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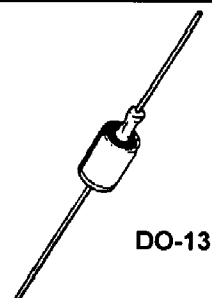
LC6.5 thru LC170A

1500 WATT LOW CAPACITANCE TRANSIENT VOLTAGE SUPPRESSOR

DESCRIPTION

This hermetically sealed Transient Voltage Suppressor (TVS) product family includes a rectifier diode element in series and opposite direction to achieve low capacitance performance below 100 pF (see Figure 2). The low level of TVS capacitance may be used for protecting higher frequency applications in inductive switching environments or electrical systems involving secondary lightning effects per IEC61000-4-5 as well as RTCA/DO-160D or ARINC 429 for airborne avionics. With virtually instantaneous response, they also protect from ESD and EFT per IEC61000-4-2 and IEC61000-4-4. If bipolar transient capability is required, two of these low capacitance TVS devices may be used in parallel in opposite directions (anti-parallel) for complete ac protection as shown

APPEARANCE



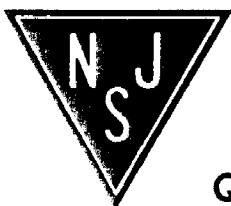
DO-13

MAXIMUM RATINGS

- 1500 Watts at 10/1000 μ s with repetition rate of 0.01% or less* at lead temperature (T_L) 25°C (see Figs. 1, 2, & 4)
- Operating & Storage Temperatures: -65° to +175°C
- THERMAL RESISTANCE: 50°C/W (Typical) junction to lead at 0.375 inches (10 mm) from body or 110°C/W junction to ambient when mounted on FR4 PC board with 4 mm² copper pads (1 oz) and track width 1 mm, length 25 mm
- DC Power Dissipation*: 1 Watt at $T_L \leq +125^\circ\text{C}$ 3/8" (10 mm) from body (see derating in Fig 3 and note below)
- Solder Temperatures: 260 °C for 10 s (maximum)

MECHANICAL AND PACKAGING

- CASE: DO-13 (DO-202AA), welded, hermetically sealed metal and glass
- FINISH: All external metal surfaces are Tin-Lead plated and solderable per MIL-STD-750 method 2026
- POLARITY: Cathode connected to case as shown by diode symbol (cathode positive for normal operation)
- MARKING: Part number and polarity diode symbol
- WEIGHT: 1.4 grams. (Approx)
- TAPE & REEL option: Standard per EIA-296 (add "TR" suffix to part number)
- See package dimension on last page



