



**Microsemi Corp.**  
The diode experts

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# **LCE6.5 thru LCE170A LOW CAPACITANCE**

## **FEATURES**

This series employs a standard TAZ in series with a rectifier with the same transient capabilities as the TAZ. The rectifier is also used to reduce the effective capacitance up thru 100 MHz with a minimum amount of signal loss or deformation. The low-capacitance TAZ may be applied directly across the signal line to prevent induced transients from lightning, power interruptions, or static discharge. If bipolar transient capability is required, two low-capacitance TAZ must be used in parallel, opposite in polarity for complete AC protection.

- 1500 WATTS OF PEAK PULSE POWER DISSIPATION AT 25°C AND 10 x 1000  $\mu$ s
- AVAILABLE IN RANGES FROM 6.5—200V
- LOW CAPACITANCE AC SIGNAL PROTECTION

## **MAXIMUM RATINGS**

1500 Watts of Peak Pulse Power dissipation at 25°C  
 $t_{\text{clamping}}$  (0 volts to  $V_{(BR)}$  min): Less than  $5 \times 10^{-9}$  seconds  
 Operating and Storage temperatures: -65° to +175°C  
 Steady State power dissipation: 5.0W @  $T_L = 75^\circ\text{C}$   
 Lead Length = 3/8"  
 Repetition Rate (duty cycle): .05%

## **ELECTRICAL CHARACTERISTICS**

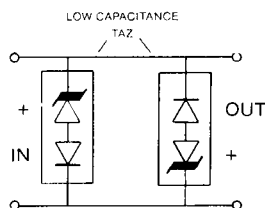
Clamping Factor: 1.4 @ Full Rated power  
 1.30 @ 50% Rated power

Clamping Factor: The ratio of the actual  $V_C$  (Clamping Voltage) to the actual  $V_{(BR)}$  (Breakdown Voltage) as measured on a specific device.

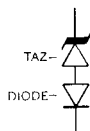
**NOTE:** When pulse testing, test in TAZ Avalanche direction. DO NOT pulse in forward direction.

## **APPLICATION**

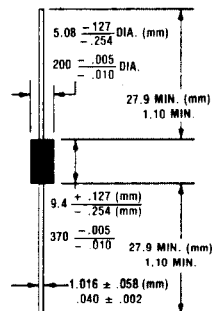
Devices must be used with two units in parallel, opposite in polarity, as shown in circuit for AC Signal Line protection:



SCHMATIC



## **TRANSIENT ABSORPTION ZENER**



## **MECHANICAL CHARACTERISTICS**

CASE: Void free transfer molded thermosetting plastic.

FINISH: Silver plated copper readily solderable.

POLARITY: Cathode marked with band.

WEIGHT: 1.5 grams (Appx.).

MOUNTING POSITION: Any.

