

# LOW CAPACITANCE SILICON TRANSIENT SUPPRESSOR DIODES

## DESCRIPTION

This specification sheet defines a series of low-capacitance silicon transient suppressors for the protection of AC signal lines. This series employs a standard suppressor in series with a rectifier with the same transient capabilities as the suppressor. The rectifier is also used to reduce the effective capacitance up thru 100 MHz with a minimum amount of signal loss or deformation. If required, The low-capacitance suppressor 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 suppressors must be used in parallel, opposite in polarity to design complete AC protection. See LCC Series also.

- 1500 watts of Peak Pulse Power dissipation at 25°C
- Available in Ranges from 6.5 - 200V
- Low capacitance AC signal protection

## MAXIMUM RATINGS:

- 1500 Watts of Peak Pulse Power dissipation at 25°C
- Operating & Storage Temperatures: -65° to +175°C
- $t_{\text{clamping}}$  (0 volts to BV min):  $< 5 \times 10^{-9}$  secs.
  - Steady State Power dissipation: 5.0W @  $T_L = 75^\circ\text{C}$  (SLCE), 1.0W (SLC).  
Lead length = 3/8"
- Repetition Rate (duty cycle): .05% (SLCE), .01% (SLC)

## MECHANICAL CHARACTERISTICS:

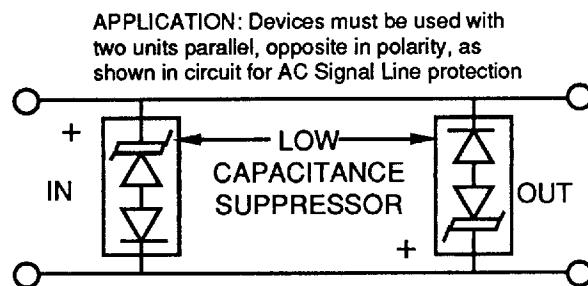
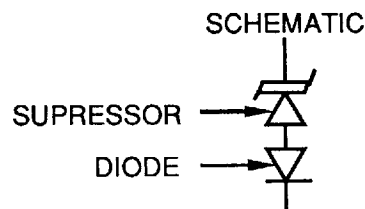
- Molded Case (SLCE), DO13 Hermetic (SLC)
- Polarity band to be on the cathode end of the device
- Body marked with Logo and type number

