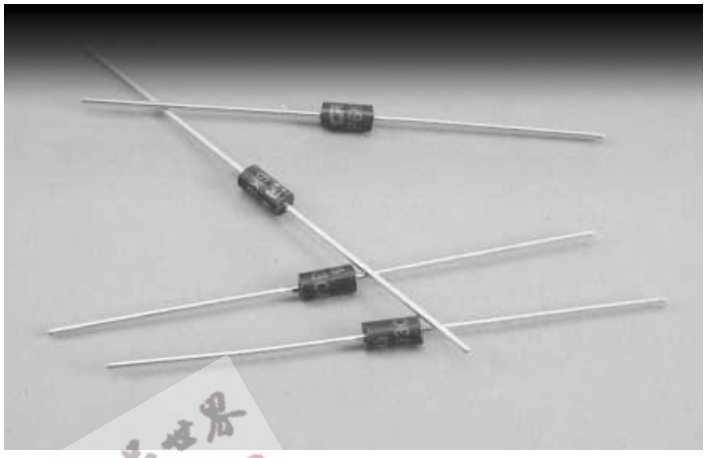
P6KE Series

Protect sensitive electronics against voltage transients induced by inductive load switching and lightning. Ideal for the protection of I/O interfaces, Vcc bus, and other integrated circuits.



FEATURES

- Breakdown voltage range 6.8 to 440 Volts
- Uni-directional and Bi-directional
- Glass passivated junction
- Excellent clamping capability
- 100% surge tested
- UL recognised

MAXIMUM RATING

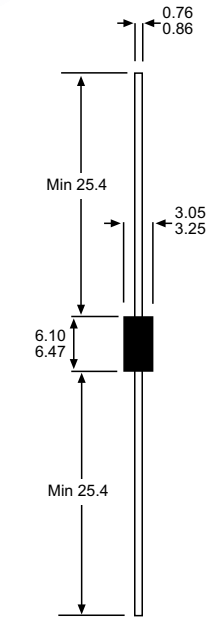
- Peak Pulse Power (Ppk): 600 Watts (10 x 1000µs)@25°C (see diagram on page 3 for wave form)
- 1.5 watt steady state
- Response time: 1 x 10^{-12} seconds (theoretical)
- Forward surge rating: 100 Amps, 8.3ms half sine wave, (uni-directional devices only)
- Operating & storage temperature: -55°C to +150°C

MECHANICAL CHARACTERISTICS

- Case: DO-15, Molded plastic over glass passivated junction
- Terminals: Axial leads, solderable per MIL-STD-202" Method 208
- Solderable leads = 230°C for 10 seconds (1.59mm from case)
- Marking: cathode band, (positive terminal, uni-directional devices only), device code, logo
- Weight: 1.2 grammes (approx)

Agency Approvals: Recognized under the Components Program of Underwriters Laboratories.

Agnecy File Number: E128662



All dimensions in mm

ORDERING INFORMATION

P6KE [ ][ ][ ][C][A][ ]

- Voltage
- Bi-Directional
- 5% Voltage Tolerance
- Packaging Option

B = Bulk (1000 pcs)

T = Tape and reeled (5000 pcs)

