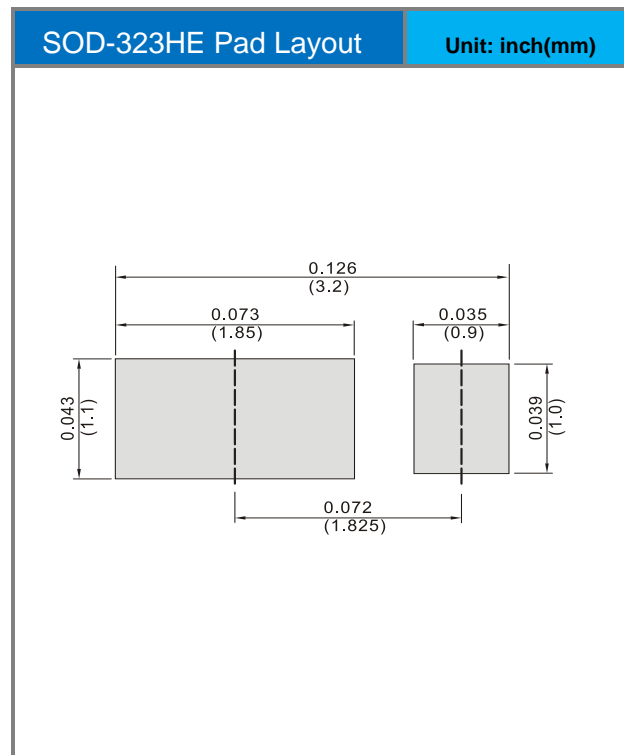
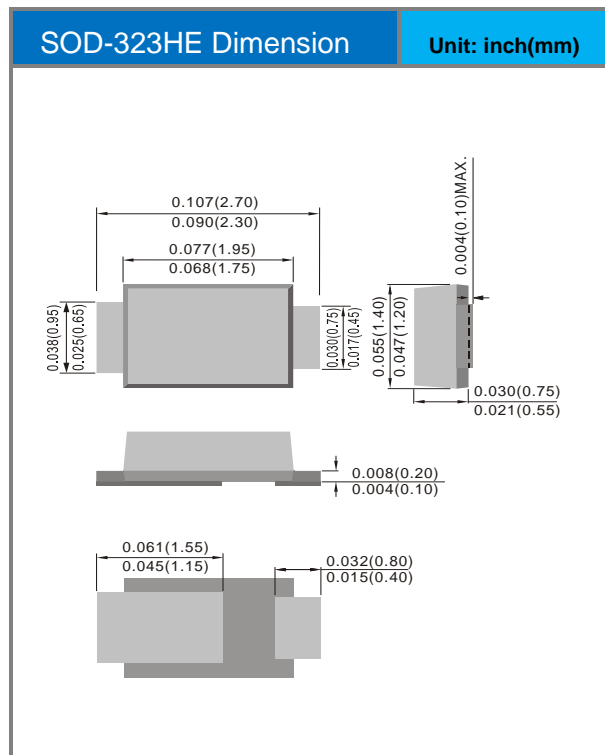


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## Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
P1CHxxxA_R1_00001	SOD-323HE	5K pcs / 7" reel	See Table	Halogen free

## Packaging Information & Mounting Pad Layout





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