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors

ELECTRICAL CHARACTERISTICS @ 25°C

	REVERSE STANDOFF VOLTAGE V _{WM} VOLTS	BREAKDOWN VOLTAGE			MAXIMUM STANDBY CURRENT I _D @ V _{WM} μA	MAXIMUM CLAMPING VOLTAGE V _C @ I _{PP} VOLTS	MAXIMUM PEAK PULSE CURRENT I _{PP} @ 10/1000 μs AMPS	CAPACI- TANCE @ 0 Volts pF	WORKING INVERSE BLOCKING VOLTAGE V _{WIB} VOLTS	INVERSE BLOCKING LEAKAGE CURRENT I _{IB} @ V _{WIB} μA	PEAK INVERSE BLOCKING VOLTAGE V _{PIB} VOLTS
		V _(BR) VOLTS		@ I _(BR) mA							
		MIN	MAX								
LC6.5	6.5	7.22	8.82	10	1000	12.3	100	100	75	10	100
LC6.5A	6.5	7.22	7.98	10	1000	11.2	100	100	75	10	100
LC7.0	7.0	7.78	9.51	10	500	13.3	100	100	75	10	100
LC7.0A	7.0	7.78	8.60	10	500	12.0	100	100	75	10	100
LC7.5	7.5	8.33	10.2	10	250	14.3	100	100	75	10	100
LC7.5A	7.5	8.33	9.21	10	250	12.9	100	100	75	10	100
LC8.0	8.0	8.89	10.9	1	100	15.0	100	100	75	10	100
LC8.0A	8.0	8.89	9.83	1	100	13.6	100	100	75	10	100
LC8.5	8.5	9.44	11.5	1	50	15.9	94	100	75	10	100
LC8.5A	8.5	9.44	10.4	1	50	14.4	100	100	75	10	100
LC9.0	9.0	10.0	12.2	1	10	16.9	89	100	75	10	100
LC9.0A	9.0	10.0	11.1	1	10	15.4	97	100	75	10	100
LC10	10	11.1	13.6	1	5	18.8	80	100	75	10	100
LC10A	10	11.1	12.3	1	5	17.0	88	100	75	10	100
LC11	11	12.2	14.9	1	5	20.1	74	100	75	10	100
LC11A	11	12.2	13.5	1	5	18.2	82	100	75	10	100
LC12	12	13.3	16.3	1	5	22.0	68	100	75	10	100
LC12A	12	13.3	14.7	1	5	19.9	75	100	75	10	100
LC13	13	14.4	17.6	1	5	23.8	63	100	75	10	100
LC13A	13	14.4	15.9	1	5	21.5	70	100	75	10	100
LC14	14	15.6	19.1	1	5	25.8	58	100	75	10	100
LC14A	14	15.6	17.2	1	5	23.2	65	100	75	10	100
LC15	15	16.7	20.4	1	5	26.9	56	100	75	10	100
LC15A	15	16.7	18.5	1	5	24.4	61	100	75	10	100
LC16	16	17.8	21.8	1	5	28.8	52	100	75	10	100
LC16A	16	17.8	19.7	1	5	26.0	57	100	75	10	100
LC17	17	18.9	23.1	1	5	30.5	49	100	75	10	100
LC17A	17	18.9	20.9	1	5	27.6	54	100	75	10	100
LC18	18	20.0	24.4	1	5	32.2	46	100	75	10	100
LC18A	18	20.0	22.1	1	5	20.2	51	100	75	10	100
LC20	20	22.2	27.1	1	5	35.8	42	100	75	10	100
LC20A	20	22.2	24.5	1	5	32.4	46	100	75	10	100
LC22	22	24.4	29.8	1	5	39.4	38	100	75	10	100
LC22A	22	24.4	26.9	1	5	35.5	42	100	75	10	100
LC24	24	26.7	32.6	1	5	43.0	35	100	75	10	100
LC24A	24	26.7	29.5	1	5	38.9	39	100	75	10	100
LC26	26	28.9	35.3	1	5	46.6	32	100	75	10	100
LC26A	26	28.9	31.9	1	5	42.1	36	100	75	10	100
LC28	28	31.1	38.0	1	5	50.1	30	100	75	10	100
LC28A	28	31.1	34.4	1	5	45.4	33	100	75	10	100
LC30	30	33.3	40.7	1	5	53.5	28	100	75	10	100
LC30A	30	33.3	36.8	1	5	48.4	31	100	75	10	100
LC33	33	36.7	44.9	1	5	58.0	25.4	100	75	10	100
LC33A	33	36.7	40.6	1	5	53.3	28.1	100	75	10	100
LC36	36	40.0	48.9	1	5	64.3	23.3	100	75	10	100
LC36A	36	40.0	44.2	1	5	58.1	25.8	100	75	10	100
LC40	40	44.4	54.3	1	5	71.4	21.0	100	75	10	100
LC40A	40	44.4	49.1	1	5	64.5	23.3	100	75	10	100
LC43	43	47.8	58.4	1	5	76.7	19.5	100	150	10	200
LC43A	43	47.8	52.8	1	5	69.4	21.6	100	150	10	200
LC45	45	50.0	61.1	1	5	80.3	18.7	100	150	10	200
LC45A	45	50.0	55.3	1	5	72.7	20.6	100	150	10	200
LC48	48	53.3	65.1	1	5	85.5	17.5	100	150	10	200
LC48A	48	53.3	58.9	1	5	77.4	19.4	100	150	10	200
LC51	51	56.7	69.3	1	5	91.1	16.5	100	150	10	200
LC51A	51	56.7	62.7	1	5	82.4	18.2	100	150	10	200

