



P4KE SERIES

Glass Passivated Unidirectional and Bidirectional Transient Voltage Suppressors

Reverse Voltage 6.8 to 600 Volts Peak Pulse Power 400 Watts

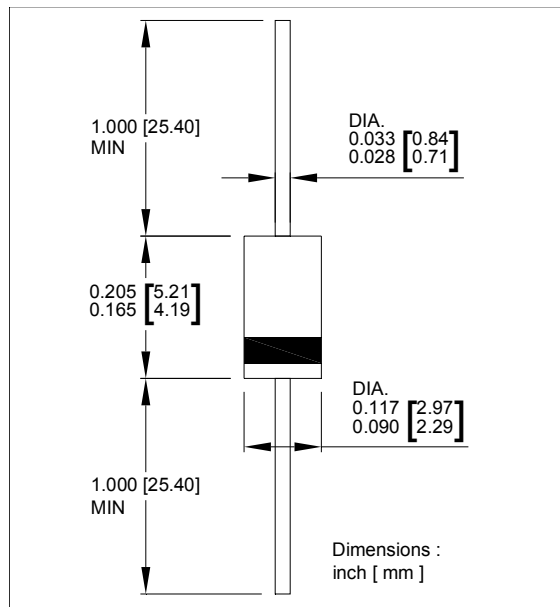
Features

- Glass passivated chip
- 400W peak pulse power capability with a 10/1000 μ S waveform, repetitive rate(duty cycle):0.01%
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202,Method 208 guaranteed
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

DO-41



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%

Parameter	Symbol	Value	Unit
Peak Power dissipation with a 10/100 μ S waveform	P _{PP}	Minimum 1500	Watts
Peak pulse current with a 10/1000 μ s waveform	I _{PP}	See Next Table	Amps
Power dissipation on infinite heatsink at T _L =75 °C	P _D	1.0	Watts
Peak forward surge current, 8.3ms single half sine-wave unidirectional only ⁽¹⁾	I _{FSM}	40	Amps
Maximum instantaneous forward voltage at 25A for unidirectional only ⁽²⁾	V _F	3.5/5.0	Volts
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

Note:

(1) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

(2) V_F= 3.5V on SMCJ5.0 thru SMCJ90A devices and V_F= 5.0V on P4KE220 thru P4KE600A devices.

