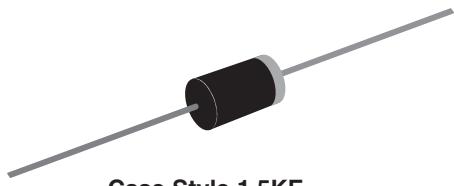


## Low Capacitance TRANSZORB® Transient Voltage Suppressors


**Case Style 1.5KE**

### FEATURES

- Glass passivated chip junction
- 1500 W peak pulse power capability with a 10/1000  $\mu$ s waveform, repetitive rate (duty cycle): 0.01 %
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, and telecommunication.

### MECHANICAL DATA

**Case:** Molded epoxy body over passivated junction  
Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS compliant, commercial grade

**Terminals:** Matte tin plated leads, solderable per  
J-STD-002 and JESD 22-B102  
E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** Color band denotes TVS cathode end

PRIMARY CHARACTERISTICS	
$V_{WM}$	6.5 V to 28 V
$V_{BR}$ (uni-directional)	7.22 V to 34.4 V
$P_{PPM}$	1500 W
$P_D$	6.5 W
$T_J$ max.	175 °C
Polarity	Uni-directional
Package	1.5KE

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)			
PARAMETER	SYMBOL	LIMIT	UNIT
Peak pulse power dissipation with a 10/1000 $\mu$ s waveform <sup>(1)</sup> (fig. 1)	$P_{PPM}$	1500	W
Peak power pulse surge current with a 10/1000 $\mu$ s waveform <sup>(1)</sup> (fig. 2)	$I_{PPM}$	See next table	A
Power dissipation on infinite heatsink at $T_L = 75$ °C (fig. 2)	$P_D$	6.5	W
Operating junction and storage temperature range	$T_J, T_{STG}$	- 65 to + 175	°C

**Note**

<sup>(1)</sup> Non-repetitive current pulse, per fig. 3 and derated above  $T_A = 25$  °C per fig.

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

PART NUMBER	BREAKDOWN VOLTAGE $V_{BR}$ (V)		TEST CURRENT $I_T$ (mA)	STAND-OFF VOLTAGE $V_{WM}$ (V)	MAXIMUM REVERSE LEAKAGE AT $V_{WM}$ $I_D$ ( $\mu\text{A}$ )	MAXIMUM PEAK PULSE CURRENT (FIG.3) $I_{PP}$ (A)	MAXIMUM CLAMPING VOLTAGE AT $I_{PP}$ $V_C$ (V)	MAXIMUM JUNCTION CAPACITANCE AT 0 (V) (pF)	MAXIMUM INVERSE BLOCKING VOLTAGE $V_{WIB}$ (V)	MAXIMUM INVERSE BLOCKING LEAKAGE CURRENT AT $V_{WIB}$ $I_D$ (mA)	MINIMUM PEAK INVERSE BLOCKING VOLTAGE $V_{PIB}$ (V)
	MIN.	MAX.									
LCE6.5A	7.22	7.98	10.0	6.5	1000	100	11.2	100	75	1.0	100
LCE7.0A	7.78	8.6	10.0	7.0	500	100	12.0	100	75	1.0	100
LCE7.5A	8.33	9.21	10.0	7.5	250	100	12.9	100	75	1.0	100
LCE8.0A	8.89	9.83	1.0	8.0	100	100	13.6	100	75	1.0	100
LCE8.5A	9.44	10.4	1.0	8.5	50.0	100	14.4	100	75	1.0	100
LCE9.0A	10.0	11.1	1.0	9.0	10.0	97	15.4	100	75	1.0	100
LCE10A	11.1	12.3	1.0	10.0	5.0	88	17.0	100	75	1.0	100
LCE11A	12.2	13.5	1.0	11.0	5.0	82	18.2	100	75	1.0	100
LCE12A	13.3	14.7	1.0	12.0	5.0	75	19.9	100	75	1.0	100
LCE13A	14.4	15.9	1.0	13.0	5.0	70	21.5	100	75	1.0	100
LCE14A	15.6	17.2	1.0	14.0	5.0	65	23.2	100	75	1.0	100
LCE15A	16.7	18.5	1.0	15.0	5.0	61	24.4	100	75	1.0	100
LCE16A	17.8	19.7	1.0	16.0	5.0	57	26.0	100	75	1.0	100
LCE17A	18.9	20.9	1.0	17.0	5.0	54	27.6	100	75	1.0	100
LCE18A	20.0	22.1	1.0	18.0	5.0	51	29.2	100	75	1.0	100
LCE20A	22.2	24.5	1.0	20.0	5.0	46	32.4	100	75	1.0	100
LCE22A	24.4	26.9	1.0	22.0	5.0	42	35.5	100	75	1.0	100
LCE24A	26.7	29.5	1.0	24.0	5.0	39	38.9	100	75	1.0	100
LCE26A	28.9	31.9	1.0	26.0	5.0	36	42.1	100	75	1.0	100
LCE28A	31.1	34.4	1.0	28.0	5.0	33	45.5	100	75	1.0	100

