

SMLJ-LC5.0 - 170A

LOW CAPACITANCE TRANSIENT VOLTAGE SUPPRESSOR

Stand-off Voltage : 5.0 to 170 V

Peak Pulse Power : 3000 W

FEATURES :

- * Glass Passivated Junction Chip
- * 3000 W peak pulse power capability with a 10/1000µs waveform
- * Voltage range : 5.0 to 170 Volts
- * Low junction capacitance
- * Low profile package for surface mounting
- * **Pb / RoHS Free**

MECHANICAL DATA

- * Case : SMC Molded plastic
- * Epoxy : UL94V-0 rate flame retardant
- * Lead : Lead Formed for Surface Mount
- * Polarity : Color band denotes cathode end except Bipolar.
- * Mounting position : Any
- * Weight : 0.21 gram

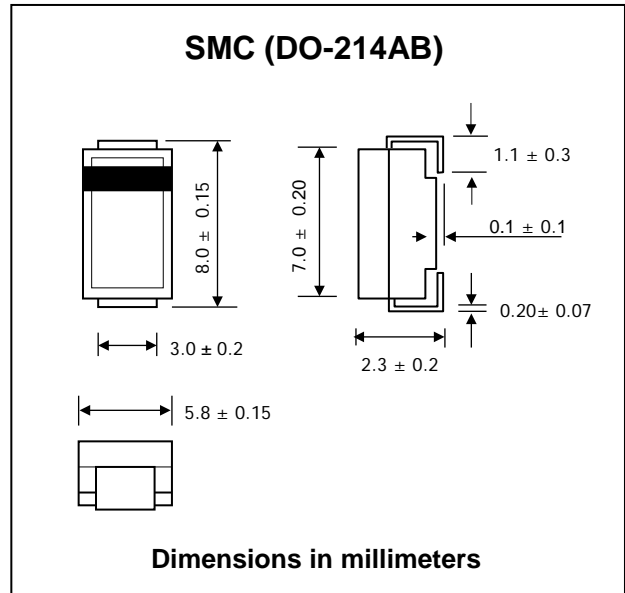
MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000 µs waveform	P _{PPM}	3000	W
Thermal Resistance, Junction to Ambient (Note 1)	R _{θJA}	77.5	°C/W
Thermal Resistance, Junction to Lead (Note 1)	R _{θJL}	17.5	°C/W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	- 65 to + 150	°C

Note :

