

1.5KE6.8-1.5KE440CA series

1500 WATT AXIAL TRANSIENT VOLTAGE SUPPRESSORS

Protect sensitive electronics against voltage transients induced by electro-static discharge (ESD), inductive load switching, and lightning. Ideal for the protection of I/O interfaces, Vcc bus, and other integrated circuits used in telecom, computer, datacom and industrial electronics.

FEATURES

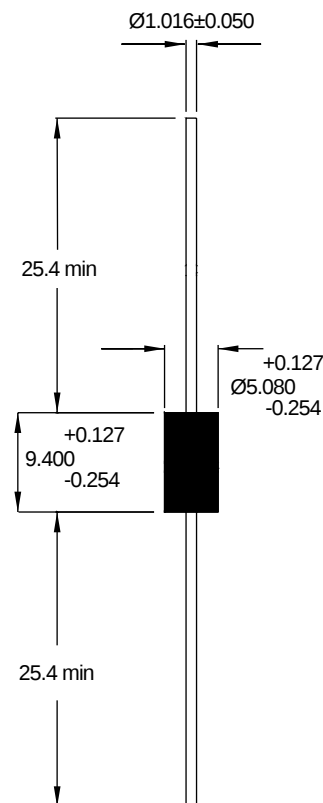
- Stand-off voltage Range 6.8 to 440 Volts
- Glass Passivated Junction
- Low clamping factor
- Uni-directional and Bi-directional
- 100% Surge tested
- UL recognized

MAXIMUM RATING

- Peak Pulse Power (Ppk): 1500 Watts (10 X 1000µs)
(see diagram on page 6 for wave form)
- 5 Watt Steady State
- Response time: 1×10^{-12} seconds (theoretical)
- Forward surge rating: 200 Amps, 8.3ms half sine wave, (uni-directional devices only)
- Operating & storage temperature: -55°C to +150°C

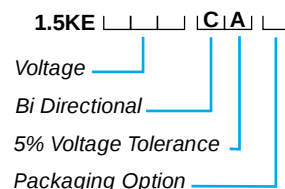
MECHANICAL CHARACTERISTICS

- CASE DO-201AD: Moulded 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: 1.5 grammes (approx)



All Dimensions in mm

ORDERING INFORMATION



B = Bulk (500 pcs)

T = Tape and reeled (1500 pcs)

Figure 1 - Capacitance vs. Stand-off Voltage

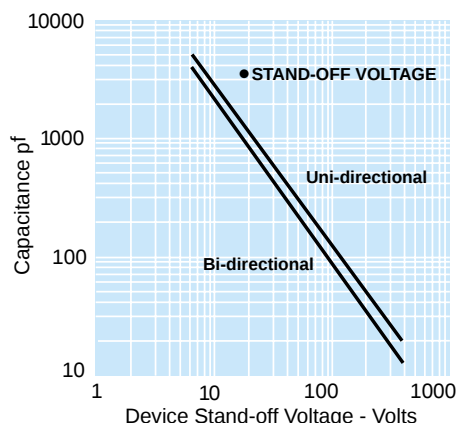
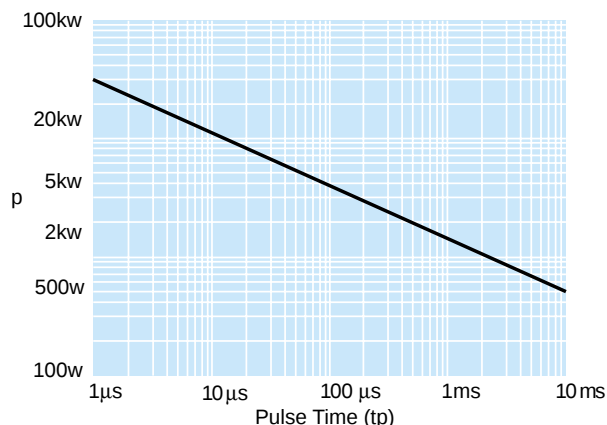


Figure 2 - Peak Pulse Power vs. Pulse Time



All products are sold to the commercial specifications shown, for any additional reliability testing or extended parameters, please consult the factory.

