

P6KE6V8(C)A - P6KE400(C)A

600W TRANSIENT VOLTAGE SUPPRESSOR

Features

- 600W Peak Pulse Power Dissipation
- Voltage Range 6.8V 400V
- Constructed with Glass Passivated Die
- Uni- and Bidirectional Versions Available
- **Excellent Clamping Capability**
- Fast Response Time
- Lead Free Finish, RoHS Compliant (Note 1)

Mechanical Data

- Case: DO-15
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Leads: Plated Leads, Solderable per MIL-STD-202, Method 208 (3)
- Marking: Unidirectional Type Number and Cathode Band
- Marking: Bidirectional Type Number Only
- Ordering Information: See Page 4
- Weight: 0.4 grams (approximate)

Maximum Ratings $@T_A = 25^{\circ}C$ unless otherwise specified

Characteristic	Symbol	Value	Unit	
Peak Power Dissipation, $t_p = 1.0 \text{ ms}$ (Non repetitive current pulse, derated above $T_A = 25^{\circ}\text{C}$)		P_{pk}	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave, Superir Load Duty Cycle = 4 pulses per minute maximum	I _{FSM}	100	А	
Forward Voltage @ I _F = 35A 300µs Square Wave Pulse, Unidirectional Only	$V_{BR} \le 200V$ $V_{BR} > 200V$	V_{F}	3.5 5.0	V

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Steady State Power Dissipation at $T_L = 75^{\circ}C$ Lead Lengths 9.5 mm (Mounted on Copper Land Area of 40mm)	P _D	5.0	W
Typical Thermal Resistance, Junction to Case	Rejc	20	°C/W
Typical Thermal Resistance, Junction to Lead	R _{0JL}	15	°C/W
Typical Thermal Resistance, Junction to Ambient	R _{0JA}	75	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +175	°C

Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.



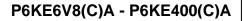
Electrical Characteristics @T_A = 25°C unless otherwise specified

Туре	Туре	Reverse	Breakdow	n Voltage	Test	Max Reverse	Max Clamping	Max Peak
Number (Note 2)	Number (Note 2)	Standoff Voltage		. @ ІТ	Current	Leakage (Note 3) @ V _R	Voltage @ I _{pp}	Pulse Current
(UNI)	(BI)	V _{RWM} (V)	Min (V)	Max (V)	I _T (mA)	I _R (μA)	V _C (V)	I _{PP} (A)
P6KE6V8A	P6KE6V8CA	5.80	6.45	7.14	10	1000	10.5	57.0
P6KE7V5A	P6KE7V5CA	6.40	7.13	7.88	10	500	11.3	53.0
P6KE8V2A	P6KE8V2CA	7.02	7.79	8.61	10	200	12.1	50.0
P6KE9V1A	P6KE9V1CA	7.78	8.65	9.55	1.0	50	13.4	45.0
P6KE10A	P6KE10CA	8.55	9.50	10.50	1.0	10	14.5	41.0
P6KE11A	P6KE11CA	9.40	10.50	11.60	1.0	5.0	15.6	38.0
P6KE12A	P6KE12CA	10.20	11.40	12.60	1.0	5.0	16.7	36.0
P6KE13A	P6KE13CA	11.10	12.40	13.70	1.0	5.0	18.2	33.0
P6KE15A	P6KE15CA	12.80	14.30	15.80	1.0	5.0	21.2	28.0
P6KE16A	P6KE16CA	13.60	15.20	16.80	1.0	5.0	22.5	27.0
P6KE18A	P6KE18CA	15.30	17.10	18.90	1.0	5.0	25.2	24.0
P6KE20A	P6KE20CA	17.10	19.00	21.00	1.0	5.0	27.7	22.0
P6KE22A P6KE24A	P6KE22CA P6KE24CA	18.80 20.50	20.90 22.80	23.10 25.20	1.0	5.0 5.0	30.6 33.2	20.0
P6KE24A	P6KE27CA	23.10	25.70	28.40	1.0	5.0	37.5	16.0
P6KE30A	P6KE30CA	25.60	28.50	31.50	1.0	5.0	41.4	14.40
P6KE33A	P6KE33CA	28.20	31.40	34.70	1.0	5.0	45.7	13.20
P6KE36A	P6KE36CA	30.80	34.20	37.80	1.0	5.0	49.9	12.00
P6KE39A	P6KE39CA	33.30	37.10	41.00	1.0	5.0	53.9	11.20
P6KE43A	P6KE43CA	36.80	40.90	45.20	1.0	5.0	59.3	10.10
P6KE47A	P6KE47CA	40.20	44.70	49.40	1.0	5.0	64.8	9.30
P6KE51A	P6KE51CA	43.60	48.50	53.60	1.0	5.0	70.1	8.60
P6KE56A	P6KE56CA	47.80	53.20	58.80	1.0	5.0	77.0	7.80
P6KE62A	P6KE62CA	53.00	58.90	65.10	1.0	5.0	85.0	7.10
P6KE68A	P6KE68CA	58.10	64.60	71.40	1.0	5.0	92.0	6.50
P6KE75A	P6KE75CA	64.10	71.30	78.80	1.0	5.0	103.0	5.80
P6KE82A	P6KE82CA	70.10	77.90	86.10	1.0	5.0	113.0	5.30
P6KE91A	P6KE91CA	77.80	86.50	95.50	1.0	5.0	125.0	4.80
P6KE100A	P6KE100CA	85.50	95.00	105.00	1.0	5.0	137.0	4.40
P6KE110A	P6KE110CA	94.00	105.00	116.00	1.0	5.0	152.0	4.00
P6KE120A	P6KE120CA	102.00	114.00	126.00	1.0	5.0	165.0	3.60
P6KE130A	P6KE130CA	111.00	124.00	137.00	1.0	5.0	179.0	3.30
P6KE150A	P6KE150CA	128.00	143.00	158.00	1.0	5.0	207.0	2.90
P6KE160A	P6KE160CA	136.00	152.00	168.00	1.0	5.0	219.0	2.70
P6KE170A	P6KE170CA	145.00	162.00	179.00	1.0	5.0	234.0	2.60
P6KE180A	P6KE180CA	154.00	171.00	189.00	1.0	5.0	246.0	2.40
P6KE200A	P6KE200CA	171.00	190.00	210.00	1.0	5.0	274.0	2.20
P6KE220A	P6KE220CA	185.00	209.00	231.00	1.0	5.0	328.0	1.83
P6KE250A	P6KE250CA	214.00	237.00	263.00	1.0	5.0	344.0	1.75
P6KE300A	P6KE300CA	256.00	285.00	315.00	1.0	5.0	414.0	1.45
P6KE350A	P6KE350CA	300.00	332.00	368.00	1.0	5.0	482.0	1.25
P6KE400A	P6KE400CA	342.00	380.00	420.00	1.0	5.0	548.0	1.10

