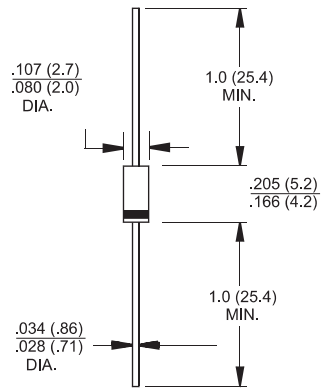
P4KE SERIES

400 Watts Transient Voltage Suppressor Diodes



DO-41



Dimensions in inches and (millimeters)

Features

- ✧ 400W surge capability at 10 x 100us waveform, duty cycle: 0.01%
- ✧ Excellent clamping capability
- ✧ Low zener impedance
- ✧ Fast response time: Typically less than 1.0ps from 0 volts to VBR for unidirectional and 5.0 ns for bidirectional
- ✧ Typical I_R less than 1 uA above 10V
- ✧ High temperature soldering guaranteed: 260°C / 10 seconds / .375",(9.5mm) lead length / 5lbs.,(2.3kg) tension

Mechanical Data

- ✧ Case: Molded plastic
- ✧ Polarity: Color band denotes cathode except bipolar

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%

Type Number	Symbol	Value	Units
Peak Power Dissipation at T_A=25°C, Tp=1ms (Note 1)	P_{PK}	Minimum 400	Watts
Steady State Power Dissipation at T_L=75 °C Lead Lengths .375", 9.5mm (Note 2)	P_D	1.0	Watts
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) (Note 3)	I_{FSM}	40	Amps
Maximum Instantaneous Forward Voltage at 25.0A for Unidirectional Only (Note 4)	V_F	3.5 /5.0	Volts
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	°C

Notes:
1. Non-repetitive Current Pulse Per Fig. 3 and Derated above T_A=25°C Per Fig. 2.
2. Mounted on Copper Pad Area of 1.6 x 1.6" (40 x 40 mm) Per Fig. 4.
3. 8.3ms Single Half Sine-wave or Equivalent Square Wave, Duty Cycle=4 Pulses Per Minutes Maximum.
4. V_F=3.5V for Devices of $V_{BR} \leq$ 200V and V_F=6.5V Max. for Devices V_{BR}>200V

Devices for Bipolar Applications
1. For Bidirectional Use C or CA Suffix for Types P4KE6.8 thru Types P4KE440.
2. Electrical Characteristics Apply in Both Directions.