ELECTRICAL SPECIFICATIONS @ Tamb = 25°C

PART NUMBER (UNI)	PART NUMBER (BI)	REVERSE STANDOFF 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} (%/°C)
			MIN	MAX	mA				
1.5KE6.8*	1.5KE6.8C*	5.50	6.12	7.48	10.0	1000.0	10.8	139.0	0.057
1.5KE6.8A*	1.5KE6.8CA*	5.80	6.45	7.14	10.0	1000.0	10.5	143.0	0.057
1.5KE7.5	1.5KE7.5C	6.05	6.75	8.25	10.0	500.0	11.7	128.0	0.061
1.5KE7.5A	1.5KE7.5CA	6.40	7.13	7.88	10.0	500.0	11.3	132.0	0.061
1.5KE8.2	1.5KE8.2C	6.63	7.38	9.02	10.0	200.0	12.5	120.0	0.065
1.5KE8.2A	1.5KE8.2CA	7.02	7.79	8.61	10.0	200.0	12.1	124.0	0.065
1.5KE9.1	1.5KE9.1C	7.37	8.19	10.0	1.0	50.0	13.8	109.0	0.068
1.5KE9.1A	1.5KE9.1CA	7.78	8.60	9.55	1.0	50.0	13.4	112.0	0.068
1.5KE10	1.5KE10C	8.10	9.00	11.0	1.0	10.0	15.0	100.0	0.073
1.5KE10A	1.5KE10CA	8.55	9.50	10.5	1.0	10.0	14.5	103.0	0.073
1.5KE11	1.5KE11C	8.92	9.90	12.1	1.0	5.0	16.2	93.0	0.075
1.5KE11A	1.5KE11CA	9.40	10.5	11.6	1.0	5.0	15.6	96.0	0.075
1.5KE12	1.5KE12C	9.72	10.8	13.2	1.0	5.0	17.3	87.0	0.078
1.5KE12A	1.5KE12CA	10.2	11.4	12.6	1.0	5.0	16.7	90.0	0.078
1.5KE13	1.5KE13C	10.5	11.7	14.3	1.0	5.0	19.0	79.0	0.081
1.5KE13A	1.5KE13CA	11.1	12.4	13.7	1.0	5.0	18.2	82.0	0.081
1.5KE15	1.5KE15C*	12.1	13.5	16.5	1.0	5.0	22.0	68.0	0.084
1.5KE15A	1.5KE15CA*	12.8	14.3	15.8	1.0	5.0	21.2	71.0	0.084
1.5KE16	1.5KE16C	12.9	14.4	17.6	1.0	5.0	23.5	64.0	0.086
1.5KE16A	1.5KE16CA	13.6	15.2	16.8	1.0	5.0	22.5	67.0	0.086
1.5KE18*	1.5KE18C*	14.5	16.2	19.8	1.0	5.0	26.5	56.5	0.088
1.5KE18A*	1.5KE18CA*	15.3	17.1	18.9	1.0	5.0	25.2	59.5	0.088
1.5KE20*	1.5KE20C	16.2	18.0	22.0	1.0	5.0	29.1	51.5	0.090
1.5KE20A*	1.5KE20CA	17.1	19.0	21.0	1.0	5.0	27.7	54.0	0.090
1.5KE22	1.5KE22C	17.8	19.8	24.2	1.0	5.0	31.9	47.0	0.092
1.5KE22A	1.5KE22CA	18.8	20.9	23.1	1.0	5.0	30.6	49.0	0.092
1.5KE24*	1.5KE24C*	19.4	21.6	26.4	1.0	5.0	34.7	43.0	0.094
1.5KE24A*	1.5KE24CA*	20.5	22.8	25.2	1.0	5.0	33.2	45.0	0.094
1.5KE27*	1.5KE27C*	21.8	24.3	29.7	1.0	5.0	39.1	38.5	0.096
1.5KE27A*	1.5KE27CA*	23.1	25.7	28.4	1.0	5.0	37.5	40.0	0.096
1.5KE30	1.5KE30C	24.3	27.0	33.0	1.0	5.0	43.5	34.5	0.097
1.5KE30A	1.5KE30CA	25.6	28.5	31.5	1.0	5.0	41.4	36.0	0.097
1.5KE33*	1.5KE33C	26.8	29.7	36.3	1.0	5.0	47.7	31.5	0.098
1.5KE33A*	1.5KE33CA	28.2	31.4	34.7	1.0	5.0	45.7	33.0	0.098
1.5KE36	1.5KE36C	29.1	32.4	39.6	1.0	5.0	52.0	29.0	0.099
1.5KE36A	1.5KE36CA	30.8	34.2	37.8	1.0	5.0	49.9	30.0	0.099
1.5KE39*	1.5KE39C	31.6	35.1	42.9	1.0	5.0	56.4	26.5	0.100
1.5KE39A*	1.5KE39CA	33.3	37.1	41.0	1.0	5.0	53.9	28.0	0.100
1.5KE43	1.5KE43C	34.8	38.7	47.3	1.0	5.0	61.9	24.0	0.101
1.5KE43A	1.5KE43CA	36.8	40.9	45.2	1.0	5.0	59.3	25.3	0.101
1.5KE47	1.5KE47C	38.1	42.3	51.7	1.0	5.0	67.8	22.2	0.101
1.5KE47A	1.5KE47CA	40.2	44.7	49.4	1.0	5.0	64.8	23.2	0.101
1.5KE51*	1.5KE51C	41.3	45.9	56.1	1.0	5.0	73.5	20.4	0.102
1.5KE51A*	1.5KE51CA	43.6	48.5	53.6	1.0	5.0	70.1	21.4	0.102

