



8700 E. Thomas Road
Scottsdale, AZ 85251
PH: (480) 941-6300
FAX: (480) 947-1503

FLIP CHIP TVS DIODES
CHF1.5KE6.8
thru
CHF1.5KE400CA
Patented Flip Chip Series

FEATURES

- Unidirectional and Bidirectional
- Fully glass passivated
- 1500 watt (10/1000 μ s)
- Eliminates wire bonding
- No overshoot
- NON Inductive Insertion

MAXIMUM RATINGS MECHANICAL

- Max Junction Temperature: 175°C
- Storage Temperature: -55°C to +175°C
- Flip Chip Peak Pulse Power: 1500 Watts (10/1000 μ s)
- Maximum non-repetitive peak power 1500 Watts (10/1000 μ s)
- Total continuous power dissipation @ $T_{lead} = 75^{\circ}C$ 2.5 W
- Turn-on time (theoretical) unidirectional 1×10^{-12}
- Turn-on time (theoretical) bidirectional 1×10^{-9}

MECHANICAL

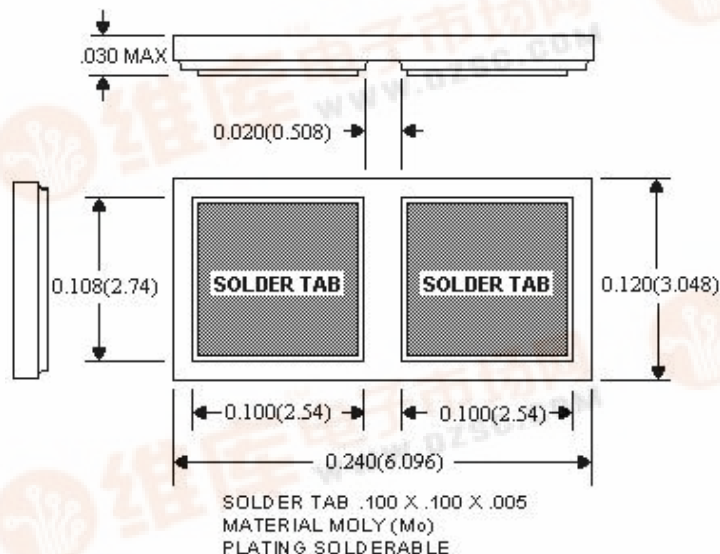
- Weight: 0.3 grams (approximate)
- Cathode mark on top side
- Metallization Cr - Ag - Au (Both Sides)

PACKAGING

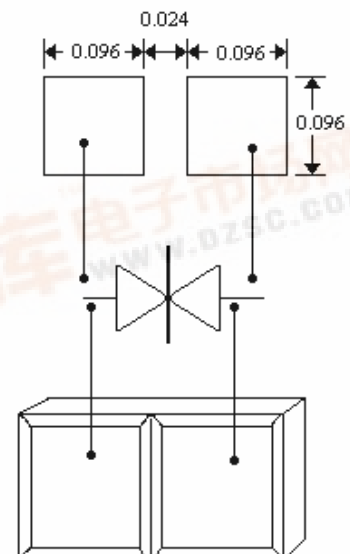
- Waffle package
- 50 pieces per pack (STANDARD)

