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

FLIP-CHIP TVS DIODES
CHFP6KE5.0
thru
CHFP6KE170CA
Patented Flip-Chip Series

FEATURES
- Unidirectional and Bidirectional
- Fully glass passivated
- 600 watt (10/1000 µs)
- Eliminates wire bonding
- NON Inductive Insertion
- No voltage overshoot

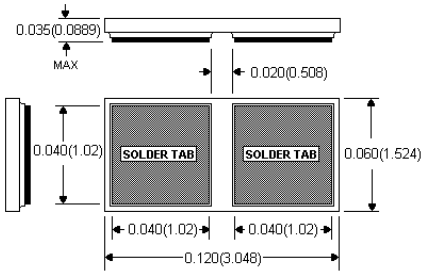
MECHANICAL
- Weight: 0.01 grams (approximate)
- Solderable standoff tabs .040X.040X.010

PACKAGING
- Waffle package 50 pices or wafer ring 70 pieces

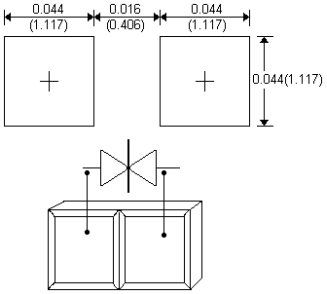
MAXIMUM RATINGS
- Max Junction Temperature: 150^{0}C (with conformal coating)
- Storage Temperature: -55^{0}C to +150^{0}C
- Flip-Chip Peak Pulse Power: 600 Watts (10/1000 µs)
- Maximum non-repetitive peak power 600 Watts (10/1000 µs)
- Total continuous power dissipation 2.5 W (with adequate heat sink @ 75^{0}C)
- Turn-on time (theoretical) unidirectional 1X10^{-12}
- Turn-on time (theoretical) bidirectional 1X10^{-9}

BIDIRECTIONAL ALL DIMENSIONS NOMINAL
inches (mm)

FLIP-CHIP DIMENSIONS

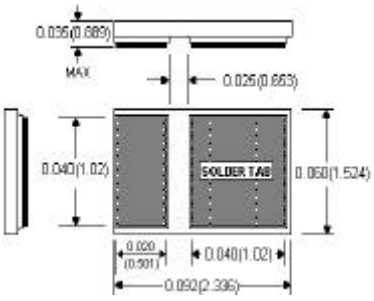


PAD SIZE & CIRCUIT

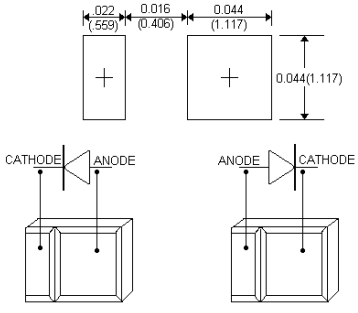


UNIDIRECTIONAL ALL DIMENSIONS NOMINAL
inches (mm)

