

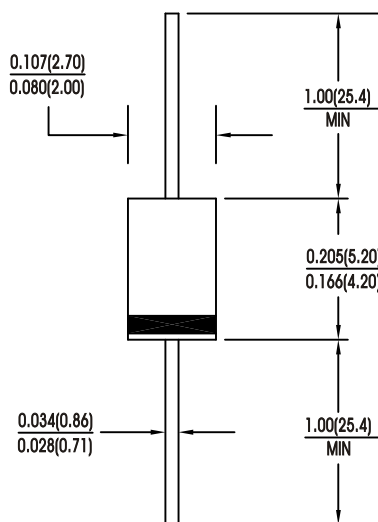
LCP6KE6.8 THRU LCP6KE350

LOW CAPACITANCE TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE -6.8 TO 350 VOLTS 600 WATT PEAK POWER

FEATURES:

- Flammability Classification 94V-0
- Diffused junction
- Low cost
- Low junction capacitance

DO-41



MECHANICAL DATA

Case: Transfer plastic

Terminals: Axial leads, Solderable per
MIL-STD-202, Method 208

Polarity: Cathode Indicated by color band

Weight: 0.34 grams

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25° C ambient temp. unless otherwise specified.

Single phase, half sine wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20 %.

Characteristic	Symbol	T.V.S	DIODE	Units
Maximum surge reverse power (Non-repetitive 10/ 1000us)	P_{RSM}	400	-	W
Maximum repetitive peak voltage	V_{RM}	170	600	Volts
Maximum leakage current($V_R = V_{RM}$)	I_R	5.0	5.0	Amps
Maximum reverse recovery time($I_F/I_R = 0.1A/0.3A$)	T_{rr}	-	500	nS
Maximum junction capacitance at 0 voltage	C_j	20		pF
Operating and Storage temperature range	T_J, T_{stg}	-55 to +150		°C