RATING AND CHARACTERISTIC CURVES

Fig. 1 - Pulse Derating Curve

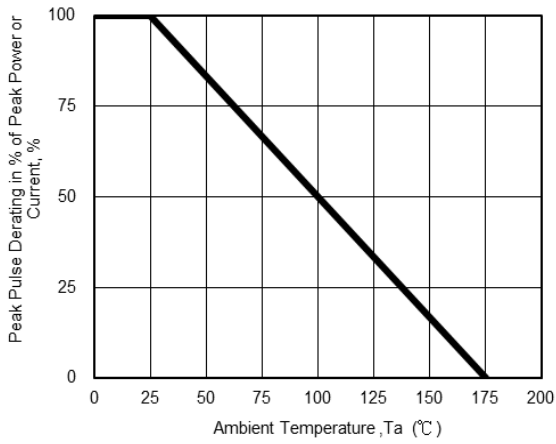


Fig. 2 - Maximum Non-Repetitive

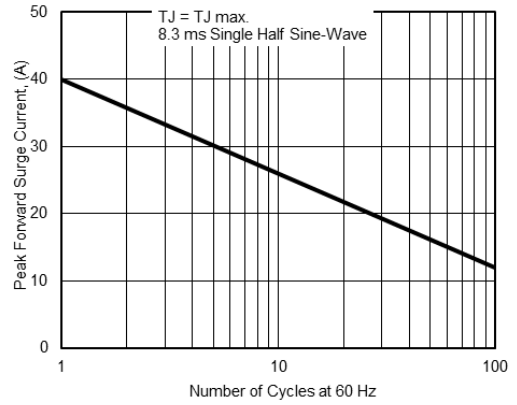


Fig. 3 - Steady State Power Derating Curve

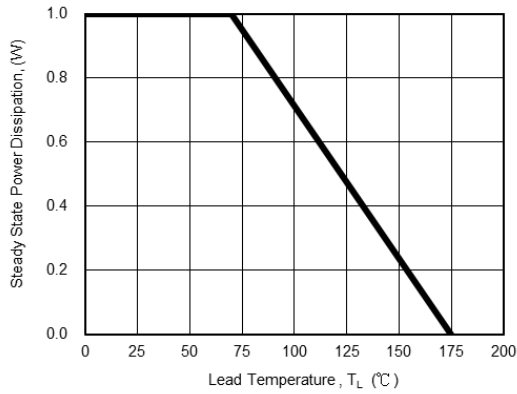


Fig. 4 - Peak Pulse Power Rating Curve

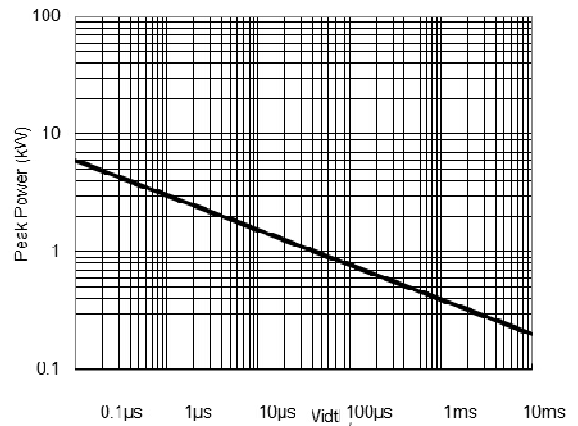
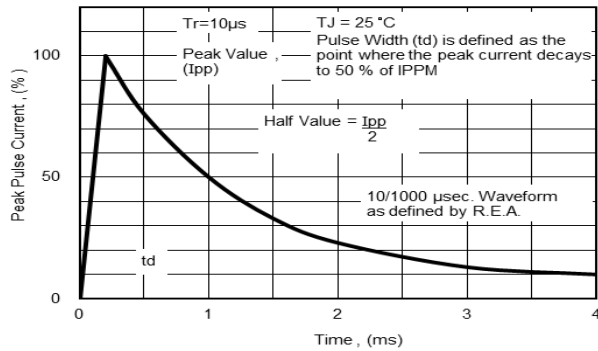