P4KE SERIES

400 Watts Transient Voltage Suppressor Diodes

Electrical Characteristics(T_A=25℃ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage V_{BR} @I_T			Maximum Reverse Leakage I_R @V_{RWM} (uA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage V_C @I_{PP} (V)
		Min (V)	Max (V)	I_T (mA)				
P4KE6.8	P4KE6.8C	6.12	7.48	10	1000	5.5	37.04	10.8
P4KE6.8A	P4KE6.8CA	6.46	7.14	10	1000	5.8	38.10	10.5
P4KE7.5	P4KE7.5C	6.75	8.25	10	500	6.1	34.19	11.7
P4KE7.5A	P4KE7.5CA	7.13	7.88	10	500	6.4	35.40	11.3
P4KE8.2	P4KE8.2C	7.38	9.02	10	200	6.6	32.00	12.5
P4KE8.2A	P4KE8.2CA	7.79	8.61	10	200	7.0	33.06	12.1
P4KE9.1	P4KE9.1C	8.19	10.01	1	50	7.4	28.99	13.8
P4KE9.1A	P4KE9.1CA	8.65	9.56	1	50	7.8	29.85	13.4
P4KE10	P4KE10C	9.00	11.00	1	10	8.1	26.67	15.0
P4KE10A	P4KE10CA	9.50	10.50	1	10	8.6	27.59	14.5
P4KE11	P4KE11C	9.90	12.10	1	5	8.9	24.69	16.2
P4KE11A	P4KE11CA	10.45	11.55	1	5	9.4	25.64	15.6
P4KE12	P4KE12C	10.80	13.20	1	5	9.7	23.12	17.3
P4KE12A	P4KE12CA	11.40	12.60	1	5	10.2	23.95	16.7
P4KE13	P4KE13C	11.70	14.30	1	1	10.5	21.05	19.0
P4KE13A	P4KE13CA	12.35	13.65	1	1	11.1	21.98	18.2
P4KE15	P4KE15C	13.50	16.50	1	1	12.1	18.18	22.0
P4KE15A	P4KE15CA	14.25	15.75	1	1	12.8	18.87	21.2
P4KE16	P4KE16C	14.40	17.60	1	1	12.9	17.02	23.5
P4KE16A	P4KE16CA	15.20	16.80	1	1	13.6	17.78	22.5
P4KE18	P4KE18C	16.20	19.80	1	1	14.5	15.09	26.5
P4KE18A	P4KE18CA	17.10	18.90	1	1	15.3	15.87	25.2
P4KE20	P4KE20C	18.00	22.00	1	1	16.2	13.75	29.1
P4KE20A	P4KE20CA	19.00	21.00	1	1	17.1	14.44	27.7
P4KE22	P4KE22C	19.80	24.20	1	1	17.8	12.54	31.9
P4KE22A	P4KE22CA	20.90	23.10	1	1	18.8	13.07	30.6
P4KE24	P4KE24C	21.60	26.40	1	1	19.4	11.53	34.7
P4KE24A	P4KE24CA	22.80	25.20	1	1	20.5	12.05	33.2
P4KE27	P4KE27C	24.30	29.70	1	1	21.8	10.23	39.1
P4KE27A	P4KE27CA	25.65	28.35	1	1	23.1	10.67	37.5
P4KE30	P4KE30C	27.00	33.00	1	1	24.3	9.20	43.5
P4KE30A	P4KE30CA	28.50	31.50	1	1	25.6	9.66	41.4
P4KE33	P4KE33C	29.70	36.30	1	1	26.8	8.39	47.7
P4KE33A	P4KE33CA	31.35	34.65	1	1	28.2	8.75	45.7
P4KE36	P4KE36C	32.40	39.60	1	1	29.1	7.69	52.0
P4KE36A	P4KE36CA	34.20	37.80	1	1	30.8	8.02	49.9
P4KE39	P4KE39C	35.10	42.90	1	1	31.6	7.09	56.4
P4KE39A	P4KE39CA	37.05	40.95	1	1	33.3	7.42	53.9
P4KE43	P4KE43C	38.70	47.30	1	1	34.8	6.46	61.9
P4KE43A	P4KE43CA	40.85	45.15	1	1	36.8	6.75	59.3
P4KE47	P4KE47C	42.30	51.70	1	1	38.1	5.90	67.8
P4KE47A	P4KE47CA	44.65	49.35	1	1	40.2	6.17	64.8
P4KE51	P4KE51C	45.90	56.10	1	1	41.3	5.44	73.5
P4KE51A	P4KE51CA	48.45	53.55	1	1	43.6	5.71	70.1
P4KE56	P4KE56C	50.40	61.60	1	1	45.4	4.97	80.5
P4KE56A	P4KE56CA	53.20	58.80	1	1	47.8	5.19	77.0

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 V_R of 10 volts and under, the I_R limit is double