FIGURE 1-PEAK PULSEPOWER RATING VERSUS PULSE TIME CURVE

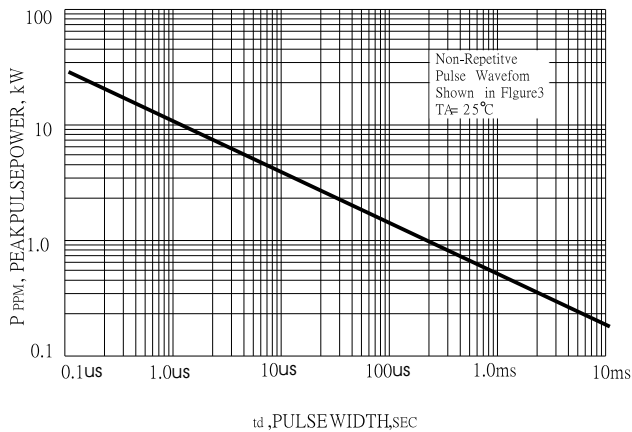


FIGURE 2-PULSE DERATING CURVE



FIGURE 3-PULSE WAVEFORM

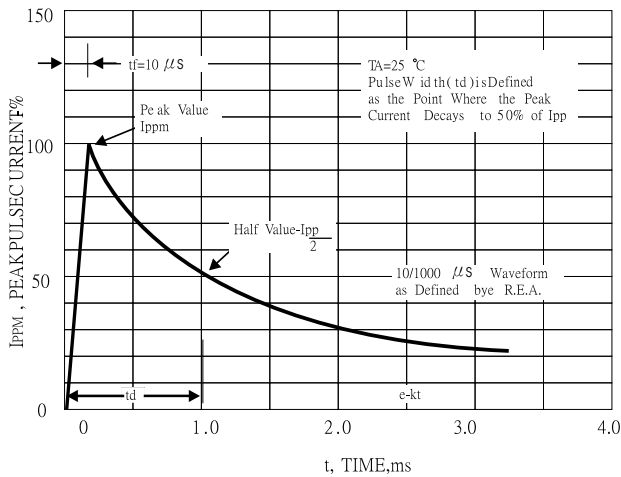


FIG. 4-STEADY STATE POWER DERATING CURVE

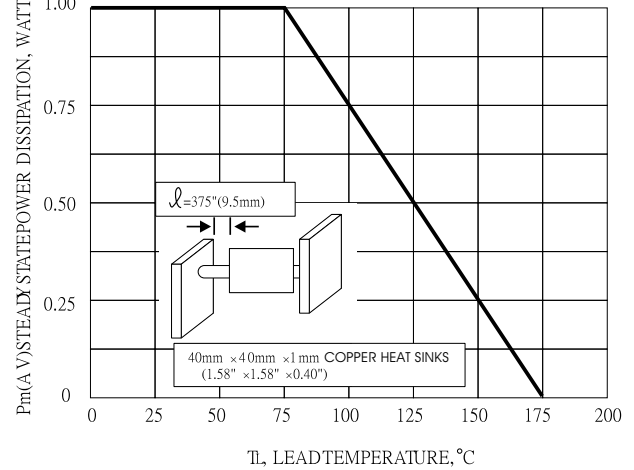


FIGURE 6-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

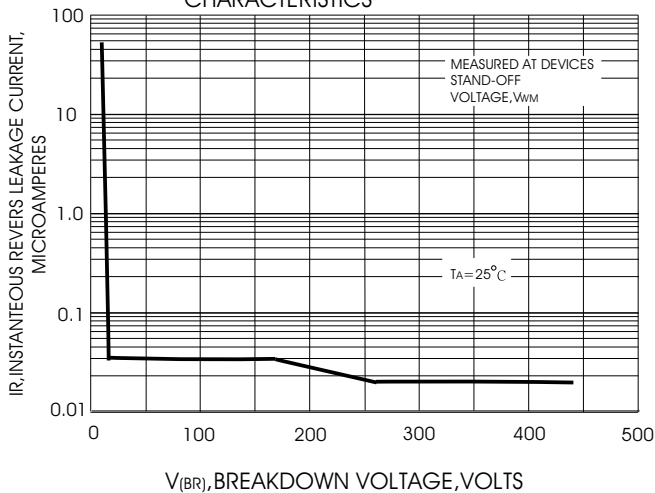
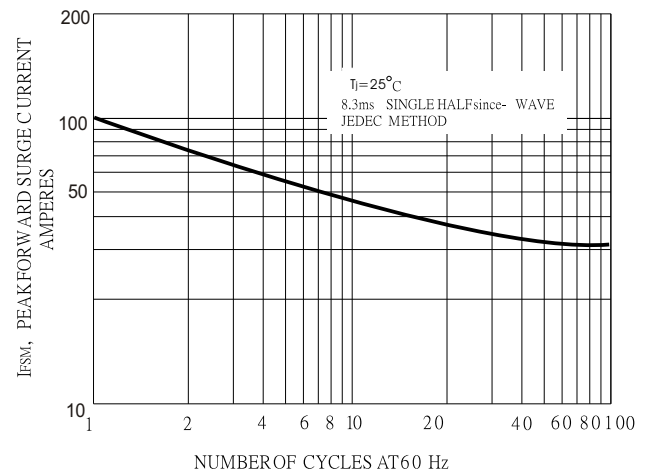