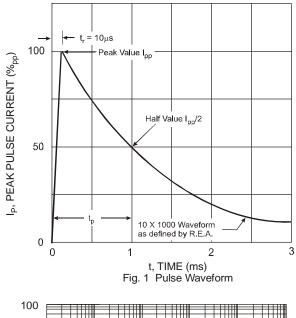
Notes:

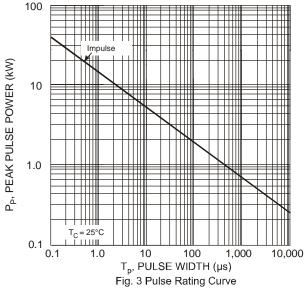
^{2.} Suffix 'C' denotes bidirectional device.

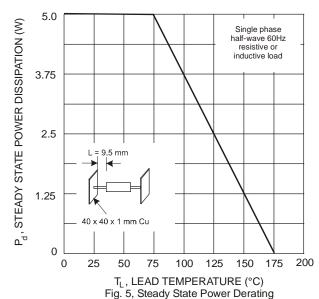
^{3.} For bidirectional devices having V_R of 10 volts and under, the I_R limit is doubled.



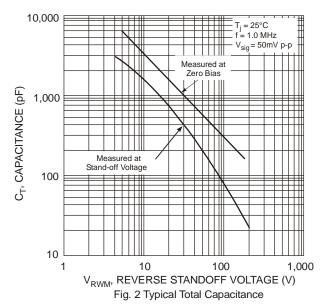


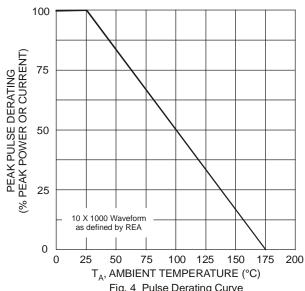


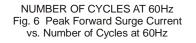




25 10 X 1000 Waveform as defined by REA 0 0 75 100 125 150 Fig. 4 Pulse Derating Curve 1,000 I_{FSM}, PEAK FORWARD SURGE CURRENT (A)







10

8.3 mS Single half sine-wave

100

10

0

1

200

100



Ordering Information (Note 4)

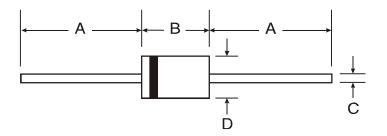
Part Number	Case	Packaging
(Type Number)-B*	DO-15	500/Bulk
(Type Number)-T*	DO-15	4K/Tape & Reel, 13-inch

^{*} Add "-B" or "-T" to the appropriate type number in Table 1 for Bulk or Tape & Reel, respectively. Example: 6.40V VRWM = P6KE7V5A-B for Bulk, P6KE7V5A-T for Tape & Reel.

Notes:

4. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02008.pdf.

Package Outline Dimensions



DO-15			
Dim	Min	Max	
Α	25.40	_	
В	5.50	7.62	
С	0.686	0.889	
D	2.60	3.60	
All Dimensions in mm			



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