



## P4HE3.3A ~ P4HE64A Series

### SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

**Voltage**

**3.3~64 V**

**Power**

**400 W**

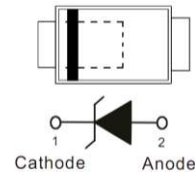
#### Features

- 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-123HE
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color Band denotes cathode end
- Approx. Weight: 0.0006 ounces, 0.0184 grams

SOD-123HE



### 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>	400	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)	V <sub>ESD</sub>	±30	kV
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub> <sup>(3)</sup>	185	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-65~150	°C



## P4HE3.3A ~ P4HE64A Series

### 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	$\mu\text{A}$			
400W Transient Voltage Suppressor								
P4HE3.3A	3.3	5.2	6	10	100	8.5	47	4F1
P4HE5.0A	5	6.4	7	10	50	9.2	43.5	4F2
P4HE6.0A	6	6.67	7.37	10	50	10.3	38.8	4F3
P4HE6.5A	6.5	7.22	7.98	10	40	11.2	35.7	4F4
P4HE7.0A	7	7.78	8.6	10	40	12	33.3	4F5
P4HE7.5A	7.5	8.33	9.21	1	30	12.9	31	4F6
P4HE8.0A	8	8.89	9.83	1	5	13.6	29.4	4F7
P4HE8.5A	8.5	9.44	10.4	1	5	14.4	27.8	4F8
P4HE9.0A	9	10	11.1	1	0.5	15.4	26	4F9
P4HE10A	10	11.1	12.3	1	0.5	17	23.5	4FA
P4HE11A	11	12.2	13.5	1	0.5	18.2	22	4FB
P4HE12A	12	13.3	14.7	1	0.5	19.9	20.1	4FC
P4HE13A	13	14.4	15.9	1	0.1	21.5	18.6	4FD
P4HE14A	14	15.6	17.2	1	0.1	23.2	17.2	4FE
P4HE15A	15	16.7	18.5	1	0.1	24.4	16.4	4FF
P4HE16A	16	17.8	19.7	1	0.1	26	15.4	4FH
P4HE17A	17	18.9	20.9	1	0.1	27.6	14.5	4FJ
P4HE18A	18	20	22.1	1	0.1	29.2	13.7	4FK
P4HE20A	20	22.2	24.5	1	0.1	32.4	12.3	4FL
P4HE22A	22	24.4	26.9	1	0.1	35.5	11.3	4FM
P4HE24A	24	26.7	29.5	1	0.1	38.9	10.3	4FN
P4HE26A	26	28.9	31.9	1	0.1	42.1	9.5	4FP
P4HE28A	28	31.1	34.4	1	0.1	45.4	8.8	4FR
P4HE30A	30	33.3	36.8	1	0.1	48.4	8.3	4FT
P4HE33A	33	36.7	40.6	1	0.1	53.3	7.5	4FU
P4HE36A	36	40	44.2	1	0.1	58.1	6.9	4FV
P4HE40A	40	44.4	49.1	1	0.1	64.5	6.2	4FW
P4HE43A	43	47.8	52.8	1	0.1	69.4	5.8	4FX
P4HE45A	45	50	55.3	1	0.1	72.7	5.5	4FY
P4HE48A	48	53.3	58.9	1	0.1	77.4	5.2	4FZ
P4HE51A	51	56.7	62.7	1	0.1	82.4	4.9	4H1



## P4HE3.3A ~ P4HE64A Series

### 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	$\mu\text{A}$			
400W Transient Voltage Suppressor								
P4HE54A	54	60	66.3	1	0.1	87.1	4.6	4H2
P4HE58A	58	64.4	71.2	1	0.1	93.6	4.3	4H3
P4HE60A	60	66.7	73.7	1	0.1	96.8	4.1	4H4
P4HE64A	64	71.1	78.6	1	0.1	103	3.9	4H5

**NOTES:**

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A = 25^\circ\text{C}$  per Fig.2
2. Mounted on  $5\text{mm}^2$  copper pads to each terminal
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.



