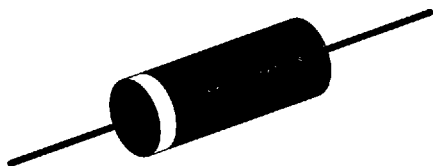


P4KE6.8-400CA

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

Voltage 6.8 to 400 Volts 400 Watt Peak Pulse Power



Mechanical Data
 Case: JEDEC DO-204AL moulded plastic over passivated junction
 Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
 Polarity: Colour band denotes positive end (cathode) except bi-directional types
 Mounting Position: Any
 Weight: 0.012 ounce, 0.3 gram

JEDEC
DO-204AL



Features:

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction in DO-41 package
- 400W Peak Pulse Power capability on 10/1000 μ s waveform
- Repetition Rate (duty cycle): 0.01%
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time: typically less than 1.0 ps from 0 volts to BV for unidirectional Et 5.0 nS for bidirectional types
- Typical ID less than 1 μ A above 10V
- High temperature soldering guaranteed: 265°C/10 seconds/375", (9.5mm) lead length/5lbs., (2.3 kg) tension

Devices for Bi-Directional Applications

For Bi-directional use C or CA Suffix.

Maximum Ratings and Characteristics

@ 25°C ambient temperature unless otherwise specified

		Value	Units
P_{PPM}	Peak Power Dissipation @ $T_A = 25^\circ\text{C}$ 10/1000 μ s Waveform (Note 1)	Min 400	Watts
I_{PPM}	Peak Pulse Current @ $T_A = 25^\circ\text{C}$. on 10/1000 μ s waveform (Note 1)	See Table	Amps
$P_{M(AV)}$	Steady State Power Dissipation @ $T_L = 75^\circ\text{C}$. Lead Length .375", (9.5mm) (Note 2)	1.0	Watts
I_{FSM}	Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 3) Unidirectional only	40.0	Amps
V_F	Maximum Instantaneous Forward Voltage @ 50 A for Uni-directional only (Note 3)	3.5	Volts
T_{JTSG}	Operating Junction and Storage Temperature Range	-55 to + 175	°C.

Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above $T_a = 25^\circ\text{C}$ per Fig. 2.
2. Mounted on Copper Leaf area of 1.57 in² (40mm²) per Fig. 5.
3. 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per Minute maximum.

