

P6KE6.8A THRU P6KE440A  
P6KE6.8CA THRU P6KE440CA

UNI-DIRECTIONAL  
AND BI-DIRECTIONAL  
SILICON TRANSIENT  
VOLTAGE SUPPRESSORS  
600 WATTS, 6.8 THRU 440 VOLTS



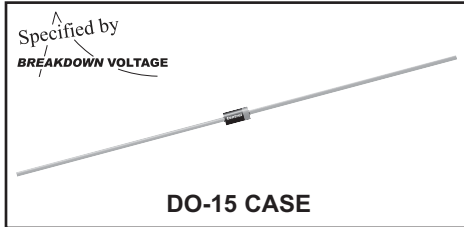
www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR P6KE6.8A (Uni-Directional) and P6KE6.8CA (Bi-Directional) Series types are Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients.

**THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

Note: For Uni-Directional devices add suffix "A" to part number. For Bi-Directional devices add suffix "CA" to part number.



**MARKING: FULL PART NUMBER**  
**Bi-directional devices shall not be marked with a Cathode band.**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

Peak Power Dissipation (Note 1)  
Steady State Power Dissipation ( $T_L=75^\circ\text{C}$ )  
Forward Surge Current (Uni-Directional only)  
Operating and Storage Junction Temperature

**SYMBOL** **UNITS**

$P_{PK}$	600	W
$P_D$	5.0	W
$I_{FSM}$	100	A
$T_J, T_{stg}$	-65 to +175	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

TYPE	BREAKDOWN VOLTAGE			TEST CURRENT $I_T$ mA	WORKING PEAK REVERSE VOLTAGE $V_{RWM}$ V	MAXIMUM REVERSE LEAKAGE CURRENT $I_R @ V_{RWM}$ $\mu\text{A}$	MAXIMUM CLAMPING VOLTAGE $V_C @ I_{PP}$ V	PEAK PULSE CURRENT (Note 1) $I_{PP}$ A	MAXIMUM TEMPERATURE COEFFICIENT $\theta_{V_{BR}}$ % / $^\circ\text{C}$
	$V_{BR} @ I_T$								
	MIN V	NOM V	MAX V						
P6KE6.8	6.45	6.8	7.14	10	5.8	1000	10.5	57	0.057
P6KE7.5	7.13	7.5	7.88	10	6.4	500	11.3	53	0.061
P6KE8.2	7.79	8.2	8.61	10	7.02	200	12.1	50	0.065
P6KE9.1	8.65	9.1	9.55	1.0	7.78	50	13.4	45	0.068
P6KE10	9.5	10	10.5	1.0	8.55	10	14.5	41	0.073
P6KE11	10.5	11	11.6	1.0	9.4	5.0	15.6	38	0.075
P6KE12	11.4	12	12.6	1.0	10.2	5.0	16.7	36	0.078
P6KE13	12.4	13	13.7	1.0	11.1	5.0	18.2	33	0.081
P6KE15	14.3	15	15.8	1.0	12.8	5.0	21.2	28	0.084
P6KE16	15.2	16	16.8	1.0	13.6	5.0	22.5	27	0.086
P6KE18	17.1	18	18.9	1.0	15.3	5.0	25.2	24	0.088
P6KE20	19.0	20	21.0	1.0	17.1	5.0	27.7	22	0.090
P6KE22	20.9	22	23.1	1.0	18.8	5.0	30.6	20	0.092
P6KE24	22.8	24	25.2	1.0	20.5	5.0	33.2	18	0.094
P6KE27	25.7	27	28.4	1.0	23.1	5.0	37.5	16	0.096
P6KE30	28.5	30	31.5	1.0	25.6	5.0	41.4	14.4	0.097
P6KE33	31.4	33	34.7	1.0	28.2	5.0	45.7	13.2	0.098
P6KE36	34.2	36	37.8	1.0	30.8	5.0	49.9	12	0.099
P6KE39	37.1	39	41	1.0	33.3	5.0	53.9	11.2	0.100
P6KE43	40.9	43	45.2	1.0	36.8	5.0	59.3	10.1	0.101

Notes: (1) Non-repetitive 10x1,000 $\mu\text{s}$  pulse.