# P4HE3.3A ~ P4HE64A Series

## TYPICAL CHARACTERISTIC CURVES

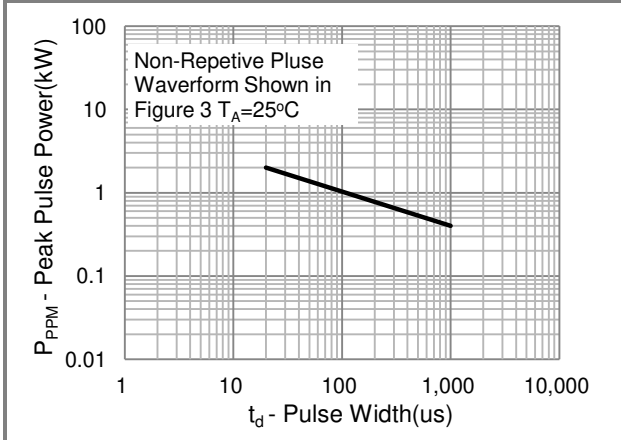


Fig.1 Pulse Power Rating Curve

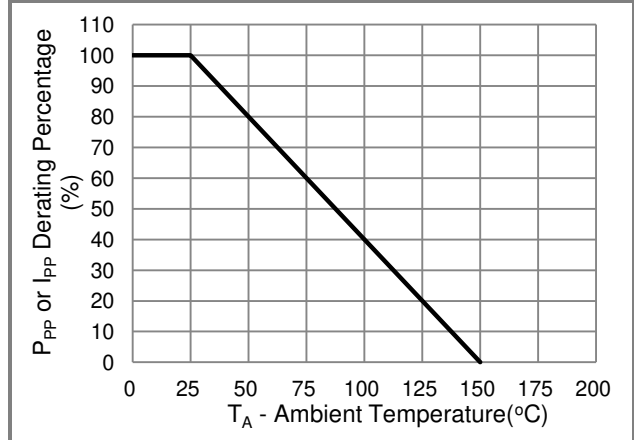


Fig.2 Derating Curve

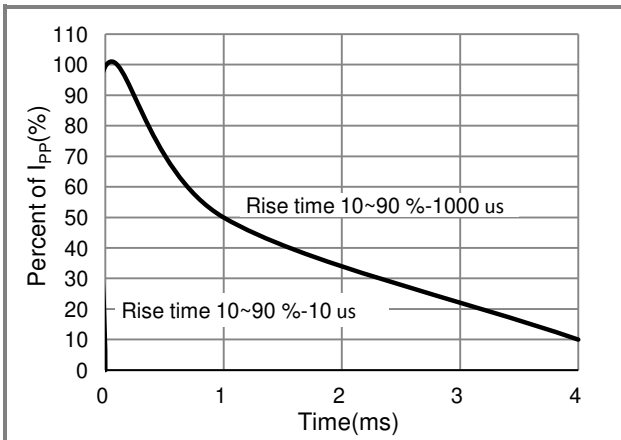


Fig.3 Pulse Waveform

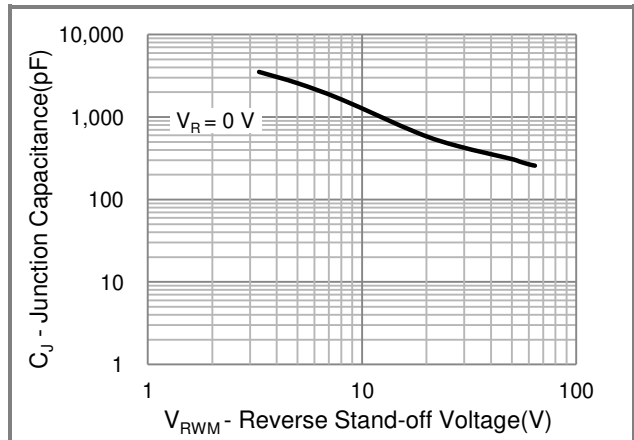


Fig.4 Typical Capacitance

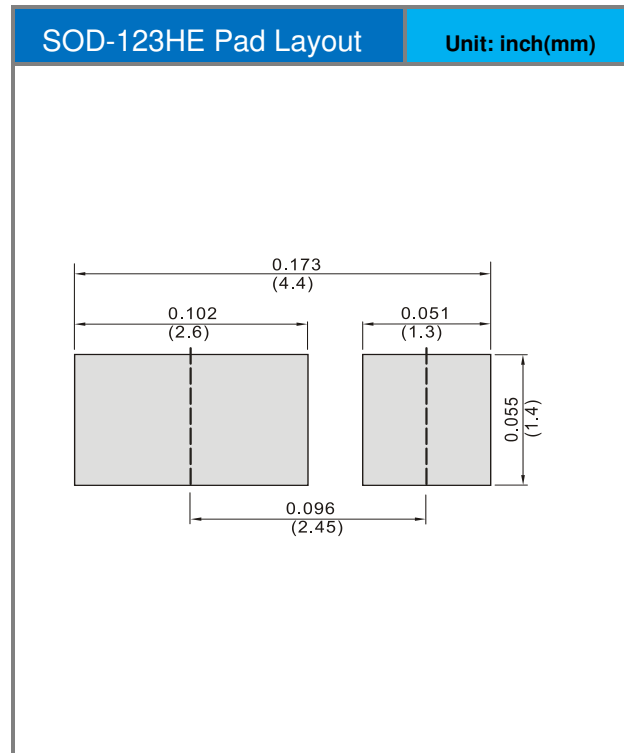
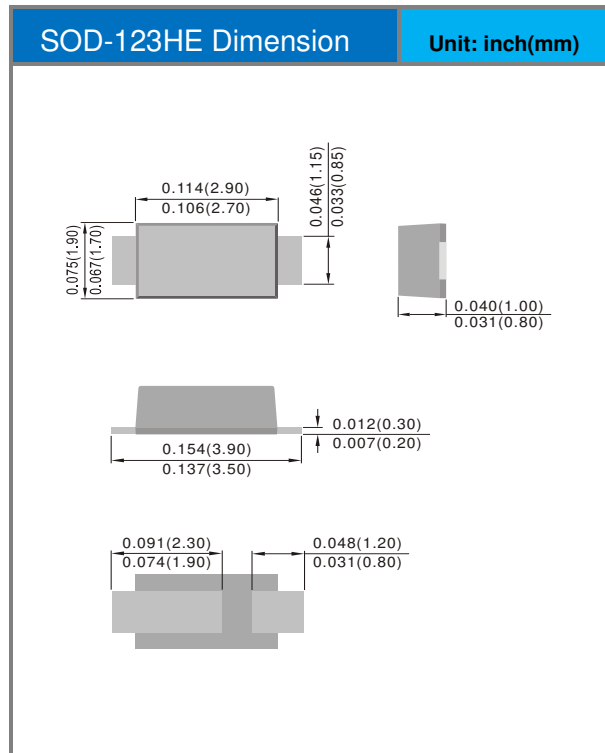


## P4HE3.3A ~ P4HE64A Series

### Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
P4HExxxA_R1_00001	SOD-123HE	3K pcs / 7" reel	See Table	Halogen free

### Packaging Information & Mounting Pad Layout





## **P4HE3.3A ~ P4HE64A Series**

---

### **Disclaimer**

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.