P6KE Series

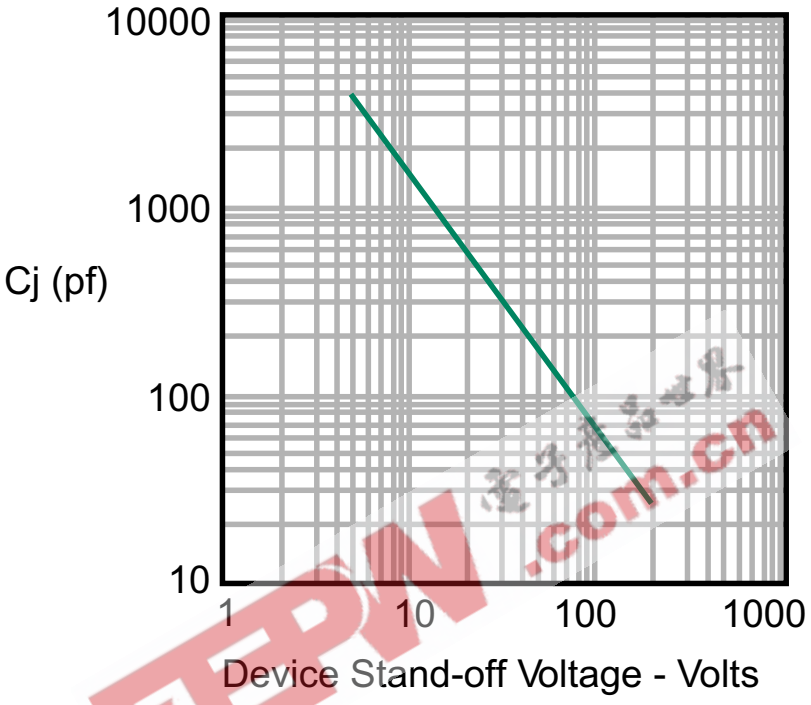


Figure 1 - Capacitance vs. Stand-off Voltage

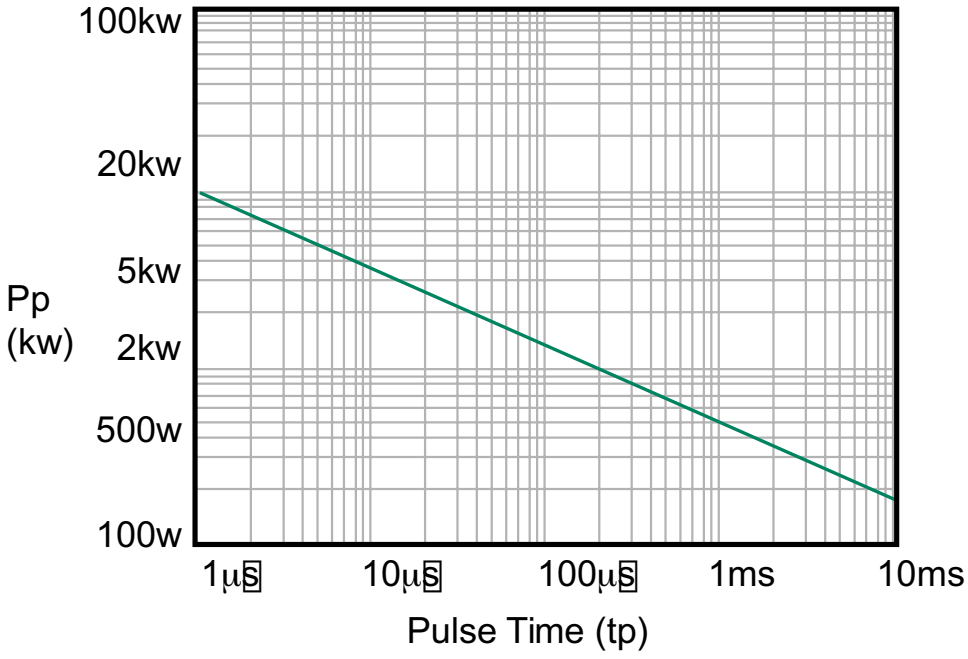


Figure 2 - Peak Pulse Power vs. Pulse Time

P6KE Series

ELECTRICAL SPECIFICATION @ Tamb 25°C

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts) @ I_T			Maximum Reverse Leakage I_R @ V_R (µA)	Maximum Clamping Voltage V_C @ I_{PP} (Volts)	Maximum Peak Pulse Current I_{PP} (A)	Max Voltage Temperature Variation of V_{BR} (mV/°C)
			MIN	MAX	(mA)				
PP6KE6.8*	PP6KE6.8C*	5.50	6.12	7.48	10.0	1000.0	10.8	56.0	0.057
P6KE6.8A*	P6KE6.8CA*	5.80	6.45	7.14	10.0	1000.0	10.5	57.0	0.057
P6KE7.5*	P6KE7.5C*	6.05	6.75	8.25	10.0	500.0	11.7	51.0	0.061
P6KE7.5A*	P6KE7.5CA*	6.40	7.13	7.88	10.0	500.0	11.3	53.0	0.061
P6KE8.2	P6KE8.2C	6.63	7.38	9.02	10.0	200.0	12.5	48.0	0.065
P6KE8.2A	P6KE8.2CA	7.02	7.79	8.61	10.0	200.0	12.1	50.0	0.065
P6KE9.1	P6KE9.1C	7.37	8.19	10.00	1.0	50.0	13.8	44.0	0.068
P6KE9.1A	P6KE9.1CA	7.78	8.65	9.55	1.0	50.0	13.4	45.0	0.068
P6KE10	P6KE10C	8.10	9.00	11.00	1.0	10.0	15.0	40.0	0.073
P6KE10A	P6KE10CA	8.55	9.50	10.50	1.0	10.0	14.5	41.0	0.073
P6KE11	P6KE11C	8.92	9.90	12.10	1.0	5.0	16.2	37.0	0.075
P6KE11A	P6KE11CA	9.40	10.50	11.60	1.0	5.0	15.6	38.0	0.075