FLIP-CHIP DIMENSIONS



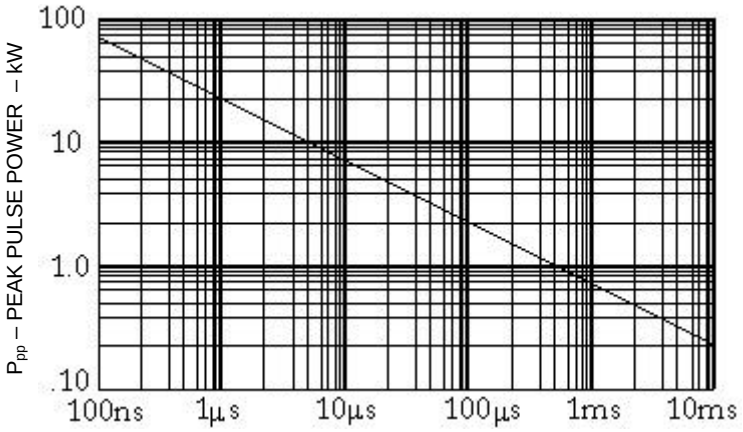
PAD SIZE & CIRCUIT



V_{BR} above 30 V V_{BR} 30V and below

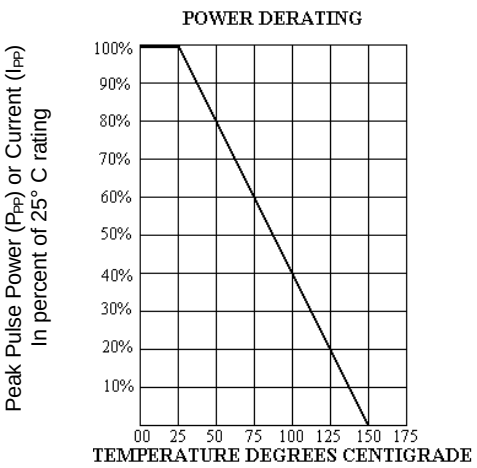
ISO 9001 CERTIFIED

PEAK PULSE POWER Vs PULSE TIME



TP – PULSE TIME – SEC

PEAK PULSE POWER DERATING



TEMPERATURE °C

ATTACHMENT AND CONFORMAL COATING INSTRUCTIONS FOR Flip-Chip COMPONENTS

The .010” thick tab standoffs minimize shorting during attachment; however, minimal solder/conductive epoxy must be used and carefully controlled to prevent excess attachment material from wicking up the side of the tab and shorting across the junction. Maximum recommended solder temperatures are 212 C for IR reflow and 221 C for vapor-phase reflow. For flip-chip protection, coating material is Stycast ™ 2651-40 low-viscosity epoxy manufactured by Emerson & Cuming. Follow instructions carefully for preparation of the epoxy to prevent entrapment of air bubbles. Make sure that *Flip-Chips* have been baked at 100 C for 15 minutes minimum to out-gas any adsorbed moisture immediately prior to coating. Epoxy-coating material should be dispensed around the edges of the chip with an appropriately sized syringe after which epoxy is de-aired to remove bubbles entrapped beneath the chip. Cure epoxy as instructed by the supplier.

