

**Microsemi Corp.**  
The diode experts

SANTA ANA, CA

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**LC6.5  
thru  
LC170A  
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 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  
 $t_{clamping}$  (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: 1.0 W  
 Repetition Rate (duty cycle): .01%

**ELECTRICAL CHARACTERISTICS**

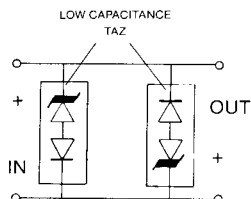
Clamping Factor: 1.4 @ Full Rated power  
 1.30 @ 50% Rated power

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

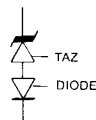
**NOTE:** When pulse testing, test in Avalanche direction. DO NOT pulse in forward direction.

**APPLICATION**

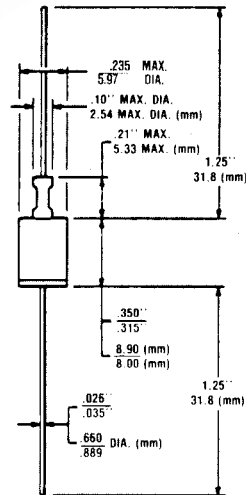
Devices must be used with two units in parallel, opposite in polarity, as shown in circuit for AC Signal Line protection:



SCHEMATIC



**TRANSIENT  
ABSORPTION  
ZENER**



**MECHANICAL CHARACTERISTICS**

CASE: DO-13, welded, hermetically sealed metal and glass.

FINISH: All external surfaces are corrosion resistant and leads solderable.

POLARITY: Cathode connected to case and marked.

WEIGHT: 1.4 grams (Appx.)