## 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 BV (Breakdown Voltage) as measured on the specific device.

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



ELECTRICAL CHARACTERISTICS at 25°C

PART NUMBER		REVERSE STANDOFF VOLTAGE V <sub>R</sub> VOLTS	BREAKDOWN VOLTAGE BY VOLTS		I <sub>T</sub> mA	MAXIMUM REVERSE LEAKAGE @ V <sub>R</sub> I <sub>R</sub> μA	MAXIMUM CLAMPING VOLTAGE I <sub>PP</sub> V <sub>C</sub> VOLTS	MAXIMUM PEAK PULSE CURRENT 10 x 1000	CAPACITANCE pF @ 0 VOLTS	V <sub>WIB</sub> WORKING INVERSE BLOCKING VOLTAGE	I <sub>IB</sub> INVERSE BLOCKING CURRENT (μA)	V <sub>PIB</sub> PEAK INVERSE BLOCKING VOLTAGE
			Min.	Max.								
SLC6.5	SLCE6.5	6.5	7.22	8.62	10	1000	12.3	100	100	75	1	100
SLC6.5A	SLCE6.5A	6.5	7.22	7.98	10	1000	11.2	100	100	75	1	100
SLC7.0	SLCE7.0	7.0	7.76	9.51	10	500	13.3	100	100	75	1	100
SLC7.0A	SLCE7.0A	7.0	7.76	8.80	10	500	12.0	100	100	75	1	100
SLC7.5	SLCE7.5	7.5	8.33	10.2	10	250	14.3	100	100	75	1	100
SLC7.5A	SLCE7.5A	7.5	8.33	9.21	10	250	12.9	100	100	75	1	100
SLC8.0	SLCE8.0	8.0	8.89	10.9	1	100	15.0	100	100	75	1	100
SLC8.0A	SLCE8.0A	8.0	8.89	9.83	1	100	13.6	100	100	75	1	100
SLC8.5	SLCE8.5	8.5	9.44	11.5	1	50	15.9	94	100	75	1	100
SLC8.5A	SLCE8.5A	8.5	9.44	10.4	1	50	14.4	100	100	75	1	100
SLC9.0	SLCE9.0	9.0	10.0	12.2	1	10	18.9	89	100	75	1	100
SLC9.0A	SLCE9.0A	9.0	10.0	11.1	1	10	15.4	87	100	75	1	100
SLC10	SLCE10	10	11.1	13.6	1	5	18.8	80	100	75	1	100
SLC10A	SLCE10A	10	11.1	12.3	1	5	17.0	88	100	75	1	100
SLC11	SLCE11	11	12.2	14.9	1	5	20.1	74	100	75	1	100
SLC11A	SLCE11A	11	12.2	13.5	1	5	18.2	82	100	75	1	100
SLC12	SLCE12	12	13.3	16.3	1	5	22.0	68	100	75	1	100
SLC12A	SLCE12A	12	13.3	14.7	1	5	19.9	75	100	75	1	100
SLC13	SLCE13	13	14.4	17.6	1	5	23.8	63	100	75	1	100
SLC13A	SLCE13A	13	14.4	15.9	1	5	21.5	70	100	75	1	100
SLC14	SLCE14	14	15.6	19.1	1	5	25.8	58	100	75	1	100
SLC14A	SLCE14A	14	15.6	17.2	1	5	23.2	65	100	75	1	100
SLC15	SLCE15	15	16.7	20.4	1	5	26.9	54	100	75	1	100
SLC15A	SLCE15A	15	16.7	18.5	1	5	24.4	61	100	75	1	100
SLC16	SLCE16	16	17.8	21.8	1	5	28.8	52	100	75	1	100
SLC16A	SLCE16A	16	17.8	19.7	1	5	26.0	57	100	75	1	100
SLC17	SLCE17	17	18.9	23.1	1	5	30.5	49	100	75	1	100
SLC17A	SLCE17A	17	18.9	20.9	1	5	27.6	54	100	75	1	100
SLC18	SLCE18	18	20.0	24.4	1	5	32.2	46	100	75	1	100
SLC18A	SLCE18A	18	20.0	22.1	1	5	29.2	51	100	75	1	100
SLC20	SLCE20	20	22.2	27.1	1	5	35.8	42	100	75	1	100
SLC20A	SLCE20A	20	22.2	24.5	1	5	32.4	46	100	75	1	100
SLC22	SLCE22	22	24.4	29.8	1	5	39.4	38	100	75	1	100
SLC22A	SLCE22A	22	24.4	26.9	1	5	35.5	42	100	75	1	100
SLC24	SLCE24	24	26.7	32.6	1	5	43.0	35	100	75	1	100
SLC24A	SLCE24A	24	26.7	29.5	1	5	38.9	39	100	75	1	100
SLC26	SLCE26	26	28.9	35.3	1	5	46.6	32	100	75	1	100
SLC26A	SLCE26A	26	28.9	31.9	1	5	42.1	36	100	75	1	100
SLC28	SLCE28	28	31.1	38.0	1	5	50.1	30	100	75	1	100