LC6.5 thru LC170A

1500 WATT LOW CAPACITANCE TRANSIENT VOLTAGE SUPPRESSOR

	REVERSE STANDOFF VOLTAGE V_{WM} VOLTS	BREAKDOWN VOLTAGE		@ I_{BR} mA	MAXIMUM STANDBY CURRENT $I_D @ V_{WM}$ μA	MAXIMUM CLAMPING VOLTAGE $V_C @ I_{PP}$ VOLTS	MAXIMUM PEAK PULSE CURRENT $I_{PP} @$ 10/1000 μs AMPS	CAPACI- TANCE @ 0 Volts pF	WORKING INVERSE BLOCKING VOLTAGE V_{WIB} VOLTS	INVERSE BLOCKING LEAKAGE CURRENT $I_{IB} @ V_{WIB}$ μA	PEAK INVERSE BLOCKING VOLTAGE VOLTS V_{PIB} VOLTS
		$V_{(BR)}$ VOLTS MIN	MAX								
LC54	54	60.0	73.3	1	5	96.3	15.6	100	150	10	200
LC54A	54	60.0	66.3	1	5	87.1	17.2	100	150	10	200
LC58	58	64.4	78.7	1	5	103.0	14.6	100	150	10	200
LC58A	58	64.4	71.2	1	5	93.6	16.0	100	150	10	200
LC60	60	66.7	81.5	1	5	107.0	14.0	90	150	10	200
LC60A	60	66.7	73.7	1	5	96.8	15.5	90	150	10	200
LC64	64	71.1	86.9	1	5	114.0	13.2	90	150	10	200
LC64A	64	71.1	78.6	1	5	103.0	14.6	90	150	10	200
LC70	70	77.8	95.1	1	5	125	12.0	90	150	10	200
LC70A	70	77.8	86.0	1	5	113	13.3	90	150	10	200
LC75	75	83.3	102.0	1	5	134	11.2	90	150	10	200
LC75A	75	83.3	92.1	1	5	121	12.4	90	150	10	200
LC80	80	88.7	108	1	5	142	10.6	90	150	10	200
LC80A	80	88.7	98.0	1	5	129	11.6	90	150	10	200
LC90	90	100	122	1	5	160	9.4	90	300	10	200
LC90A	90	100	111	1	5	146	10.3	90	300	10	200
LC100	100	111	136	1	5	179	8.4	90	300	10	200
LC100A	100	111	123	1	5	162	9.3	90	300	10	200
LC110	110	122	149	1	5	196	7.7	90	300	10	400
LC110A	110	122	135	1	5	178	8.4	90	300	10	400
LC120	120	133	163	1	5	214	7.0	90	300	10	400
LC120A	120	133	147	1	5	193	7.8	90	300	10	400
LC130	130	144	176	1	5	231	6.5	90	300	10	400
LC130A	130	144	159	1	5	209	7.2	90	300	10	400
LC150	150	167	204	1	5	268	5.6	90	300	10	400
LC150A	150	167	185	1	5	243	6.2	90	300	10	400
LC160	160	178	218	1	5	287	5.2	90	300	10	400
LC160A	160	178	197	1	5	259	5.8	90	300	10	400
LC170	170	189	231	1	5	304	4.9	90	300	10	400
LC170A	170	189	209	1	5	275	5.4	90	300	10	400

NOTE: TVS are normally selected according to the reverse "Standoff Voltage" (V_{WM}) that should be equal to or greater than the dc or continuous peak operating voltage level.