**Note**

- All the above devices are UL listed for Telecom application protection 497B, file number E136766

**ORDERING INFORMATION** (Example)

PREFERRED PIN	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
LCE6.5A-E3/54	0.968	54	1400	13" diameter paper tape and reel

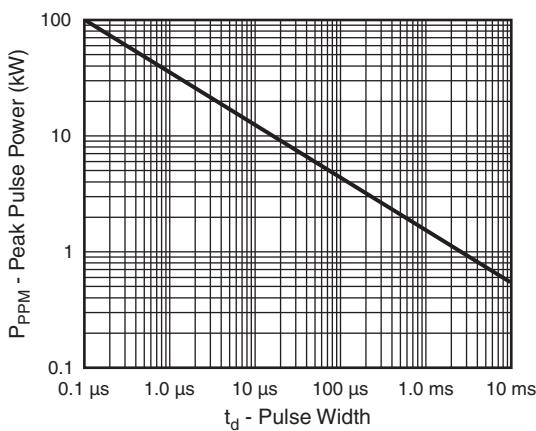
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)


Fig. 1 - Peak Pulse Power Rating Curve

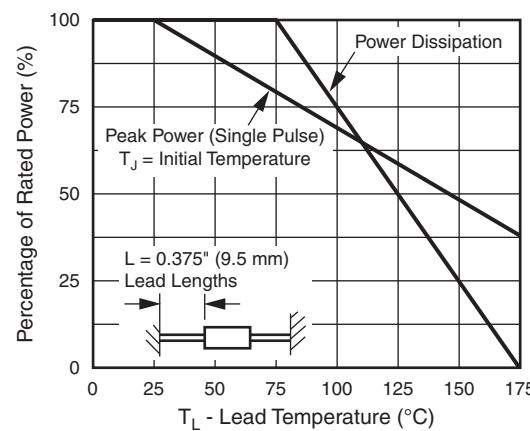


Fig. 2 - Power Derating Curve

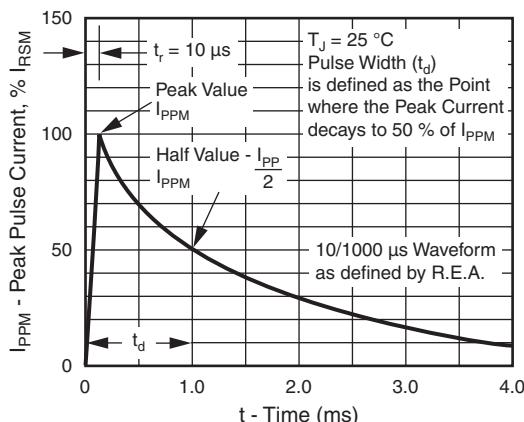
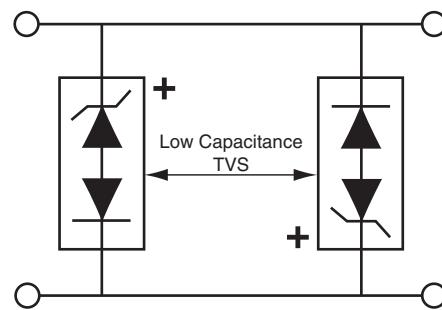


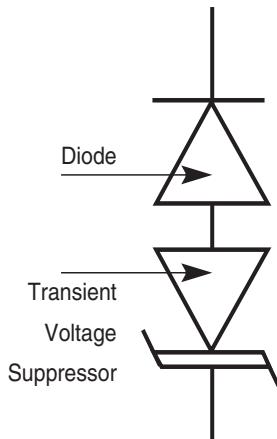
Fig. 3 - Pulse Waveform



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

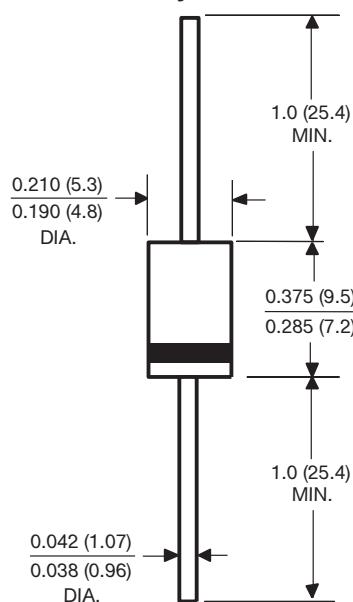
Fig. 4 - AC Line Protection Application

## SCHEMATIC



## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### Case Style 1.5KE



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**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**

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