FIG. 6-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL



600 WATT AXIAL LEAD TVS LCP6KE6.8 THRU LCP6KE350

TABLE 1

Device Type	Breakdown V _{BR} Voltage at I _T (Voltage)		Test Current I _T mA	Working Peak Reverse Voltage V _{RWM} Volts	Maximum Reverse Leakage at V _{RWM} I _R (μ A)	Maximum Peak Pulse Current I _{PPM} Amps	Maximum Clamping Voltage V _C Volts	Maximum Junction Capacitance at 0 Volts PF	Minimum Peak Inverse Blocking Voltage V _{PIB} Volts
	Min	Max							
LCP6KE6.8	6.29	7.31	10	5.65	1000	56.0	10.8	100	50.0
LCP6KE7.5	6.94	8.06	10	6.25	500	51.0	11.7	100	50.0
LCP6KE8.2	7.58	8.82	10	6.82	200	48.0	12.5	100	50.0
LCP6KE9.1	8.42	9.78	1.0	7.58	50.0	44.0	13.8	100	50.0
LCP6KE10	9.25	10.80	1.0	8.36	10.0	40.0	15.0	100	50.0
LCP6KE11	10.18	11.83	1.0	8.10	5.00	37.0	16.2	100	50.0
LCP6KE12	11.10	12.90	1.0	9.99	5.00	35.0	17.3	100	50.0
LCP6KE13	12.03	13.98	1.0	11.10	5.00	32.0	19.0	100	50.0
LCP6KE15	13.80	16.10	1.0	12.47	5.00	27.0	22.0	100	50.0
LCP6KE16	14.80	17.20	1.0	13.32	5.00	26.0	23.5	100	50.0
LCP6KE18	16.60	19.40	1.0	14.99	5.00	23.0	26.5	100	50.0
LCP6KE20	18.50	21.50	1.0	16.65	5.00	21.0	29.1	100	50.0
LCP6KE22	20.30	23.70	1.0	18.82	5.00	19.0	31.9	100	50.0
LCP6KE24	22.20	25.80	1.0	19.98	5.00	17.0	34.7	100	50.0
LCP6KE27	24.90	29.00	1.0	22.48	5.00	15.0	39.1	100	50.0
LCP6KE30	27.70	32.30	1.0	24.98	5.00	14.0	43.5	100	50.0
LCP6KE33	30.50	35.50	1.0	27.47	5.00	12.6	47.7	100	50.0
LCP6KE36	33.30	38.70	1.0	29.97	5.00	11.6	52.0	100	50.0
LCP6KE39	36.00	41.90	1.0	32.47	5.00	10.6	56.4	100	50.0
LCP6KE43	39.80	46.20	1.0	35.80	5.00	9.60	61.9	100	50.0
LCP6KE47	43.40	50.50	1.0	39.12	5.00	8.90	67.8	100	50.0
LCP6KE51	47.20	54.80	1.0	42.48	5.00	8.20	73.5	100	50.0
LCP6KE56	51.80	60.20	1.0	47.88	5.00	7.40	80.5	100	50.0
LCP6KE62	57.30	66.70	1.0	51.62	5.00	6.80	89.0	100	50.0
LCP6KE68	62.90	73.10	1.0	56.60	5.00	6.10	98.0	100	50.0
LCP6KE75	69.40	80.60	1.0	62.44	5.00	5.50	108.0	100	50.0
LCP6KE82	75.80	88.20	1.0	68.27	5.00	5.10	118.0	100	50.0
LCP6KE91	84.20	97.80	1.0	75.76	5.00	4.50	131.8	100	50.0
LCP6KE100	92.50	107.5	1.0	83.25	5.00	4.20	144.0	100	50.0
LCP6KE110	101.8	118.3	1.0	91.58	5.00	3.80	158.0	100	50.0
LCP6KE120	111.0	129.0	1.0	99.90	5.00	3.50	173.0	100	50.0
LCP6KE130	120.2	139.8	1.0	108.2	5.00	3.20	187.0	100	50.0
LCP6KE150	138.8	161.3	1.0	112.4	5.00	2.80	215.0	100	50.0
LCP6KE160	148.0	172.0	1.0	119.9	5.00	2.60	230.0	100	50.0
LCP6KE170	157.2	182.8	1.0	141.5	5.00	2.50	244.0	100	50.0
LCP6KE180	166.5	193.5	1.0	149.9	5.00	2.30	258.0	100	50.0
LCP6KE200	185.0	215.0	1.0	170.0	5.00	2.10	287.0	100	50.0
LCP6KE220	203.5	236.5	1.0	183.2	5.00	1.75	344.0	100	50.0
LCP6KE250	231.2	268.8	1.0	208.2	5.00	1.67	360.0	100	50.0
LCP6KE300	277.5	322.5	1.0	249.8	5.00	1.40	430.0	100	50.0
LCP6KE350	323.7	376.3	1.0	291.4	5.00	1.20	504.0	100	50.0

600 WATT AXIAL LEAD TVS LCP6KE6.8 THRU LCP6KE350

NOTE1: The LCP6KE series is a low capacitance silicon transient voltage suppressor for data or signal line. It is designed for commercial and industrial applications. This series offers pricing, size, and capacitance advantages. This series employs a standard TVS in series with a rectifier which reduces the effective capacitance up through 70MHz with a minimum amount of signal loss or deformation. If bidirectional transient protection capability is required, is required, two low capacitance TVS must be used in parallel, opposite in polarity for complete AC protection.

NOTE2: The LCP6KE series of low capacitance silicon transient voltage suppressors, rate at 400 watts, provides board level protection for data or signal lines from the damaging effects of electrostatic discharge (ESD), and electromagnetic pulse (EMP). It will clamp the inductive overshoot voltage caused by very fast impulse rise times. The low capacitance assures minimum signal attenuation.

NOTE3: A TVS is normally selected according to the reverse "Stand Off Voltage" (V_R) which should be equal to or greater than the DC or continuous peak operating voltage level.

NOTE: EQUIVALENT CIRCUIT

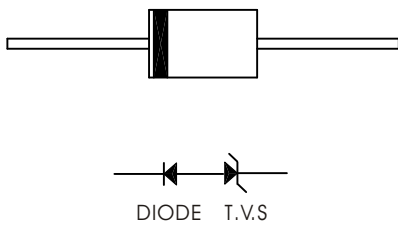
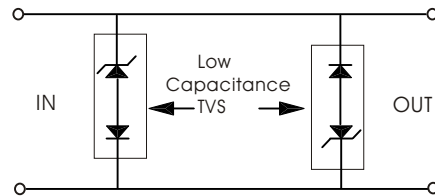


FIGURE. 1-AC Line Protection Application



APPLICATION NOTE : Devices must be used with two units in parallel, opposite in polarity as shown in circuit for AC signal line protection