# LCE6.5 thru LCE170A

## ELECTRICAL CHARACTERISTICS @ 25°C

MICRO- SEMI PART NUMBER	REVERSE STAND-OFF VOLTAGE V <sub>WM</sub> VOLTS	BREAKDOWN VOLTAGE V <sub>BR</sub> VOLTS		@ I <sub>T</sub> mA	MAXIMUM REVERSE LEAKAGE @ V <sub>WM</sub> I <sub>A</sub>	MAXIMUM CLAMPING VOLTAGE V <sub>CP</sub> VOLTS	MAXIMUM PEAK PULSE CURRENT 10 x 1000 AMPS	CAPACITANCE @ 0 VOLTS pF	V <sub>WB</sub> WORKING INVERSE BLOCKING VOLTAGE VOLTS	I <sub>IB</sub> INVERSE BLOCKING LEAKAGE CURRENT mA	V <sub>IB</sub> PEAK INVERSE BLOCKING VOLTAGE VOLTS
		Min.	Max.								
LCE6.5	6.5	7.22	8.82	10	1000	12.3	100	100	75	1	100
LCE6.5A	6.5	7.22	7.98	10	1000	11.2	100	100	75	1	100
LCE7.0	7.0	7.78	9.51	10	500	13.3	100	100	75	1	100
LCE7.0A	7.0	7.78	8.60	10	500	12.0	100	100	75	1	100
LCE7.5	7.5	8.33	10.2	10	250	14.3	100	100	75	1	100
LCE7.5A	7.5	8.33	9.21	10	250	12.9	100	100	75	1	100
LCE8.0	8.0	8.89	10.9	1	100	15.0	100	100	75	1	100
LCE8.0A	8.0	8.89	9.83	1	100	13.6	100	100	75	1	100
LCE8.5	8.5	9.44	11.5	1	50	15.9	94	100	75	1	100
LCE8.5A	8.5	9.44	10.4	1	50	14.4	100	100	75	1	100
LCE9.0	9.0	10.0	12.2	1	10	16.9	89	100	75	1	100
LCE9.0A	9.0	10.0	11.1	1	10	15.4	97	100	75	1	100
LCE10	10	11.1	13.6	1	5	18.8	80	100	75	1	100
LCE10A	10	11.1	12.3	1	5	17.0	88	100	75	1	100
LCE11	11	12.2	14.9	1	5	20.1	74	100	75	1	100
LCE11A	11	12.2	13.5	1	5	18.2	82	100	75	1	100
LCE12	12	13.3	16.3	1	5	22.0	68	100	75	1	100
LCE12A	12	13.3	14.7	1	5	19.9	75	100	75	1	100
LCE13	13	14.4	17.6	1	5	23.8	63	100	75	1	100
LCE13A	13	14.4	15.9	1	5	21.5	70	100	75	1	100
LCE14	14	15.6	19.1	1	5	25.8	58	100	75	1	100
LCE14A	14	15.6	17.2	1	5	23.2	65	100	75	1	100
LCE15	15	16.7	20.4	1	5	28.9	56	100	75	1	100
LCE15A	15	16.7	18.5	1	5	24.4	61	100	75	1	100
LCE16	16	17.8	21.8	1	5	28.8	52	100	75	1	100
LCE16A	16	17.8	19.7	1	5	26.0	57	100	75	1	100
LCE17	17	18.9	23.1	1	5	30.5	49	100	75	1	100
LCE17A	17	18.9	20.9	1	5	27.6	54	100	75	1	100
LCE18	18	20.0	24.4	1	5	32.2	46	100	75	1	100
LCE18A	18	20.0	22.1	1	5	29.2	51	100	75	1	100
LCE20	20	22.2	27.1	1	5	35.8	42	100	75	1	100
LCE20A	20	22.2	24.5	1	5	32.4	46	100	75	1	100
LCE22	22	24.4	29.8	1	5	39.4	38	100	75	1	100
LCE22A	22	24.4	26.9	1	5	35.5	42	100	75	1	100
LCE24	24	26.7	32.6	1	5	43.0	35	100	75	1	100
LCE24A	24	26.7	29.5	1	5	38.9	39	100	75	1	100
LCE26	26	28.9	35.3	1	5	46.6	32	100	75	1	100
LCE26A	26	28.9	31.9	1	5	42.1	36	100	75	1	100
LCE28	28	31.1	38.0	1	5	50.1	30	100	75	1	100
LCE28A	28	31.1	34.6	1	5	45.5	33	100	75	1	100
LCE30	30	33.3	40.7	1	5	53.5	26	100	75	1	100
LCE30A	30	33.3	36.6	1	5	48.4	31	100	75	1	100
LCE32	33	36.7	44.9	1	5	59.0	25.4	100	75	1	100
LCE33A	33	36.7	40.6	1	5	53.3	28.1	100	75	1	100
LCE36	36	40.0	48.9	1	5	64.3	23.3	100	75	1	100
LCE36A	36	40.0	44.2	1	5	58.1	25.8	100	75	1	100
LCE40	40	44.4	54.3	1	5	71.4	21.0	100	75	1	100
LCE40A	40	44.4	49.1	1	5	64.5	23.3	100	75	1	100
LCE43	43	47.8	58.4	1	5	76.7	19.5	100	150	1	200
LCE43A	43	47.8	52.8	1	5	69.4	21.6	100	150	1	200
LCE45	45	50.0	61.1	1	5	80.3	18.7	100	150	1	200
LCE45A	45	50.0	55.3	1	5	72.7	20.6	100	150	1	200
LCE48	48	53.3	65.1	1	5	85.5	17.5	100	150	1	200
LCE48A	48	53.3	58.8	1	5	77.4	19.4	100	150	1	200
LCE51	51	56.7	69.3	1	5	91.1	16.5	100	150	1	200
LCE51A	51	56.7	62.7	1	5	82.4	18.2	100	150	1	200
LCE54	54	60.0	73.3	1	5	96.3	15.6	100	150	1	200
LCE54A	54	60.0	66.3	1	5	87.1	17.2	100	150	1	200
LCE58	58	64.4	78.7	1	5	103.0	14.6	100	150	1	200
LCE58A	58	64.4	71.2	1	5	93.6	16.0	100	150	1	200
LCE60	60	66.7	81.5	1	5	107.0	14.0	90	150	1	200
LCE60A	60	66.7	73.7	1	5	96.8	15.5	90	150	1	200
LCE64	64	71.1	86.9	1	5	114.0	13.2	90	150	1	200
LCE64A	64	71.1	78.6	1	5	103.0	14.6	90	150	1	200
LCE70	70	77.8	95.1	1	5	125	12.0	90	150	1	200
LCE70A	70	77.8	86.0	1	5	113	13.3	90	150	1	200
LCE75	75	83.3	102.0	1	5	134	11.2	90	150	1	200
LCE75A	75	83.3	92.1	1	5	121	12.4	90	150	1	200
LCE80	80	88.7	108	1	5	142	10.6	90	150	1	200
LCE80A	80	88.7	98.0	1	5	129	11.6	90	150	1	200
LCE90	90	100	122	1	5	160	9.4	90	300	1	200
LCE90A	90	100	111	1	5	146	10.3	90	300	1	200
LCE100	100	111	136	1	5	179	8.4	90	300	1	200
LCE100A	100	111	123	1	5	162	9.3	90	300	1	200
LCE110	110	122	149	1	5	196	7.7	90	300	1	400
LCE110A	110	122	135	1	5	178	8.4	90	300	1	400
LCE120	120	133	163	1	5	214	7.0	90	300	1	400
LCE120A	120	133	147	1	5	193	7.8	90	300	1	400
LCE130	130	144	176	1	5	231	6.5	90	300	1	400
LCE130A	130	144	159	1	5	209	7.2	90	300	1	400
LCE150	150	167	204	1	5	268	5.6	90	300	1	400
LCE150A	150	167	185	1	5	243	6.2	90	300	1	400
LCE160	160	178	218	1	5	287	5.2	90	300	1	400
LCE160A	160	178	197	1	5	259	5.8	90	300	1	400
LCE170	170	189	231	1	5	304	4.9	90	300	1	400
LCE170A	170	189	209	1	5	275	5.4	90	300	1	400

**NOTE 1:** TAZ are normally selected according to the reverse "Stand Off Voltage (V<sub>WM</sub>) which should be equal to or greater than the DC or continuous peak operating voltage level.