LCE Series

1500W Leaded Type Transient Voltage Suppressors
VOLTAGE : 6.5 TO 90Volts

Features

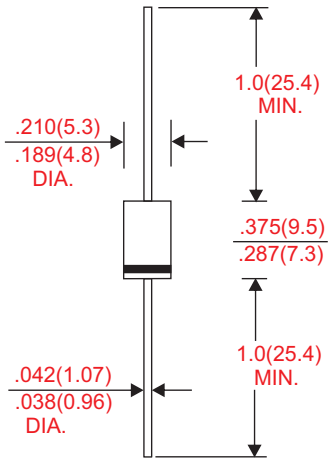
- Axial lead type devices for through hole design.
- 1500W peak pulse power capability with a 10/1000uS waveform, repetition rate (duty cycle): 0.05%.
- Excellent clamping capability.
- Low incremental surge resistance.
- Suffix "G" indicates Halogen-free part, ex.LCE6.5AG.
- Ultra high-speed switching.
- Glass passivated chip junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, DO-201AE
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guranteed
- Polarity : Color band denotes cathode end
- Weight : Approximated 1.20 gram

Outline

DO-201AE



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Parameter	Conditions	Symbol	LCE series	UNIT
Peak power dissipation	with a 10/1000us waveform, note 1& fig.1	P_{PPM}	1500	W
Steady state power dissipation	at 75°C, lead length 0.375"(9.5mm), note 2	$P_{M(AV)}$	6.5	W
Peak pulse current	with a 10/1000us waveform, note 1& fig.1	I_{PPM}	See Table 1	A
Operating temperature		T_J	-55 ~ +150	°C
Storage temperature		T_{STG}	-65 ~ +150	°C

Notes : 1. Non-repetitive current pulse, per Fig. 3 and derated above T_A=25°C per Fig. 2
2. Mounted on copper pad area of 0.8 X 0.8 (20x20 mm) per Fig 5
3. Measured on 8.3 mS single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum
4. V_F=3.5V max. for devices of V_{BR} < 110V, and V_F=5.0V max. for devices of V_{BR}>110V

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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Part No.	Absolute Maximum Rating(T_A = 25°C)					Electricity Characteristics(T_A = 25°C)		
	V_{RWM}	$V_{BR\ Min}$	$V_{BR\ Max}$	I_T	$I_{R\ MAX}$@V_{WM}	Max. V_C@I_{PPM}		Max. C_J@0V
	Volts	Volts	Volts	mA	uA	Volts	I_{PP}(A)	pF
LCE6.5A	6.5	7.22	7.98	10	1000	11.2	100.0	100
LCE7.0A	7.0	7.78	8.60	10	500	12.0	100.0	100
LCE7.5A	7.5	8.33	9.21	10	250	12.9	100.0	100
LCE8.0A	8.0	8.89	9.83	1.0	100	13.6	100.0	100
LCE8.5A	8.5	9.44	10.4	1.0	50	14.4	100.0	100
LCE9.0A	9.0	10.0	11.1	1.0	10	15.4	97.0	100
LCE10A	10.0	11.1	12.3	1.0	5	17.0	88.0	100
LCE11A	11.0	12.2	13.5	1.0	1	18.2	82.0	100
LCE12A	12.0	13.3	14.7	1.0	1	19.9	75.0	100
LCE13A	13.0	14.4	15.9	1.0	1	21.5	70.0	100
LCE14A	14.0	15.6	17.2	1.0	1	23.2	65.0	100
LCE15A	15.0	16.7	18.5	1.0	1	24.4	61.0	100
LCE16A	16.0	17.8	19.7	1.0	1	26.0	57.0	100
LCE17A	17.0	18.9	20.9	1.0	1	27.6	54.0	100
LCE18A	18.0	20.0	22.1	1.0	1	29.2	51.0	100
LCE20A	20.0	22.2	24.5	1.0	1	32.4	46.0	100
LCE22A	22.0	24.4	26.9	1.0	1	35.5	42.0	100
LCE24A	24.0	26.7	29.5	1.0	1	38.9	39.0	100
LCE26A	26.0	28.9	31.9	1.0	1	42.1	36.0	100
LCE28A	28.0	31.1	34.4	1.0	1	45.5	33.0	100
LCE30A	30.0	33.3	36.8	1.0	1	48.4	31.0	100
LCE33A	33.0	36.7	40.6	1.0	1	53.3	28.1	100
LCE36A	36.0	40.0	44.2	1.0	1	58.1	25.8	100
LCE40A	40.0	44.4	49.1	1.0	1	64.5	23.3	100
LCE43A	43.0	47.8	52.8	1.0	1	69.4	21.6	100
LCE45A	45.0	50.0	55.3	1.0	1	72.7	20.6	100
LCE48A	48.0	53.3	58.9	1.0	1	77.4	19.4	100
LCE51A	51.0	56.7	62.7	1.0	1	82.4	18.2	100
LCE54A	54.0	60.0	66.3	1.0	1	87.1	17.2	100
LCE58A	58.0	64.4	71.2	1.0	1	93.6	16.0	100
LCE60A	60.0	66.7	73.7	1.0	1	96.8	15.5	100
LCE64A	64.0	71.1	78.6	1.0	1	103.0	14.6	100
LCE70A	70.0	77.8	86.0	1.0	1	113.0	13.3	100
LCE75A	75.0	83.3	92.1	1.0	1	121.0	12.4	100
LCE85A	85.0	94.4	104.0	1.0	1	129.0	11.6	100
LCE90A	90.0	100.0	111.0	1.0	1	146.0	10.3	100