Fig. 5 - Pulse Waveform



LIFANG ELECTRONICS P4KE SERIES		Breakdown voltage VBR @ IT			Maximum Reverse Leakage IR(μA) @VRWM	Working PeakReverse Voltage VRWM (Volts)	Maximum Reverse Surge Current Ipp(A) @10x1000us sinewave	Maximum Clamping Voltage Vc (Volts) @Ipp
Uni-polar	Bi-polar	Min (V)	Max (V)	IT (mA)				
P4KE6.8	P4KE6.8C	6.12	7.48	10	1000	5.5	37.0	10.8
P4KE6.8A	P4KE6.8CA	6.46	7.14	10	1000	5.8	38.1	10.5
P4KE7.5	P4KE7.5C	6.75	8.25	10	500	6.1	34.2	11.7
P4KE7.5	P4KE7.5CA	7.13	7.88	10	500	6.4	35.4	11.3
P4KE8.2	P4KE8.2C	7.38	9.02	10	200	6.6	32.0	12.5
P4KE8.2A	P4KE8.2CA	7.79	8.61	10	200	7.0	33.1	12.1
P4KE9.1	P4KE9.1C	8.19	10.01	1	50	7.4	29.0	13.8
P4KE9.1A	P4KE9.1CA	8.65	9.56	1	50	7.8	29.9	13.4
P4KE10	P4KE10C	9.00	11.00	1	10	8.1	26.7	15.0
P4KE10A	P4KE10CA	9.50	10.50	1	10	8.6	27.6	14.5
P4KE11	P4KE11C	9.90	12.10	1	5	8.9	24.7	16.2
P4KE11A	P4KE11CA	10.45	11.55	1	5	9.4	25.6	15.6
P4KE12	P4KE12C	10.80	13.20	1	5	9.7	23.1	17.3
P4KE12A	P4KE12CA	11.40	12.60	1	5	10.2	24.0	16.7
P4KE13	P4KE13C	11.70	14.30	1	5	10.5	21.1	19.0
P4KE13A	P4KE13CA	12.35	13.65	1	5	11.1	22.0	18.2
P4KE15	P4KE15C	13.50	16.50	1	5	12.1	18.2	22.0
P4KE15A	P4KE15CA	14.25	15.75	1	5	12.8	18.9	21.2
P4KE16	P4KE16C	14.40	17.60	1	5	12.9	17.0	23.5
P4KE16A	P4KE16CA	15.20	16.80	1	5	13.6	17.8	22.5
P4KE18	P4KE18C	16.20	19.80	1	5	14.5	15.1	26.5
P4KE18A	P4KE18CA	17.10	18.90	1	5	15.3	15.9	25.2
P4KE20	P4KE20C	18.00	22.00	1	5	16.2	13.7	29.1
P4KE20A	P4KE20CA	19.00	21.00	1	5	17.1	14.4	27.7
P4KE22	P4KE22C	19.80	24.20	1	5	17.8	12.5	31.9
P4KE22A	P4KE22CA	20.90	23.10	1	5	18.8	13.1	30.6
P4KE24	P4KE24C	21.60	26.40	1	5	19.4	11.5	34.7
P4KE24A	P4KE24CA	22.80	25.20	1	5	20.5	12.0	33.2
P4KE27	P4KE27C	24.30	29.70	1	5	21.8	10.2	39.1
P4KE27A	P4KE27CA	25.65	28.35	1	5	23.1	10.7	37.5
P4KE30	P4KE30C	27.00	33.00	1	5	24.3	9.2	43.5
P4KE30A	P4KE30CA	28.50	31.50	1	5	25.6	9.66	41.4
P4KE33	P4KE33C	29.70	36.30	1	5	26.8	8.39	47.7
P4KE33A	P4KE33CA	31.35	34.65	1	5	28.2	8.75	45.7
P4KE36	P4KE36C	32.40	39.60	1	5	29.1	7.69	52.0
P4KE36A	P4KE36CA	34.20	37.80	1	5	30.8	8.02	49.9
P4KE39	P4KE39C	35.10	42.90	1	5	31.6	7.09	56.4
P4KE39A	P4KE39CA	37.05	40.95	1	5	33.3	7.42	53.9
P4KE43	P4KE43C	38.70	47.30	1	5	34.8	6.46	61.9
P4KE43A	P4KE43CA	40.85	45.15	1	5	36.8	6.75	59.3
P4KE47	P4KE47C	42.30	51.70	1	5	38.1	5.90	67.8
P4KE47A	P4KE47CA	44.65	49.35	1	5	40.2	6.17	64.8
P4KE51	P4KE51C	45.90	56.10	1	5	41.3	5.44	73.5
P4KE51A	P4KE51CA	48.45	53.55	1	5	43.6	5.71	70.1
P4KE56	P4KE56C	50.40	61.60	1	5	45.4	4.97	80.5
P4KE56A	P4KE56CA	53.20	58.80	1	5	47.8	5.19	77.0
P4KE62	P4KE62C	55.80	68.20	1	5	50.2	4.49	89.0
P4KE62A	P4KE62CA	58.90	65.10	1	5	53.0	4.71	85.0
P4KE68	P4KE62C	61.20	74.80	1	5	55.1	4.08	98.0
P4KE68A	P4KE62CA	64.60	71.40	1	5	58.1	4.35	92.0
P4KE75	P4KE75C	67.50	82.50	1	5	60.7	3.70	108
P4KE75A	P4KE75CA	71.25	78.75	1	5	64.1	3.88	103
P4KE82	P4KE82C	73.80	90.20	1	5	66.4	3.39	118