P6KE12*	P6KE12C*	9.72	10.80	13.20	1.0	5.0	17.3	35.0	0.078
P6KE12A*	P6KE12CA*	10.20	11.40	12.60	1.0	5.0	16.7	36.0	0.078
P6KE13	P6KE13C	10.50	11.70	14.30	1.0	5.0	19.0	32.0	0.081
P6KE13A	P6KE13CA	11.10	12.40	13.70	1.0	5.0	18.2	33.0	0.081
P6KE15	P6KE15C*	12.10	13.50	16.50	1.0	5.0	22.0	27.0	0.084
P6KE15A	P6KE15CA*	12.80	14.30	15.80	1.0	5.0	21.2	28.0	0.084
P6KE16	P6KE16C	12.90	14.40	17.60	1.0	5.0	23.5	26.0	0.086
P6KE16A	P6KE16CA	13.60	15.20	16.80	1.0	5.0	22.5	27.0	0.086
P6KE18*	P6KE18C*	14.50	16.20	19.80	1.0	5.0	26.5	23.0	0.088
P6KE18A*	P6KE18CA*	15.30	17.10	18.90	1.0	5.0	25.2	24.0	0.088
P6KE20	P6KE20C*	16.20	18.00	22.00	1.0	5.0	29.1	21.0	0.090
P6KE20A	P6KE20CA*	17.10	19.00	21.00	1.0	5.0	27.7	22.0	0.090
P6KE22	P6KE22C	17.80	19.80	24.20	1.0	5.0	31.9	19.0	0.092
P6KE22A	P6KE22CA	18.80	20.90	23.10	1.0	5.0	30.6	20.0	0.092
P6KE24	P6KE24C	19.40	21.60	26.40	1.0	5.0	34.7	17.0	0.094
P6KE24A	P6KE24CA	20.50	22.80	25.20	1.0	5.0	33.2	18.0	0.094
P6KE27*	P6KE27C	21.80	24.30	29.70	1.0	5.0	39.1	15.0	0.096
P6KE27A*	P6KE27CA	23.10	25.70	28.40	1.0	5.0	37.5	16.0	0.096
P6KE30*	P6KE30C*	24.30	27.00	33.00	1.0	5.0	43.5	14.0	0.097
P6KE30A*	P6KE30CA*	25.60	28.50	31.50	1.0	5.0	41.4	14.4	0.097