P4KE6.8-400CA Series

Device	Breakdown Voltage VBR @ IT		@ IT	Reverse Stand-off Voltage Vwm	Max Reverse Leakage @ Vwm (Note 3)	Max Peak Pulse Current Ipp (Note 2)	Max Clamping Voltage @ Ipp	Max Temp. Coefficient of Vbr
	Min	Max						
P4KE6.8	6.12	7.48	10	5.50	1000	38	10.8	0.057
P4KE6.8A	6.45	7.14	10	5.80	1000	40	10.5	0.057
P4KE7.5	6.75	8.25	10	6.05	500	36	11.7	0.061
P4KE7.5A	7.13	7.88	10	6.40	500	37	11.3	0.061
P4KE8.2	7.38	9.02	10	6.63	200	33	12.5	0.065
P4KE8.2A	7.79	8.61	10	7.02	200	35	12.1	0.065
P4KE9.1	8.19	10.0	1.0	7.37	50	30	13.8	0.068
P4KE9.1A	8.65	9.55	1.0	7.78	50	31	13.4	0.068
P4KE10	9.00	11.0	1.0	8.10	10	28	15.0	0.073
P4KE10A	9.50	10.5	1.0	8.55	10	29	14.5	0.073
P4KE11	9.90	12.1	1.0	8.92	5.0	26	16.2	0.075
P4KE11A	10.5	11.6	1.0	9.40	5.0	27	15.6	0.075
P4KE12	10.8	13.2	1.0	9.72	5.0	24	17.3	0.076
P4KE12A	11.4	12.6	1.0	10.2	5.0	25	16.7	0.078
P4KE13	11.7	14.3	1.0	10.5	5.0	22	19.0	0.081
P4KE13A	12.4	13.7	1.0	11.1	5.0	23	18.2	0.081
P4KE15	13.5	16.5	1.0	12.1	5.0	19	22.0	0.084
P4KE15A	14.3	15.8	1.0	12.8	5.0	20	21.2	0.084
P4KE16	14.4	17.6	1.0	12.9	5.0	18	23.5	0.086
P4KE16A	15.2	16.8	1.0	13.6	5.0	19	22.5	0.086
P4KE18	16.2	19.8	1.0	14.5	5.0	16	26.5	0.088
P4KE18A	17.1	18.9	1.0	15.3	5.0	17	25.5	0.088
P4KE20	18.0	22.0	1.0	16.2	5.0	14	29.1	0.090
P4KE20A	19.0	21.0	1.0	17.1	5.0	15	27.7	0.090
P4KE22	19.8	24.2	1.0	17.8	5.0	13	31.9	0.092
P4KE22A	20.9	23.1	1.0	18.8	5.0	14	30.6	0.092
P4KE24	21.6	26.4	1.0	19.4	5.0	12	34.7	0.094
P4KE24A	22.8	25.2	1.0	20.5	5.0	13	33.2	0.094
P4KE27	24.3	29.7	1.0	21.8	5.0	11	39.1	0.096
P4KE27A	25.7	28.4	1.0	23.1	5.0	11.2	37.5	0.096
P4KE30	27.0	33.0	1.0	24.3	5.0	10	43.5	0.097
P4KE30A	28.5	31.5	1.0	25.6	5.0	10	41.4	0.097
P4KE33	29.7	36.3	1.0	26.8	5.0	9	47.7	0.098
P4KE33A	31.4	34.7	1.0	28.2	5.0	9	45.7	0.098
P4KE36	32.4	39.6	1.0	29.1	5.0	8	52.0	0.099
P4KE36A	34.2	37.8	1.0	30.8	5.0	8.4	49.9	0.099
P4KE39	35.1	42.9	1.0	31.6	5.0	7.4	56.4	0.100
P4KE39A	37.1	41.0	1.0	33.3	5.0	7.8	53.9	0.100
P4KE43	38.7	47.3	1.0	34.8	5.0	6.8	61.9	0.101
P4KE43A	40.9	45.2	1.0	36.8	5.0	7.1	59.3	0.101
P4KE47	42.3	51.7	1.0	38.1	5.0	6.2	67.8	0.101
P4KE47A	44.7	49.4	1.0	40.2	5.0	5.0	64.8	0.101
P4KE51	45.9	56.1	1.0	41.3	5.0	5.7	73.5	0.102
P4KE51A	48.5	53.6	1.0	43.6	5.0	6.0	70.1	0.102
P4KE56	50.4	61.6	1.0	45.4	5.0	5.2	80.5	0.103
P4KE56A	53.2	58.8	1.0	47.8	5.0	5.5	77.0	0.103
P4KE62	55.8	68.2	1.0	50.2	5.0	4.7	89.0	0.104
P4KE62A	58.9	65.1	1.0	53.0	5.0	5.0	85.0	0.104
P4KE68	61.2	74.8	1.0	55.1	5.0	4.3	98.0	0.104
P4KE68A	64.6	71.4	1.0	58.1	5.0	4.6	92.0	0.104
P4KE75	67.5	82.5	1.0	60.7	5.0	3.9	108	0.105
P4KE75A	71.3	78.8	1.0	64.1	5.0	4.1	103	0.105