P4KE82A	P4KE82CA	77.90	86.10	1	5	70.1	3.54	113
P4KE91	P4KE91C	81.90	100.10	1	5	73.7	3.05	131
P4KE91A	P4KE91CA	86.45	95.55	1	5	77.8	3.20	125
P4KE100	P4KE100C	90.00	110.00	1	5	81.0	2.78	144
P4KE100A	P4KE100CA	95.00	105.0	1	5	85.5	2.92	137
P4KE110	P4KE110C	99.00	121.0	1	5	89.2	2.53	158
P4KE110A	P4KE110CA	104.5	115.5	1	5	94.0	2.63	152
P4KE120	P4KE120C	108.0	132.0	1	5	97.2	2.31	173
P4KE120A	P4KE120CA	114.0	126.0	1	5	102	2.42	165
P4KE130	P4KE130C	117.0	143.0	1	5	105	2.14	187
P4KE130A	P4KE130CA	123.5	136.5	1	5	111	2.23	179
P4KE150	P4KE150C	135.0	165.0	1	5	121	1.86	215
P4KE150A	P4KE150CA	142.5	157.5	1	5	128	1.93	207
P4KE160	P4KE160C	144.0	176.0	1	5	130	1.74	230
P4KE160A	P4KE160CA	152.0	168.0	1	5	136	1.83	219
P4KE170	P4KE170C	153.0	187.0	1	5	138	1.64	244
P4KE170A	P4KE170CA	161.5	178.5	1	5	145	1.71	234
P4KE180	P4KE180C	162.0	198.0	1	5	146	1.55	258
P4KE180A	P4KE180CA	171.0	189.0	1	5	154	1.63	246
P4KE200	P4KE200C	180.0	220.0	1	5	162	1.39	287
P4KE200A	P4KE200CA	190.0	210.0	1	5	171	1.46	274
P4KE220	P4KE220C	198.0	242.0	1	5	175	1.16	344
P4KE220A	P4KE220CA	209.0	231.0	1	5	185	1.22	328
P4KE250	P4KE250C	225.0	275.0	1	5	202	1.11	360
P4KE250A	P4KE250CA	237.5	262.5	1	5	214	1.16	344
P4KE300	P4KE300C	270.0	330.0	1	5	243	0.93	430
P4KE300A	P4KE300CA	285.0	315.0	1	5	256	0.97	414
P4KE350	P4KE350C	315.0	385.0	1	5	284	0.79	504
P4KE350A	P4KE350CA	332.5	367.5	1	5	299	0.83	482
P4KE380	P4KE380C	342.0	418.0	1	5	309	0.73	547
P4KE380A	P4KE380CA	361.0	399.0	1	5	325	0.76	524
P4KE400	P4KE400C	360.0	440.0	1	5	325	0.69	576
P4KE400A	P4KE400CA	380.0	420.0	1	5	342	0.72	552
P4KE440	P4KE440C	396.0	484.0	1	5	357	0.63	634
P4KE440A	P4KE440CA	418.0	462.0	1	5	376	0.66	607
P4KE500	P4KE500C	450.0	550.0	1	5	406	0.56	720
P4KE500A	P4KE500CA	475.0	525.0	1	5	428	0.58	690
P4KE520	P4KE520C	468.0	572.0	1	5	422	0.53	749
P4KE520A	P4KE520CA	494.0	546.0	1	5	445	0.56	718
P4KE550	P4KE550C	495.0	605.0	1	5	447	0.51	792
P4KE550A	P4KE550CA	522.5	577.5	1	5	470	0.53	759
P4KE600	P4KE600C	540.0	660.0	1	5	487	0.46	864
P4KE600A	P4KE600CA	570.0	630.0	1	5	513	0.48	828

Note:

1. Suffix 'A ' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device.
2. Add suffix 'C 'or ' CA ' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having VR of 10 volts and under, the IR limit is double .