MOUNTING POSITION: Any

# LC6.5 thru LC170A

## ELECTRICAL CHARACTERISTICS @ 25°C

MICROSEM 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> V <sub>D</sub> A	MAXIMUM CLAMPING VOLTAGE V <sub>PP</sub> V <sub>C</sub> VOLTS	MAXIMUM PEAK PULSE CURRENT I <sub>PP</sub> 10 x 1000 AMPS	CAPACI- TANCE @ 0 VOLTS pF	V <sub>WB</sub> WORKING INVERSE BLOCKING VOLTAGE VOLTS	I <sub>WB</sub> INVERSE BLOCKING LEAKAGE CURRENT mA	V <sub>PB</sub> PEAK INVERSE BLOCKING VOLTAGE VOLTS
		Min.	Max.								
LC6.5	65	722	882	10	1000	123	100	100	75	1	100
LC6.5A	65	722	798	10	1000	112	100	100	75	1	100
LC7.0	70	778	931	10	500	133	100	100	75	1	100
LC7.0A	70	778	860	10	500	120	100	100	75	1	100
LC7.5	75	833	102	10	250	143	100	100	75	1	100
LC7.5A	75	833	921	10	250	129	100	100	75	1	100
LC8.0	80	889	109	1	100	150	100	100	75	1	100
LC8.0A	80	889	939	1	100	136	100	100	75	1	100
LC8.5	85	944	115	1	50	159	94	100	75	1	100
LC8.5A	85	944	104	1	50	144	100	100	75	1	100
LC9.0	90	10.0	122	1	10	169	89	100	75	1	100
LC9.0A	90	100	11.1	1	10	15.4	97	100	75	1	100
LC10	10	11.1	13.6	1	5	188	80	100	75	1	100
LC10A	10	11.1	12.3	1	5	170	88	100	75	1	100
LC11	11	12.2	14.9	1	5	201	74	100	75	1	100
LC11A	11	12.2	13.5	1	5	182	82	100	75	1	100
LC12	12	13.3	16.3	1	5	220	68	100	75	1	100
LC12A	12	13.3	14.7	1	5	199	75	100	75	1	100
LC13	13	14.4	17.6	1	5	239	63	100	75	1	100
LC13A	13	14.4	15.9	1	5	215	70	100	75	1	100
LC14	14	15.6	19.1	1	5	258	58	100	75	1	100
LC14A	14	15.6	17.2	1	5	232	65	100	75	1	100
LC15	15	16.7	20.4	1	5	269	56	100	75	1	100
LC15A	15	16.7	18.5	1	5	244	61	100	75	1	100
LC16	16	17.8	21.8	1	5	288	52	100	75	1	100
LC16A	16	17.8	19.7	1	5	260	57	100	75	1	100
LC17	17	18.9	23.1	1	5	305	49	100	75	1	100
LC17A	17	18.9	20.9	1	5	276	54	100	75	1	100
LC18	18	20.0	24.4	1	5	322	46	100	75	1	100
LC18A	18	20.0	22.1	1	5	292	51	100	75	1	100
LC20	20	22.2	27.1	1	5	358	42	100	75	1	100
LC20A	20	22.2	24.5	1	4	324	46	100	75	1	100
LC22	22	24.4	29.8	1	5	394	38	100	75	1	100
LC22A	22	24.4	25.9	1	5	355	42	100	75	1	100
LC24	24	26.7	32.6	1	5	430	35	100	75	1	100
LC24A	24	26.7	29.5	1	5	389	39	100	75	1	100
LC26	26	28.9	35.3	1	5	466	32	100	75	1	100
LC26A	26	28.9	31.9	1	5	421	36	100	75	1	100
LC28	28	31.1	38.0	1	5	501	30	100	75	1	100
LC28A	28	31.1	34.4	1	5	454	33	100	75	1	100
LC30	30	33.3	40.7	1	5	535	28	100	75	1	100
LC30A	30	33.3	36.8	1	5	484	31	100	75	1	100
LC33	33	36.7	44.9	1	5	580	23.4	100	75	1	100
LC33A	33	36.7	40.6	1	5	533	28.1	100	75	1	100
LC36	36	40.0	48.9	1	5	643	23.3	100	75	1	100
LC36A	36	40.0	44.2	1	5	581	25.8	100	75	1	100
LC40	40	44.4	54.3	1	5	714	21.9	100	75	1	100
LC40A	40	44.4	49.1	1	5	645	23.3	100	75	1	100
LC43	43	47.8	58.4	1	5	787	19.5	100	150	1	200
LC43A	43	47.8	52.8	1	5	694	21.6	100	150	1	200
LC45	45	50.0	61.1	1	5	803	18.7	100	150	1	200
LC45A	45	50.0	55.3	1	5	727	20.6	100	150	1	200
LC48	48	53.3	65.1	1	5	855	17.5	100	150	1	200
LC48A	48	53.3	58.9	1	5	774	19.4	100	150	1	200
LC51	51	56.7	69.3	1	5	911	16.5	100	150	1	200
LC51A	51	56.7	62.7	1	5	824	18.2	100	150	1	200
LC54	54	60.0	73.3	1	5	963	15.6	100	150	1	200
LC54A	54	60.0	66.3	1	5	871	17.2	100	150	1	200
LC58	58	64.4	78.7	1	5	1030	14.6	100	150	1	200
LC58A	58	64.4	71.2	1	5	936	16.0	100	150	1	200
LC60	60	66.7	81.5	1	5	1070	14.0	90	150	1	200
LC60A	60	66.7	73.7	1	5	968	15.5	90	150	1	200
LC64	64	71.1	86.9	1	5	1140	13.2	90	150	1	200
LC64A	64	71.1	78.6	1	5	1030	14.6	90	150	1	200
LC70	70	77.8	95.1	1	5	125	12.0	90	150	1	200
LC70A	70	77.8	86.0	1	5	113	13.3	90	150	1	200
LC75	75	83.3	102.0	1	5	134	11.2	90	150	1	200
LC75A	75	83.3	92.1	1	5	121	12.4	90	150	1	200
LC80	80	88.7	108	1	5	142	10.6	90	150	1	200
LC80A	80	88.7	98.0	1	5	129	11.6	90	150	1	200
LC90	90	100	122	1	5	160	9.4	90	300	1	200
LC90A	90	100	111	1	5	146	10.3	90	300	1	200
LC100	100	111	136	1	5	179	8.4	90	300	1	200
LC100A	100	111	123	1	5	162	9.3	90	300	1	200
LC110	110	122	149	1	5	196	7.7	90	300	1	400
LC110A	110	122	135	1	5	178	8.4	90	300	1	400
LC120	120	133	163	1	5	214	7.0	90	300	1	400
LC120A	120	133	147	1	5	193	7.8	90	300	1	400
LC130	130	144	176	1	5	231	6.5	90	300	1	400
LC130A	130	144	159	1	5	209	7.2	90	300	1	400
LC150	150	167	204	1	5	268	5.6	90	300	1	400
LC150A	150	167	185	1	5	243	6.2	90	300	1	400
LC160	160	178	218	1	5	287	5.2	90	300	1	400
LC160A	160	178	197	1	5	259	5.8	90	300	1	400
LC170	170	189	231	1	5	304	4.9	90	300	1	400
LC170A	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.