BIDIRECTIONAL ALL DIMENSIONS NOMINAL

FLIP CHIP DIMENSIONS

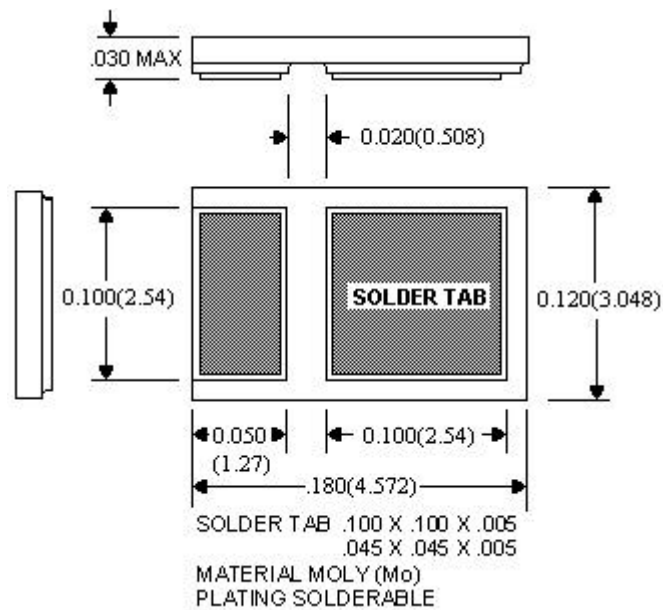


PAD SIZE & CIRCUIT

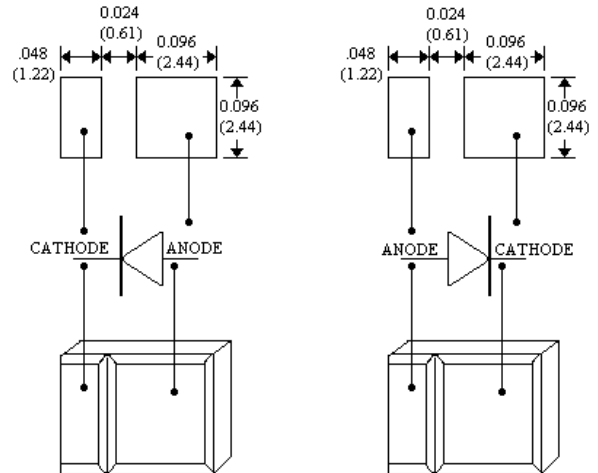


CHF1.5KE6.8 thru CHF1.5KE400CA

UNIDIRECTIONAL ALL DIMENSIONS NOMINAL



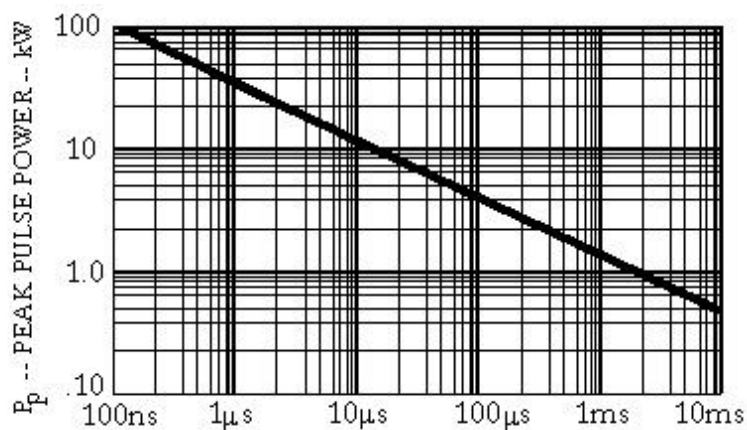
FLIP CHIP DIMENSIONS



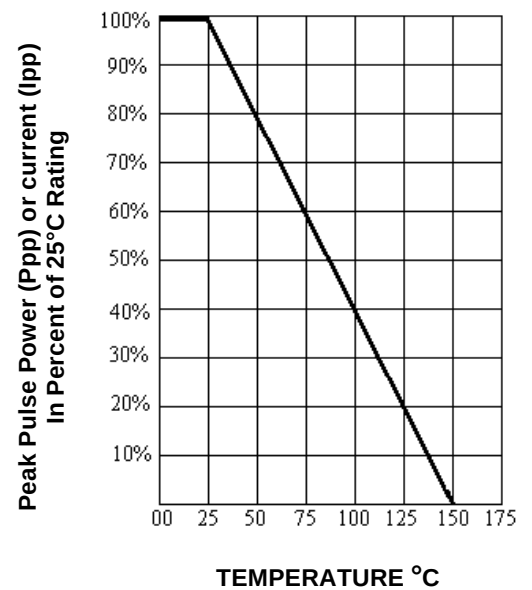
V_{BR} 30V and above

V_{BR} 30V and below

PEAK PULSE POWER Vs PULSE TIME



POWER DERATING



CHF1.5KE6.8 thru CHF1.5KE400CA

ELECTRICAL Characteristics @ 25°C Unless otherwise specified

Part Number	Rated Stand-off Voltage	Breakdown Voltage $V_{(BR)}$ @ I_T		Maximum Clamping @ I_{PP} (1 Msec)	Maximum Reverse Leakage @ V_{WM}	Rated Maximum Peak Pulse Current	Maximum Temperature Coefficient V_Z
	V_{WM} VOLTS	MIN	mA	V_C VOLTS	I_O μ A	I_{PP} A	OF $V_{(BR)}$ %/°C
CHF1.5KE6.8	5.5	6.12	10	10.8	1000	139.0	.057
CHF1.5KE6.8A	5.8	6.45	10	10.5	1000	143.0	.057
CHF1.5KE7.5	6.05	6.75	10	11.7	500	128.0	.061
CHF1.5KE7.5A	6.40	7.13	10	11.3	500	132.0	.061
CHF1.5KE8.2	6.63	7.38	10	12.5	200	120.0	.065
CHF1.5KE8.2A	7.02	7.79	10	12.1	200	124.0	.065
CHF1.5KE9.1	7.37	8.19	1	13.8	50	109.0	.068
CHF1.5KE9.1A	7.78	8.65	1	13.4	50	112.0	.068
CHF1.5KE10	8.10	9.00	1	15.0	10	100.0	.073
CHF1.5KE10A	8.55	9.50	1	14.5	10	103.0	.073
CHF1.5KE11	8.92	9.90	1	16.2	5	93.0	.075
CHF1.5KE11A	9.40	10.50	1	15.6	5	96.0	.075
CHF1.5KE12	9.72	10.80	1	17.3	5	87.0	.078
CHF1.5KE12A	10.20	11.40	1	16.7	5	90.0	.078
CHF1.5KE13	10.50	11.70	1	19.0	5	79.0	.081