P4KE6.8-400CA Series

Device	Breakdown Voltage VBR @ IT (Note 1)		@ IT	Reverse Stand- off Voltage Vwm	Max Reverse Leakage @ Vwm (Note 3)	Max Peak Pulse Current Ipp (Nt 2)	Max Clamping Voltage @ Ipp	Max Temp. Coefficient of Vbr
	Min	Max						
P4KE82	73.8	90.2	1.0	66.4	5.0	3.6	118	0.105
P4KE82A	77.9	86.1	1.0	70.1	5.0	3.7	113.0	0.105
P4KE91	81.9	100	1.0	73.7	5.0	3.2	131	0.106
P4KE91A	86.5	95.5	1.0	77.8	5.0	3.4	125	0.106
P4KE100	90.0	110	1.0	81.0	5.0	2.9	144	0.106
P4KE100A	95.0	105	1.0	85.5	5.0	3.1	137	0.106
P4KE110	99.0	121	1.0	89.2	5.0	2.7	158	0.107
P4KE110A	105	116	1.0	94.0	5.0	2.8	152	0.107
P4KE120	108	132	1.0	97.2	5.0	2.4	173	0.107
P4KE120A	114	126	1.0	102	5.0	2.5	165	0.107
P4KE130	117	143	1.0	105	5.0	2.2	187	0.107
P4KE130A	124	137	1.0	111	5.0	2.3	179	0.107
P4KE150	135	165	1.0	121	5.0	2.0	215	0.108
P4KE150A	143	158	1.0	128	5.0	2.0	207	0.108
P4KE160	144	176	1.0	130	5.0	1.8	230	0.108
P4KE160A	152	168	1.0	136	5.0	1.9	219	0.108
P4KE170	153	187	1.0	138	5.0	1.7	244	0.108
P4KE170A	162	179	1.0	145	5.0	1.8	234	0.108
P4KE180	162	198	1.0	146	5.0	1.6	258	0.108
P4KE180A	171	189	1.0	154	5.0	1.7	246	0.108
P4KE200	180	220	1.0	162	5.0	1.5	287	0.108
P4KE200A	190	210	1.0	171	5.0	1.53	274	0.108
P4KE220	198	242	1.0	175	5.0	1.16	344	0.108
P4KE220A	209	231	1.0	185	5.0	1.22	328	0.108
P4KE250	225	275	1.0	202	5.0	1.11	360	0.110
P4KE250A	237	267	1.0	214	5.0	1.16	344	0.110
P4KE300	270	330	1.0	243	5.0	0.93	430	0.110
P4KE300A	285	315	1.0	256	5.0	0.97	414	0.110
P4KE350	315	385	1.0	284	5.0	0.79	504	0.110
P4KE350A	332	368	1.0	300	5.0	0.83	482	0.110
P4KE400	360	440	1.0	324	5.0	0.70	574	0.110
P4KE400A	380	420	1.0	342	5.0	0.73	548	0.110

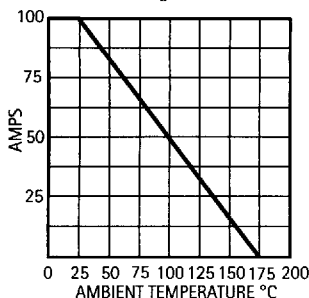
Notes:

1. Vbr measured after It applied for 300us. It = Square Wave Pulse or equivalent.
2. Surge current waveform per Figure 3 and Derated per Figure 2.
3. For Bidirectional types having Vr of 10 volts and less, the Id limit is doubled.
4. All terms and symbols are consistent with ANSI/IEEE C62.35.

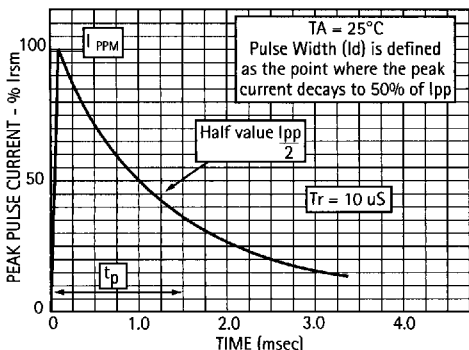
P4KE6.8-400CA Series

P4KE6.8-400 Series

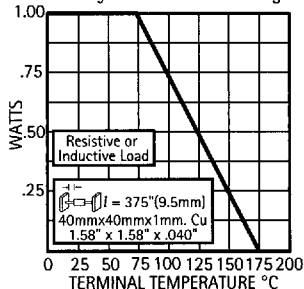
Pulse Derating Curve



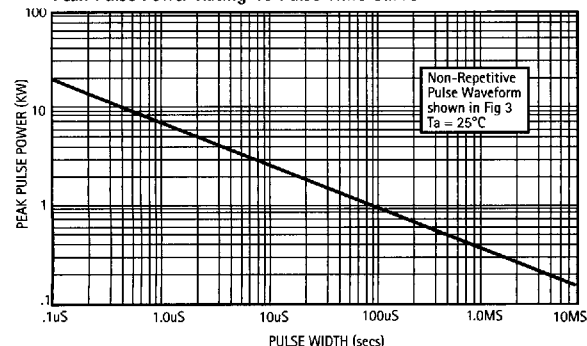
Pulse Waveform



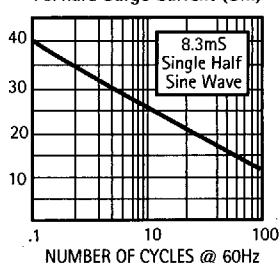
Steady State Power Derating



Peak Pulse Power Rating Vs Pulse Time Curve



Max Non-Repetitive Peak Forward Surge Current (Uni)



Typical Junction Capacitance - Uni Directional