Note 1. V_{BR} measured after I_T applied for 300uS, I_T=square wave pulse or equivalent
2. Surge current waveform per Fig. 3 and derated per Fig. 2
3. Suffix 'A' denotes 5% tolerance devices, no suffix denotes 10% tolerance devices.
4. All terms and symbols are consistent with ANS/IEEE C62.35

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Rating and characteristic curves

FIG.1 - PEALK PULSE POWER RATING CURVE

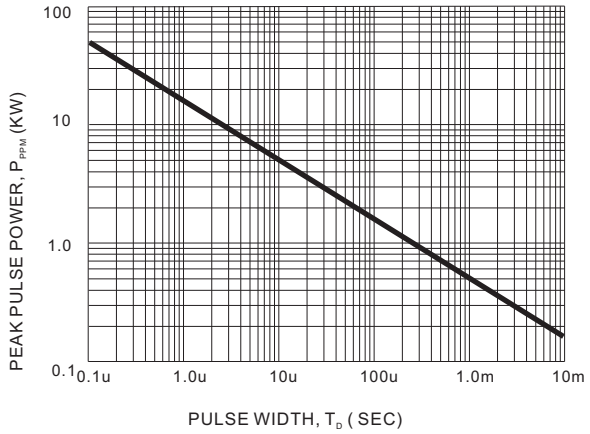


FIG.2 - PULSE DERATING CURVE

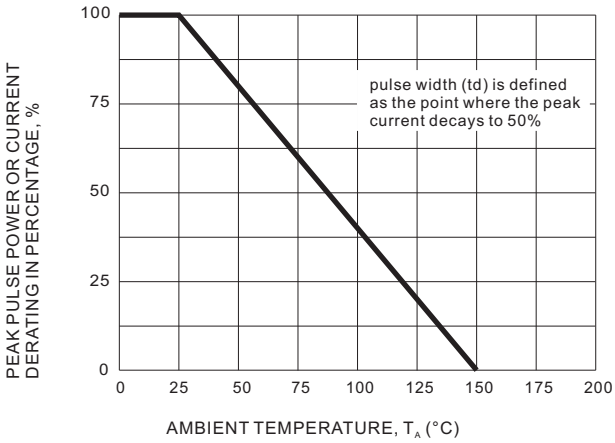


FIG.3 - PULSE WAVEFORM

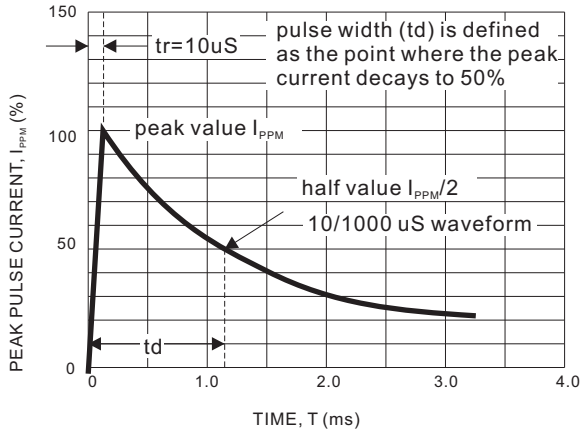
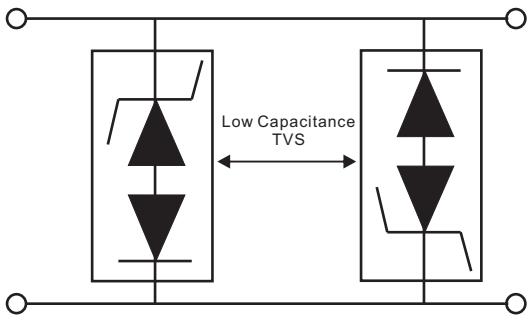


FIG.4 - AC LINE PROTECTION APPLICATION



Application Note : Device must be used with two units in parallel, opposite in polarity as shown in circuit for AC signal line protection.

FIG.5 - STEADY STATE POWER DERATING CURVE