SLC28A	SLCE28A	28	31.1	34.4	1	5	45.4	33	100	75	1	100
SLC30	SLCE30	30	33.3	40.7	1	5	53.5	28	100	75	1	100
SLC30A	SLCE30A	30	33.3	36.8	1	5	48.4	31	100	75	1	100
SLC33	SLCE33	33	36.7	44.9	1	5	59.0	25.4	100	75	1	100
SLC33A	SLCE33A	33	36.7	40.6	1	5	53.3	28.1	100	75	1	100
SLC36	SLCE36	36	40.0	48.9	1	5	64.3	23.3	100	75	1	100
SLC36A	SLCE36A	36	40.0	44.2	1	5	58.1	25.8	100	75	1	100
SLC40	SLCE40	40	44.4	54.3	1	5	71.4	21.0	100	75	1	100
SLC40A	SLCE40A	40	44.4	49.1	1	5	64.5	23.3	100	75	1	100
SLC43	SLCE43	43	47.8	58.4	1	5	76.7	19.5	100	150	1	200
SLC43A	SLCE43A	43	47.8	52.8	1	5	69.4	21.6	100	150	1	200
SLC45	SLCE45	45	50.0	61.1	1	5	80.3	18.7	100	150	1	200
SLC45A	SLCE45A	45	50.0	55.3	1	5	72.7	20.6	100	150	1	200
SLC48	SLCE48	48	53.3	65.1	1	5	85.5	17.5	100	150	1	200
SLC48A	SLCE48A	48	53.3	58.9	1	5	77.4	19.4	100	150	1	200
SLC51	SLCE51	51	56.7	69.3	1	5	91.1	16.5	100	150	1	200
SLC51A	SLCE51A	51	56.7	62.7	1	5	82.4	18.2	100	150	1	200
SLC54	SLCE54	54	60.0	73.3	1	5	96.3	15.6	100	150	1	200
SLC54A	SLCE54A	54	60.0	66.3	1	5	87.1	17.2	100	150	1	200
SLC58	SLCE58	58	64.4	78.7	1	5	103.0	14.6	100	150	1	200
SLC58A	SLCE58A	58	64.4	71.2	1	5	93.6	16.0	100	150	1	200
SLC60	SLCE60	60	66.7	81.5	1	5	107.0	14.0	90	150	1	200
SLC60A	SLCE60A	60	66.7	73.7	1	5	96.8	15.5	90	150	1	200
SLC64	SLCE64	64	71.1	86.9	1	5	114.0	13.2	90	150	1	200
SLC64A	SLCE64A	64	71.1	78.6	1	5	103.0	14.6	90	150	1	200
SLC70	SLCE70	70	77.8	95.1	1	5	125	12.0	90	150	1	200
SLC70A	SLCE70A	70	77.8	86.0	1	5	113	13.3	90	150	1	200
SLC75	SLCE75	75	83.3	102.0	1	5	134	11.2	90	150	1	200
SLC75A	SLCE75A	75	83.3	92.1	1	5	121	12.4	90	150	1	200
SLC80	SLCE80	80	88.7	108	1	5	142	10.6	90	150	1	200
SLC80A	SLCE80A	80	88.7	98.0	1	5	129	11.6	90	150	1	200
SLC90	SLCE90	90	100	122	1	5	160	9.4	90	300	1	400
SLC90A	SLCE90A	90	100	111	1	5	146	10.3	90	300	1	200
SLC100	SLCE100	100	111	136	1	5	179	8.4	90	300	1	200
SLC100A	SLCE100A	100	111	123	1	5	162	9.3	90	300	1	200
SLC110	SLCE110	110	122	149	1	5	196	7.7	90	300	1	400
SLC110A	SLCE110A	110	122	135	1	5	178	8.4	90	300	1	400
SLC120	SLCE120	120	133	163	1	5	214	7.0	90	300	1	400
SLC120A	SLCE120A	120	133	147	1	5	193	7.8	90	300	1	400
SLC130	SLCE130	130	144	176	1	5	231	6.5	90	300	1	400
SLC130A	SLCE130A	130	144	159	1	5	209	7.2	90	300	1	400
SLC150	SLCE150	150	167	204	1	5	268	5.6	90	300	1	400
SLC150A	SLCE150A	150	167	185	1	5	243	6.2	90	300	1	400
SLC160	SLCE160	160	178	218	1	5	287	5.2	90	300	1	400
SLC160A	SLCE160A	160	178	197	1	5	259	5.8	90	300	1	400
SLC170	SLCE170	170	189	231	1	5	304	4.9	90	300	1	400
SLC170A	SLCE170A	170	189	209	1	5	275	5.4	90	300	1	400

Note 1:

A suppressor is normally selected according to the reverse "Stand Off Voltage" (V<sub>R</sub>) which should be equal to or greater than the DC or continuous peak operating voltage level.