CHF1.5KE13A	11.10	12.40	1	18.2	5	82.0	.081
CHF1.5KE15	12.10	13.50	1	22.0	5	68.0	.084
CHF1.5KE15A	12.80	14.30	1	21.2	5	71.0	.084
CHF1.5KE16	12.90	14.40	1	23.5	5	64.0	.086
CHF1.5KE16A	13.60	15.20	1	22.5	5	67.0	.086
CHF1.5KE18	14.50	16.20	1	26.5	5	56.5	.088
CHF1.5KE18A	15.30	17.10	1	25.2	5	59.5	.088
CHF1.5KE20	16.20	18.00	1	29.1	5	51.5	.090
CHF1.5KE20A	17.10	19.00	1	27.7	5	54.0	.0980
CHF1.5KE22	17.80	19.80	1	31.9	5	47.0	.092
CHF1.5KE22A	18.80	20.90	1	30.6	5	49.0	.092
CHF1.5KE24	19.40	21.60	1	34.7	5	43.0	.094
CHF1.5KE24A	20.50	22.80	1	33.2	5	45.0	.094
CHF1.5KE27	21.80	24.30	1	39.1	5	38.5	.096
CHF1.5KE27A	23.10	25.70	1	37.5	5	40.0	.096
CHF1.5KE30	24.30	27.00	1	43.5	5	34.5	.097
CHF1.5KE30A	25.60	28.50	1	41.4	5	36.0	.097
CHF1.5KE33	26.80	29.70	1	47.7	5	31.5	.098
CHF1.5KE33A	28.20	31.40	1	45.7	5	33.0	.098
CHF1.5KE36	29.10	32.40	1	52.0	5	29.0	.099
CHF1.5KE36A	30.80	34.20	1	49.9	5	30.0	.099
CHF1.5KE39	31.60	35.10	1	56.4	5	26.5	.100
CHF1.5KE39A	33.30	37.10	1	53.9	5	28.0	.100
CHF1.5KE43	34.80	38.70	1	61.9	5	24.0	.101
CHF1.5KE43A	36.80	40.90	1	59.3	5	25.3	.101
CHF1.5KE47	38.10	42.30	1	67.8	5	22.2	.101
CHF1.5KE47A	40.20	44.70	1	64.8	5	23.2	.101
CHF1.5KE51	41.30	45.90	1	73.5	5	20.4	.102
CHF1.5KE51A	43.60	48.50	1	70.1	5	21.4	.102
CHF1.5KE56	45.40	50.40	1	80.5	5	18.6	.103
CHF1.5KE56A	47.80	53.20	1	77.0	5	19.5	.103
CHF1.5KE62	50.20	55.80	1	89.0	5	16.9	.104
CHF1.5KE62A	53.00	58.90	1	85.0	5	17.7	.104
CHF1.5KE68	55.10	61.20	1	98.0	5	15.3	.104
CHF1.5KE68A	58.10	64.60	1	92.0	5	16.3	.104