P4KE SERIES

400 Watts Transient Voltage Suppressor Diodes

Electrical Characteristics(T_A=25℃ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage V_{BR} @I_T			Maximum Reverse Leakage I_R @V_{RWM} (uA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage V_C @I_{PP} (V)
		Min (V)	Max (V)	I_T (mA)				
P4KE62	P4KE62C	55.80	68.20	1	1	50.2	4.49	89.0
P4KE62A	P4KE62CA	58.90	65.10	1	1	53.0	4.71	85.0
P4KE68	P4KE68C	61.20	74.80	1	1	55.1	4.08	98.0
P4KE68A	P4KE68CA	64.60	71.40	1	1	58.1	4.35	92.0
P4KE75	P4KE75C	67.50	82.50	1	1	60.7	3.70	108.0
P4KE75A	P4KE75CA	71.25	78.75	1	1	64.1	3.88	103.0
P4KE82	P4KE82C	73.80	90.20	1	1	66.4	3.39	118.0
P4KE82A	P4KE82CA	77.90	86.10	1	1	70.1	3.54	113.0
P4KE91	P4KE91C	81.90	100.10	1	1	73.7	3.05	131.0
P4KE91A	P4KE91CA	86.45	95.55	1	1	77.8	3.20	125.0
P4KE100	P4KE100C	90.00	110.00	1	1	81.0	2.78	144.0
P4KE100A	P4KE100CA	95.00	105.00	1	1	85.5	2.92	137.0
P4KE110	P4KE110C	99.00	121.00	1	1	89.2	2.53	158.0
P4KE110A	P4KE110CA	104.50	115.50	1	1	94.0	2.63	152.0
P4KE120	P4KE120C	108.00	132.00	1	1	97.2	2.31	173.0
P4KE120A	P4KE120CA	114.00	126.00	1	1	102.0	2.42	165.0
P4KE130	P4KE130C	117.00	143.00	1	1	105.0	2.14	187.0
P4KE130A	P4KE130CA	123.50	136.50	1	1	111.0	2.23	179.0
P4KE150	P4KE150C	135.00	165.00	1	1	121.0	1.86	215.0
P4KE150A	P4KE150CA	142.50	157.50	1	1	128.0	1.93	207.0
P4KE160	P4KE160C	144.00	176.00	1	1	130.0	1.74	230.0
P4KE160A	P4KE160CA	152.00	168.00	1	1	136.0	1.83	219.0
P4KE170	P4KE170C	153.00	187.00	1	1	138.0	1.64	244.0
P4KE170A	P4KE170CA	161.50	178.50	1	1	145.0	1.71	234.0
P4KE180	P4KE180C	162.00	198.00	1	1	146.0	1.55	258.0
P4KE180A	P4KE180CA	171.00	189.00	1	1	154.0	1.63	246.0
P4KE200	P4KE200C	180.00	220.00	1	1	162.0	1.39	287.0
P4KE200A	P4KE200CA	190.00	210.00	1	1	171.0	1.46	274.0
P4KE220	P4KE220C	198.00	242.00	1	1	175.0	1.16	344.0
P4KE220A	P4KE220CA	209.00	231.00	1	1	185.0	1.22	328.0
P4KE250	P4KE250C	225.00	275.00	1	1	202.0	1.11	360.0
P4KE250A	P4KE250CA	237.50	262.50	1	1	214.0	1.16	344.0
P4KE300	P4KE300C	270.00	330.00	1	1	243.0	0.93	430.0
P4KE300A	P4KE300CA	285.00	315.00	1	1	256.0	0.97	414.0
P4KE350	P4KE350C	315.00	385.00	1	1	284.2	0.79	504.0
P4KE350A	P4KE350CA	332.50	367.50	1	1	299.3	0.83	482.0
P4KE380	P4KE380C	342.00	418.00	1	1	308.6	0.73	547.2
P4KE380A	P4KE380CA	361.00	399.00	1	1	324.9	0.76	524.4
P4KE400	P4KE400C	360.00	440.00	1	1	324.8	0.69	576.0
P4KE400A	P4KE400CA	380.00	420.00	1	1	342.0	0.72	552.0
P4KE440	P4KE440C	396.00	484.00	1	1	357.3	0.63	633.6
P4KE440A	P4KE440CA	418.00	462.00	1	1	376.2	0.66	607.2
P4KE500	P4KE500C	450.00	550.00	1	1	406.0	0.56	720.0
P4KE500A	P4KE500CA	475.00	525.00	1	1	427.5	0.58	690.0
P4KE520	P4KE520C	468.00	572.00	1	1	422.2	0.53	748.8
P4KE520A	P4KE520CA	494.00	546.00	1	1	444.6	0.56	717.6
P4KE550	P4KE550C	495.00	605.00	1	1	446.6	0.51	792.0
P4KE550A	P4KE550CA	522.50	577.50	1	1	470.3	0.53	759.0
P4KE600	P4KE600C	540.00	660.00	1	1	487.2	0.46	864.0
P4KE600A	P4KE600CA	570.00	630.00	1	1	513.0	0.48	828.0

Ratings and Characteristics Curves (T_A=25℃ unless otherwise noted)