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 under the I_R limit is doubled.

2. V_F = 3.5 Volts max. for devices of nominal V_{BR} < 200V, and V_F = 5.0 Volts max for devices of nominal V_{BR} >200V. I_F =50A, 300 µs square wave.

* Preferred voltages.

All products are sold to the commercial specifications shown, for any additional reliability testing or extended parameters, please consult the factory.

contact semitron on: telephone: +44 (0)1793 724000 fax: +44 (0)1793 720401

ELECTRICAL SPECIFICATIONS @ Tamb = 25°C

PART NUMBER (UNI)	PART NUMBER (BI)	REVERSE STANDOFF 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} (%/°C)
			MIN	MAX	(mA)				
1.5KE56	1.5KE56C	45.4	50.4	61.6	1.0	5.0	80.5	18.6	0.103
1.5KE56A	1.5KE56CA	47.8	53.2	58.8	1.0	5.0	77.0	19.5	0.103
1.5KE62	1.5KE62C	50.2	55.8	68.2	1.0	5.0	89.0	16.9	0.104
1.5KE62A	1.5KE62CA	53.0	58.9	65.1	1.0	5.0	85.0	17.7	0.104
1.5KE68	1.5KE68C	55.1	61.2	74.8	1.0	5.0	98.0	15.3	0.104
1.5KE68A	1.5KE68CA	58.1	64.6	71.4	1.0	5.0	92.0	16.3	0.104
1.5KE75	1.5KE75C*	60.7	67.5	82.5	1.0	5.0	108.0	13.9	0.105
1.5KE75A	1.5KE75CA*	64.1	71.3	78.8	1.0	5.0	103.0	14.6	0.105
1.5KE82	1.5KE82C	66.4	73.8	90.2	1.0	5.0	118.0	12.7	0.105
1.5KE82A	1.5KE82CA	70.1	77.9	86.1	1.0	5.0	113.0	13.3	0.105
1.5KE91	1.5KE91C	73.7	81.9	100.0	1.0	5.0	131.0	11.4	0.106
1.5KE91A	1.5KE91CA	77.8	86.5	95.5	1.0	5.0	125.0	12.0	0.106
1.5KE100	1.5KE100C	81.0	90.0	110.0	1.0	5.0	144.0	10.4	0.106
1.5KE100A	1.5KE100CA	85.5	95.0	105.0	1.0	5.0	137.0	11.0	0.106
1.5KE110	1.5KE110C	89.2	99.0	121.0	1.0	5.0	158.0	9.5	0.107
1.5KE110A	1.5KE110CA	94.0	105.0	116.0	1.0	5.0	152.0	9.9	0.107
1.5KE120*	1.5KE120C*	97.2	108.0	132.0	1.0	5.0	173.0	8.7	0.107
1.5KE120A*	1.5KE120CA*	102.0	114.0	126.0	1.0	5.0	165.0	9.1	0.107
1.5KE130	1.5KE130C	105.0	117.0	143.0	1.0	5.0	187.0	8.0	0.107