Suffix 'C' denotes Bi-directional device. Suffix 'A' denotes 5% tolerance device, no suffix denotes a 10% tolerance device.

1. For Bi-directional devices having V_R of 10 volts and below, the I_R limit is doubled.
2. V_F = 3.5 Volts max. for devices of V_R <100v, and V_F = 5.0 Volts max for devices of V_R >100V. I_F = 50A, 300 µS square wave.

* Preferred voltages.

P6KE Series

ELECTRICAL SPECIFICATION @ Tamb 25°C

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts) @ I_T			Maximum Reverse Leakage I_R @ V_R (µA)	Maximum Clamping Voltage V_C @ I_{PP} (Volts)	Maximum Peak Pulse Current I_{PP} (A)	Max Voltage Temperature Variation of V_{BR} (mV/°C)
			MIN	MAX	(mA				
P6KE33*	P6KE33C	26.80	29.70	36.30	1.0	5.0	47.7	12.6	0.098
P6KE33A*	P6KE33CA	28.20	31.40	34.70	1.0	5.0	45.7	13.2	0.098
P6KE36*	P6KE36C	29.10	32.40	39.60	1.0	5.0	52.0	11.6	0.099
P6KE36A*	P6KE36CA	30.80	34.20	37.80	1.0	5.0	49.9	12.0	0.099
P6KE39	P6KE39C	31.60	35.10	42.90	1.0	5.0	56.4	10.5	0.100
P6KE39A	P6KE39CA	33.30	37.10	41.00	1.0	5.0	53.9	11.2	0.100
P6KE43	P6KE43C	34.80	38.70	47.30	1.0	5.0	61.9	9.6	0.101
P6KE43A	P6KE43CA	36.80	40.90	45.20	1.0	5.0	59.3	10.1	0.101
P6KE47	P6KE47C	38.10	42.30	51.70	1.0	5.0	67.8	8.9	0.101
P6KE47A	P6KE47CA	40.20	44.70	49.40	1.0	5.0	64.8	9.3	0.101
P6KE51	P6KE51C*	41.30	45.90	56.10	1.0	5.0	73.5	8.2	0.102
P6KE51A	P6KE51CA*	43.60	48.50	53.60	1.0	5.0	70.1	8.6	0.102
P6KE56	P6KE56C	45.4	50.4	61.6	1.0	5.0	80.5	7.40	0.103
P6KE56A	P6KE56CA	47.8	53.2	58.8	1.0	5.0	77.0	7.80	0.103
P6KE62	P6KE62C	50.2	55.8	68.2	1.0	5.0	89.0	6.80	0.104
P6KE62A	P6KE62CA	53.0	58.9	65.1	1.0	5.0	85.0	7.10	0.104
P6KE68	P6KE68C*	55.1	61.2	74.8	1.0	5.0	98.0	6.10	0.104
P6KE68A	P6KE68CA*	58.1	64.6	71.4	1.0	5.0	92.0	6.50	0.104
P6KE75	P6KE75C	60.7	67.5	82.5	1.0	5.0	108.0	5.50	0.105
P6KE75A	P6KE75CA	64.1	71.3	78.8	1.0	5.0	103.0	5.80	0.105
P6KE82	P6KE82C	66.4	73.8	90.2	1.0	5.0	118.0	5.10	0.105
P6KE82A	P6KE82CA	70.1	77.9	86.1	1.0	5.0	113.0	5.30	0.105
P6KE91	P6KE91C	73.7	81.9	100.0	1.0	5.0	131.0	4.50	0.106
P6KE91A	P6KE91CA	77.8	86.5	95.5	1.0	5.0	125.0	4.80	0.106
P6KE100	P6KE100C	81.0	90.0	110.0	1.0	5.0	144.0	4.20	0.106
P6KE100A	P6KE100CA	85.5	95.0	105.0	1.0	5.0	137.0	4.40	0.106
P6KE110	P6KE110C	89.2	99.0	121.0	1.0	5.0	158.0	3.80	0.107
P6KE110A	P6KE110CA	94.0	105.0	116.0	1.0	5.0	152.0	4.00	0.107
P6KE120	P6KE120C	97.2	108.0	132.0	1.0	5.0	173.0	3.50	0.107
P6KE120A	P6KE120CA	102.0	114.0	126.0	1.0	5.0	165.0	3.60	0.107
P6KE130	P6KE130C	105.0	117.0	143.0	1.0	5.0	187.0	3.20	0.107
P6KE130A	P6KE130CA	111.0	124.0	137.0	1.0	5.0	179.0	3.30	0.107
P6KE150	P6KE150C	121.0	135.0	165.0	1.0	5.0	215.0	2.80	0.108
P6KE150A	P6KE150CA	128.0	143.0	158.0	1.0	5.0	207.0	2.90	0.108
P6KE160	P6KE160C	130.0	144.0	176.0	1.0	5.0	230.0	2.60	0.108
P6KE160A	P6KE160CA	136.0	152.0	168.0	1.0	5.0	219.0	2.70	0.108

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P6KE Series

ELECTRICAL SPECIFICATION @ Tamb 25°C

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts) @ I_T			Maximum Reverse Leakage I_R @ V_R (µA)	Maximum Clamping Voltage V_C @ I_{PP} (Volts)	Maximum Peak Pulse Current I_{PP} (A)	Max Voltage Temperature Variation of V_{BR} (mV/°C)
			MIN	MAX	(mA)				
P6KE170	P6KE170C	138.0	153.0	187.0	1.0	5.0	244.0	2.50	0.108
P6KE170A	P6KE170CA	145.0	162.0	179.0	1.0	5.0	234.0	2.60	0.108
P6KE180	P6KE180C	146.0	162.0	198.0	1.0	5.0	258.0	2.30	0.108
P6KE180A	P6KE180CA	154.0	171.0	189.0	1.0	5.0	246.0	2.40	0.108
P6KE200	P6KE200C	162.0	180.0	220.0	1.0	5.0	287.0	2.10	0.108
P6KE200A	P6KE200CA	171.0	190.0	210.0	1.0	5.0	274.0	2.20	0.108
P6KE220	P6KE220C*	175.0	198.0	242.0	1.0	5.0	344.0	1.75	0.108
P6KE220A	P6KE220CA	185.0	209.0	231.0	1.0	5.0	328.0	1.83	0.108
P6KE250	P6KE250C	202.0	225.0	275.0	1.0	5.0	360.0	1.67	0.110
P6KE250A	P6KE250CA	214.0	237.0	263.0	1.0	5.0	344.0	1.75	0.110
P6KE300	P6KE300C	243.0	270.0	330.0	1.0	5.0	430.0	1.40	0.110
P6KE300A	P6KE300CA	256.0	285.0	315.0	1.0	5.0	414.0	1.45	0.110
P6KE350	P6KE350C	284.0	315.0	385.0	1.0	5.0	504.0	1.20	0.110
P6KE350A	P6KE350CA	300.0	332.0	368.0	1.0	5.0	482.0	1.25	0.110
P6KE400	P6KE400C	324.0	360.0	440.0	1.0	5.0	574.0	1.05	0.110
P6KE400A	P6KE400CA	342.0	380.0	420.0	1.0	5.0	548.0	1.10	0.110
P6KE440	P6KE440C	356.0	396.0	484.0	1.0	5.0	631.0	0.95	0.110
P6KE440A	P6KE440CA	376.0	418.0	462.0	1.0	5.0	602.0	1.00	0.110

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