R1 (8-September 2011)

P6KE6.8A THRU P6KE440A  
P6KE6.8CA THRU P6KE440CA

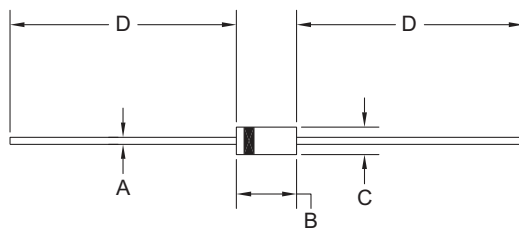
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**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

TYPE	BREAKDOWN VOLTAGE			TEST CURRENT $I_T$ mA	WORKING PEAK REVERSE VOLTAGE $V_{RWM}$ V	MAXIMUM REVERSE LEAKAGE CURRENT $I_R @ V_{RWM}$ $\mu\text{A}$	MAXIMUM CLAMPING VOLTAGE $V_C @ I_{PP}$ V	PEAK PULSE CURRENT (Note 1) $I_{PP}$ A	MAXIMUM TEMPERATURE COEFFICIENT $\Theta V_{BR}$ %/ $^\circ\text{C}$
	$V_{BR} @ I_T$								
	MIN V	NOM V	MAX V						
P6KE47	44.7	47	49.4	1.0	40.2	5.0	64.8	9.3	0.101
P6KE51	48.5	51	53.6	1.0	43.6	5.0	70.1	8.6	0.102
P6KE56	53.2	56	58.8	1.0	47.8	5.0	77	7.8	0.103
P6KE62	58.9	62	65.1	1.0	53.0	5.0	85	7.1	0.104
P6KE68	64.6	68	71.4	1.0	58.1	5.0	92	6.5	0.104
P6KE75	71.3	75	78.8	1.0	64.1	5.0	103	5.8	0.105
P6KE82	77.9	82	86.1	1.0	70.1	5.0	113	5.3	0.105
P6KE91	86.5	91	95.5	1.0	77.8	5.0	125	4.8	0.106
P6KE100	95.0	100	105	1.0	85.5	5.0	137	4.4	0.106
P6KE110	104.5	110	115.5	1.0	94.0	5.0	152	4.0	0.107
P6KE120	114	120	126	1.0	102	5.0	165	3.6	0.107
P6KE130	123.5	130	136.5	1.0	111	5.0	179	3.3	0.107
P6KE150	142.5	150	157.5	1.0	128	5.0	207	2.9	0.108
P6KE160	152	160	168	1.0	136	5.0	219	2.7	0.108
P6KE170	161.5	170	178.5	1.0	145	5.0	234	2.6	0.108
P6KE180	171	180	189	1.0	154	5.0	246	2.4	0.108
P6KE200	190	200	210	1.0	171	5.0	274	2.2	0.108
P6KE220	209	220	231	1.0	185	5.0	328	2.0	0.108
P6KE250	237.5	250	262.5	1.0	214	5.0	344	2.0	0.110
P6KE300	285	300	315	1.0	256	5.0	414	2.0	0.110
P6KE350	332.5	350	367.5	1.0	300	5.0	482	2.0	0.110
P6KE400	380	400	420	1.0	342	5.0	548	2.0	0.110
P6KE440	418	440	462	1.0	376	5.0	600	2.0	0.110

**DO-15 CASE - MECHANICAL OUTLINE**



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.028	0.034	0.71	0.86
B	0.230	0.300	5.84	7.62
C	0.104	0.140	2.64	3.56
D	1.000	-	25.40	-

DO-15 (REV: R1)

**MARKING: FULL PART NUMBER**  
Bi-directional devices shall not be marked with a Cathode band.

R1 (8-September 2011)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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