1.5KE130A	1.5KE130CA	111.0	124.0	137.0	1.0	5.0	179.0	8.4	0.107
1.5KE150	1.5KE150C	121.0	135.0	165.0	1.0	5.0	215.0	7.0	0.108
1.5KE150A	1.5KE150CA	128.0	143.0	158.0	1.0	5.0	207.0	7.2	0.108
1.5KE160	1.5KE160C	130.0	144.0	176.0	1.0	5.0	230.0	6.5	0.108
1.5KE160A	1.5KE160CA	136.0	152.0	168.0	1.0	5.0	219.0	6.8	0.108
1.5KE170	1.5KE170C	138.0	153.0	187.0	1.0	5.0	244.0	6.2	0.108
1.5KE170A	1.5KE170CA	145.0	162.0	179.0	1.0	5.0	234.0	6.4	0.108
1.5KE180	1.5KE180C	146.0	162.0	198.0	1.0	5.0	258.0	5.8	0.108
1.5KE180A	1.5KE180CA	154.0	171.0	189.0	1.0	5.0	246.0	6.1	0.108
1.5KE200*	1.5KE200C*	162.0	180.0	220.0	1.0	5.0	287.0	5.2	0.108
1.5KE200A*	1.5KE200CA*	171.0	190.0	210.0	1.0	5.0	274.0	5.5	0.108
1.5KE220	1.5KE220C	175.0	198.0	242.0	1.0	5.0	344.0	4.3	0.108
1.5KE220A	1.5KE220CA	185.0	209.0	231.0	1.0	5.0	328.0	4.6	0.108
1.5KE250	1.5KE250C	202.0	225.0	275.0	1.0	5.0	360.0	5.0	0.110
1.5KE250A	1.5KE250CA	214.0	237.0	263.0	1.0	5.0	344.0	4.4	0.110
1.5KE300	1.5KE300C*	243.0	270.0	330.0	1.0	5.0	430.0	3.5	0.110
1.5KE300A	1.5KE300CA*	256.0	285.0	315.0	1.0	5.0	414.0	3.6	0.110
1.5KE350*	1.5KE350C	284.0	315.0	385.0	1.0	5.0	504.0	3.0	0.110
1.5KE350A*	1.5KE350CA	300.0	332.0	368.0	1.0	5.0	482.0	3.1	0.110
1.5KE400	1.5KE400C*	324.0	360.0	440.0	1.0	5.0	574.0	2.6	0.110
1.5KE400A	1.5KE400CA*	342.0	380.0	420.0	1.0	5.0	548.0	2.8	0.110
1.5KE440	1.5KE440C	356.0	396.0	484.0	1.0	5.0	631.0	2.4	0.110
1.5KE440A	1.5KE440CA	376.0	418.0	462.0	1.0	5.0	602.0	2.5	0.110

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 under the I_R limit is doubled.

2. V_F = 3.5 Volts max. for devices of nominal V_{BR} < 200V, and V_F = 5.0 Volts max for devices of nominal V_{BR} >200V. I_F =50A, 300 µS square wave.

* Preferred voltages.

All products are sold to the commercial specifications shown, for any additional reliability testing or extended parameters, please consult the factory.