ELECTRICAL Characteristics @ 25^{0}C Unless otherwise specified

Part Number	Rated Stand-off Voltage V_{WM}	Minimum Breakdown Voltage $V_{(BR)}$ @I_T		Maximum Clamping @ I_{PP} V_C Max	Maximum Reverse Leakage @ V_{WM} I_D	Rated Maximum Peak Pulse Current I_{PP}	Maximum Voltage Temperature Coefficient OF $V_{(BR)}$
	VOLTS	VOLTS	mA	VOLTS	µ A	AMPS	%/°C
CHFP6KE5.0	5.0	6.4	10	9.6	800	62.5	.057
CHFP6KE5.0A	5.0	6.4	10	9.2	800	62.5	.057
CHFP6KE6.0	6.0	6.67	10	11.4	800	52.6	.059
CHFP6KE6.0A	6.0	6.67	10	10.3	800	58.3	.059
CHFP6KE6.5	6.5	7.22	10	12.3	500	48.7	.061
CHFP6KE6.5A	6.5	7.22	10	11.2	500	53.6	.061
CHFP6KE7.0	7.0	7.78	10	13.3	200	45.1	.065
CHFP6KE7.0A	7.0	7.78	10	12.0	200	50.0	.065
CHFP6KE7.5	7.5	8.33	1	14.3	100	42.0	.067
CHFP6KE7.5A	7.5	8.33	1	12.9	100	46.5	.067
CHFP6KE8.0	8.0	8.89	1	15.0	50	40.0	.070
CHFP6KE8.0A	8.0	8.89	1	13.6	50	44.1	.070
CHFP6KE8.5	8.5	9.44	1	15.9	10	37.7	.073
CHFP6KE8.5A	8.5	9.44	1	14.4	10	41.7	.073
CHFP6KE9.0	9.0	10.0	1	16.9	5	35.5	.076
CHFP6KE9.0A	9.0	10.0	1	15.4	5	59.0	.076
CHFP6KE10	10	11.1	1	18.8	5	31.9	.078
CHFP6KE10A	10	11.1	1	17.0	5	35.3	.078
CHFP6KE11	11	12.2	1	20.1	5	29.9	.081
CHFP6KE11A	11	12.2	1	18.2	5	33.0	.081
CHFP6KE12	12	13.3	1	22.0	5	27.3	.082
CHFP6KE12A	12	13.3	1	19.9	5	30.2	.082
CHFP6KE13	13	14.4	1	23.8	5	25.2	.084
CHFP6KE13A	13	14.4	1	21.5	5	27.9	.084
CHFP6KE14	14	15.6	1	25.8	5	23.3	.086
CHFP6KE14A	14	15.6	1	23.2	5	25.8	.086
CHFP6KE15	15	16.7	1	26.9	5	22.3	.087
CHFP6KE15A	15	16.7	1	24.4	5	24.0	.087
CHFP6KE16	16	17.8	1	28.8	5	20.8	.088
CHFP6KE16A	16	17.8	1	26.0	5	23.1	.088
CHFP6KE17	17	18.9	1	30.5	5	29.7	.090
CHFP6KE17A	17	18.9	1	27.6	5	21.7	.090
CHFP6KE18	18	20.0	1	32.2	5	18.6	.092
CHFP6KE18A	18	20.0	1	29.2	5	20.5	.092
CHFP6KE20	20	22.2	1	35.8	5	16.7	.093
CHFP6KE20A	20	22.2	1	32.4	5	18.5	.093
CHFP6KE22	22	24.4	1	39.4	5	15.2	.094
CHFP6KE22A	22	24.4	1	35.5	5	16.9	.094
CHFP6KE24	24	26.7	1	43.0	5	14.0	.096
CHFP6KE24A	24	26.7	1	38.9	5	15.4	.096
CHFP6KE26	26	28.9	1	46.6	5	12.4	.097
CHFP6KE26A	26	28.9	1	42.1	5	14.2	.097
CHFP6KE28	28	31.1	1	50.0	5	12.0	.098
CHFP6KE28A	28	31.1	1	45.4	5	13.2	.098
CHFP6KE30	30	33.3	1	53.5	5	11.2	.099
CHFP6KE30A	30	33.3	1	48.4	5	12.4	.099
CHFP6KE33	33	36.7	1	59.0	5	10.2	.100
CHFP6KE33A	33	36.7	1	53.3	5	11.3	.100
CHFP6KE36	36	40.0	1	64.3	5	9.3	.101
CHFP6KE36A	36	40.0	1	58.1	5	10.3	.101
CHFP6KE40	40	44.4	1	71.4	5	8.4	.101
CHFP6KE40A	40	44.4	1	64.5	5	9.3	.101
CHFP6KE43	43	47.8	1	76.7	5	7.8	.102
CHFP6KE43A	43	47.8	1	69.4	5	8.6	.102
CHFP6KE45	45	50.0	1	80.3	5	7.5	.102
CHFP6KE45A	45	50.0	1	72.7	5	8.3	.102
CHFP6KE48	48	53.3	1	85.5	5	7.0	.103
CHFP6KE48A	48	53.3	1	77.4	5	7.7	.103
CHFP6KE51	51	56.7	1	91.1	5	6.6	.103
CHFP6KE51A	51	56.7	1	82.4	5	7.3	.103
CHFP6KE54	54	60.0	1	96.3	5	6.2	.104
CHFP6KE54A	54	60.0	1	87.1	5	6.9	.104
CHFP6KE58	58	64.4	1	103	5	5.8	.104
CHFP6KE58A	58	64.4	1	93.6	5	6.4	.104
CHFP6KE60	60	66.7	1	107	5	5.6	.104
CHFP6KE60A	60	66.7	1	96.8	5	6.2	.104
CHFP6KE64	64	71.1	1	114	5	5.3	.105
CHFP6KE64A	64	71.1	1	103	5	5.8	.105
CHFP6KE70	70	77.8	1	125	5	4.8	.105
CHFP6KE70A	70	77.8	1	113	5	5.3	.105
CHFP6KE75	75	83.3	1	134	5	4.5	.105
CHFP6KE75A	75	83.3	1	121	5	4.9	.105
CHFP6KE78	78	86.7	1	139	5	4.3	.106
CHFP6KE78A	78	86.7	1	126	5	4.7	.106
CHFP6KE85	85	94.4	1	151	5	3.9	.107
CHFP6KE85A	85	94.4	1	137	5	4.4	.107
CHFP6KE90	90	100	1	160	5	3.8	.107
CHFP6KE90A	90	100	1	146	5	4.1	.107
CHFP6KE100	100	111	1	179	5	3.4	.107
CHFP6KE100A	100	111	1	162	5	3.7	.107
CHFP6KE110	110	122	1	196	5	3.0	.108
CHFP6KE110A	110	122	1	177	5	3.4	.108
CHFP6KE120	120	133	1	214	5	2.8	.108
CHFP6KE120A	120	133	1	193	5	3.1	.108
CHFP6KE130	130	144	1	231	5	2.6	.108
CHFP6KE130A	130	144	1	209	5	2.9	.108
CHFP6KE150	150	167	1	268	5	2.2	.108
CHFP6KE150A	150	167	1	243	5	2.5	.108
CHFP6KE160	160	178	1	287	5	2.1	.108
CHFP6KE160A	160	178	1	259	5	2.3	.108

Note:
For bidirectional devices add a “C” (example CHFP6KE5.0C thru CHFP6KE170CA are bidirectional devices).

TOLERANCES
A suffix designates 5%
Plain suffix designates 10%