CHF1.5KE75	60.70	67.50	1	108.0	5	13.9	.105
CHF1.5KE75A	64.10	71.30	1	103.0	5	14.6	.105
CHF1.5KE82	66.40	73.80	1	118.0	5	12.7	.105
CHF1.5KE82A	70.10	77.90	1	113.0	5	13.3	.105
CHF1.5KE91	73.70	81.90	1	131.0	5	11.4	.106
CHF1.5KE91A	77.80	86.50	1	125.0	5	12.0	.106
CHF1.5KE100	81.00	90.00	1	144.0	5	10.4	.106
CHF1.5KE100A	85.50	95.00	1	137.0	5	11.0	.106
CHF1.5KE110	89.20	99.00	1	158.0	5	9.5	.107
CHF1.5KE110A	94.00	105.00	1	152.0	5	9.9	.107
CHF1.5KE120	97.20	108.00	1	173.0	5	8.7	.107
CHF1.5KE120A	102	114.00	1	165.0	5	9.1	.107
CHF1.5KE130	105	117.00	1	187.0	5	8.0	.107
CHF1.5KE130A	111	124.00	1	179.0	5	8.4	.107
CHF1.5KE150	121	135.00	1	215.0	5	7.0	.108
CHF1.5KE150A	128	143.00	1	207.0	5	7.2	.108
CHF1.5KE160	130	144.00	1	230.0	5	6.5	.108
CHF1.5KE160A	136	152.00	1	219.0	5	6.8	.108
CHF1.5KE170	138	153.00	1	244.0	5	6.2	.108
CHF1.5KE170A	145	162.00	1	234.0	5	6.4	.108
CHF1.5KE180	146	162.00	1	258.0	5	5.8	.108
CHF1.5KE180A	154	171.00	1	246.0	5	6.1	.108
CHF1.5KE200	162	180.00	1	287.0	5	5.2	.108
CHF1.5KE200A	171	190.00	1	274.0	5	5.5	.108
CHF1.5KE220	175	198.00	1	344.0	5	4.3	.110
CHF1.5KE220A	185	209.00	1	328.0	5	4.6	.110
CHF1.5KE250	202	225.00	1	360.0	5	5.0	.110
CHF1.5KE250A	214	237.00	1	344.0	5	5.0	.110
CHF1.5K2300	243	270.00	1	430.0	5	5.0	.111
CHF1.5KE300A	256	285.00	1	414.0	5	5.0	.111
CHF1.5KE350	284	315.00	1	504.0	5	4.0	.111
CHF1.5KE350A	300	332.00	1	482.0	5	4.0	.111
CHF1.5KE400	324	360.00	1	574.0	5	4.0	.111
CHF1.5KE400A	342	380.00	1	548.0	5	4.0	.111