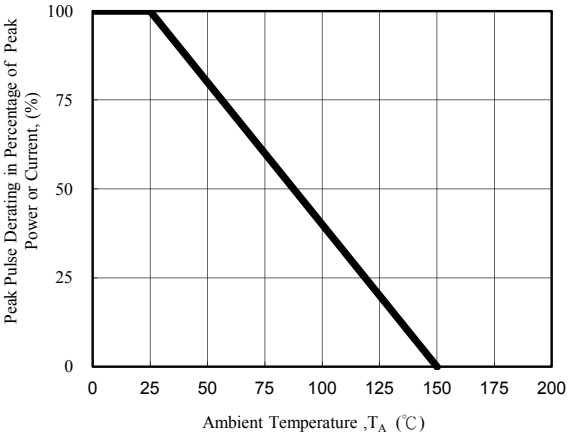


Fig. 1 - Pulse Derating Curve

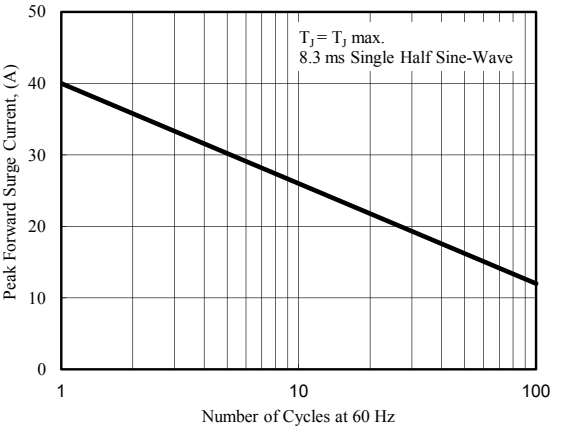


Fig. 2 - Maximum Non-Repetitive Surge Current

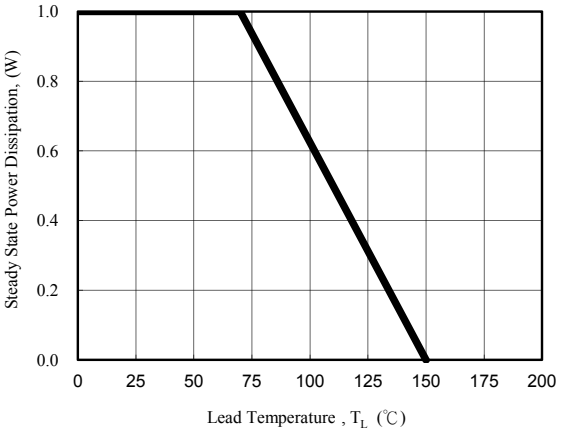


Fig. 3 - Steady State Power Derating Curve

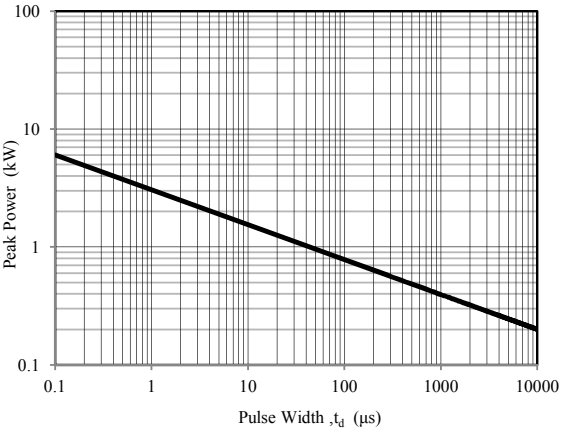


Fig. 4 - Peak Pulse Power Rating Curve

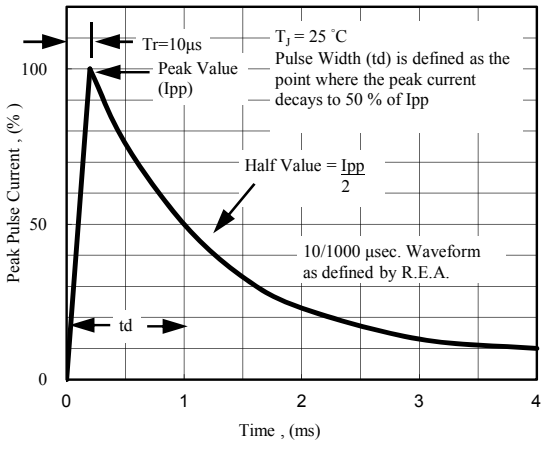


Fig. 5 - Pulse Waveform

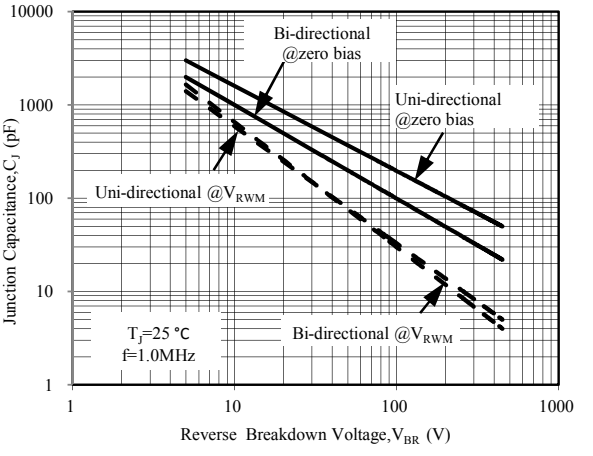


Fig. 6 - Typical Junction Capacitance