- (1) When mounted on FR4 PC board (1 oz Cu) with recommended footprint





ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

Type No.	Reverse Stand-off Voltage	Breakdown Voltage @ I_{BR}			Maximum Clamping Voltage @ I_{PP}	Peak Pulse Current	Maximum Standby Current @ V_{WM}	Maximum Junction Capacitance @ 0 Volt
		V_{BR} (V)		I_{BR}				
	V_{WM} (V)	Min.	Max.	(mA)	V_C (V)	I_{PP} (A)	I_D (μ A)	pF
SMLJ-LC5.0	5.0	7.40	8.30	10	9.6	312.5	1000	100
SMLJ-LC5.0A	5.0	7.40	8.00	10	9.2	326.0	1000	100
SMLJ-LC6.0	6.0	7.67	9.15	10	11.4	263.2	1000	100
SMLJ-LC6.0A	6.0	7.67	8.37	10	10.3	291.3	1000	100
SMLJ-LC6.5	6.5	8.22	9.82	10	12.3	243.9	500	100
SMLJ-LC6.5A	6.5	8.22	8.98	10	11.2	267.9	500	100
SMLJ-LC7.0	7.0	8.78	10.51	10	13.3	225.6	200	100
SMLJ-LC7.0A	7.0	8.78	9.60	10	12.0	250.0	200	100
SMLJ-LC7.5	7.5	9.33	11.2	1.0	14.3	209.8	100	100
SMLJ-LC7.5A	7.5	9.33	10.21	1.0	12.9	232.6	100	100
SMLJ-LC8.0	8.0	9.89	11.9	1.0	15.0	200.0	50	100
SMLJ-LC8.0A	8.0	9.89	10.83	1.0	13.6	220.6	50	100
SMLJ-LC8.5	8.5	10.44	12.5	1.0	15.9	188.6	25	100
SMLJ-LC8.5A	8.5	10.44	11.4	1.0	14.4	208.4	25	100
SMLJ-LC9.0	9.0	11.0	13.2	1.0	16.9	177.4	10	100
SMLJ-LC9.0A	9.0	11.0	12.1	1.0	15.4	194.8	10	100
SMLJ-LC10	10	12.1	14.6	1.0	18.8	159.6	5	100
SMLJ-LC10A	10	12.1	13.3	1.0	17.0	176.4	5	100
SMLJ-LC11	11	13.2	15.9	1.0	20.1	149.2	5	100
SMLJ-LC11A	11	13.2	14.5	1.0	18.2	164.8	5	100
SMLJ-LC12	12	14.3	17.3	1.0	22.0	136.4	5	100
SMLJ-LC12A	12	14.3	15.7	1.0	19.9	150.6	5	100
SMLJ-LC13	13	15.4	18.6	1.0	23.8	126.0	5	100
SMLJ-LC13A	13	15.4	16.9	1.0	21.5	139.4	5	100
SMLJ-LC14	14	16.6	20.1	1.0	25.8	116.2	2	100
SMLJ-LC14A	14	16.6	18.2	1.0	23.2	129.4	2	100
SMLJ-LC15	15	17.7	21.4	1.0	26.9	111.6	2	100
SMLJ-LC15A	15	17.7	19.5	1.0	24.4	123.0	2	100
SMLJ-LC16	16	18.8	22.8	1.0	28.8	104.2	2	100
SMLJ-LC16A	16	18.8	20.7	1.0	26.0	115.4	2	100
SMLJ-LC17	17	19.9	24.1	1.0	30.5	98.4	2	100
SMLJ-LC17A	17	19.9	21.9	1.0	27.6	106.6	2	100
SMLJ-LC18	18	21.0	25.4	1.0	32.2	93.2	2	100
SMLJ-LC18A	18	21.0	23.1	1.0	29.2	102.8	2	100
SMLJ-LC20	20	23.2	28.1	1.0	35.8	83.8	2	100
SMLJ-LC20A	20	23.2	25.5	1.0	32.4	92.6	2	100
SMLJ-LC22	22	25.4	30.8	1.0	39.4	76.2	2	100
SMLJ-LC22A	22	25.4	27.9	1.0	35.5	84.4	2	100
SMLJ-LC24	24	27.7	33.6	1.0	43.0	69.8	2	100
SMLJ-LC24A	24	27.7	30.5	1.0	38.9	77.2	2	100
SMLJ-LC26	26	29.9	36.3	1.0	46.6	64.4	2	100
SMLJ-LC26A	26	29.9	32.9	1.0	42.1	71.2	2	100
SMLJ-LC28	28	32.1	39.0	1.0	50.0	60.0	2	100
SMLJ-LC28A	28	32.1	35.4	1.0	45.4	66.0	2	100
SMLJ-LC30	30	34.3	41.7	1.0	53.5	56.0	2	100
SMLJ-LC30A	30	34.3	37.8	1.0	48.4	62.0	2	100
SMLJ-LC33	33	37.7	45.9	1.0	59.0	50.4	2	100
SMLJ-LC33A	33	37.7	41.6	1.0	53.3	56.2	2	100



ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

Type No.	Reverse Stand-off Voltage	Breakdown Voltage @ I_{BR}			Maximum Clamping Voltage @ I_{PP}	Peak Pulse Current	Maximum Standby Current @ V_{WM}	Maximum Junction Capacitance @ 0 Volt
	V_{WM}	V_{BR} (V)		I_{BR}	V_C	I_{PP}	I_D	
	(V)	Min.	Max.	(mA)	(V)	(A)	(μ A)	pF
SMLJ-LC36	36	41.0	49.9	1.0	64.3	46.6	2	100
SMLJ-LC36A	36	41.0	45.2	1.0	58.1	51.6	2	100
SMLJ-LC40	40	45.4	55.3	1.0	71.4	42.0	2	100
SMLJ-LC40A	40	45.4	50.1	1.0	64.5	46.4	2	100
SMLJ-LC43	43	48.8	59.4	1.0	76.7	39.2	2	100
SMLJ-LC43A	43	48.8	53.8	1.0	69.4	43.2	2	100
SMLJ-LC45	45	51.0	62.1	1.0	80.3	37.4	2	100
SMLJ-LC45A	45	51.0	56.3	1.0	72.7	41.2	2	100
SMLJ-LC48	48	54.3	66.1	1.0	85.5	35.0	2	100
SMLJ-LC48A	48	54.3	59.9	1.0	77.4	38.8	2	100
SMLJ-LC51	51	57.7	70.3	1.0	91.1	37.0	2	100
SMLJ-LC51A	51	57.7	63.7	1.0	82.4	36.4	2	100
SMLJ-LC54	54	61.0	74.3	1.0	96.3	31.2	2	100
SMLJ-LC54A	54	61.0	67.3	1.0	87.1	34.4	2	100
SMLJ-LC58	58	65.4	79.7	1.0	103	29.2	2	100
SMLJ-LC58A	58	65.4	72.2	1.0	93.6	32.0	2	100
SMLJ-LC60	60	67.7	82.5	1.0	107	28.0	2	90
SMLJ-LC60A	60	67.7	74.7	1.0	96.8	31.0	2	90
SMLJ-LC64	64	72.1	87.9	1.0	114	26.4	2	90
SMLJ-LC64A	64	72.1	79.6	1.0	103	29.2	2	90
SMLJ-LC70	70	78.8	96.1	1.0	125	24.0	2	90
SMLJ-LC70A	70	78.8	87.0	1.0	113	26.6	2	90
SMLJ-LC75	75	84.3	103.0	1.0	134	22.4	2	90
SMLJ-LC75A	75	84.3	93.1	1.0	121	24.8	2	90
SMLJ-LC78	78	87.7	107.0	1.0	139	21.6	2	90
SMLJ-LC78A	78	87.7	96.8	1.0	126	22.8	2	90
SMLJ-LC85	85	95.4	116	1.0	151	19.8	2	90
SMLJ-LC85A	85	95.4	105	1.0	137	20.8	2	90
SMLJ-LC90	90	101	123	1.0	160	18.8	2	90
SMLJ-LC90A	90	101	112	1.0	146	20.6	2	90
SMLJ-LC100	100	112	137	1.0	179	16.8	2	90
SMLJ-LC100A	100	112	124	1.0	162	18.6	2	90
SMLJ-LC110	110	123	150	1.0	196	15.4	2	90
SMLJ-LC110A	110	123	136	1.0	177	16.8	2	90
SMLJ-LC120	120	134	164	1.0	214	14.0	2	90
SMLJ-LC120A	120	134	148	1.0	193	15.6	2	90
SMLJ-LC130	130	145	177	1.0	231	13.0	2	90
SMLJ-LC130A	130	145	160	1.0	209	14.4	2	90
SMLJ-LC150	150	168	205	1.0	268	11.2	2	90
SMLJ-LC150A	150	168	186	1.0	243	12.4	2	90
SMLJ-LC160	160	179	219	1.0	287	10.4	2	90
SMLJ-LC160A	160	179	198	1.0	259	11.6	2	90
SMLJ-LC170	170	190	232	1.0	304	9.8	2	90
SMLJ-LC170A	170	190	210	1.0	275	11.0	2	90

Notes:

- (1) Pulse test : $t_p \leq 50$ ms.
- (2) "SMLJ-L" will be omitted in marking on the diode.

RATING AND CHARACTERISTIC CURVES (SMLJ-LC5.0 - 170A)

FIG.1 - PULSE WAVEFORM

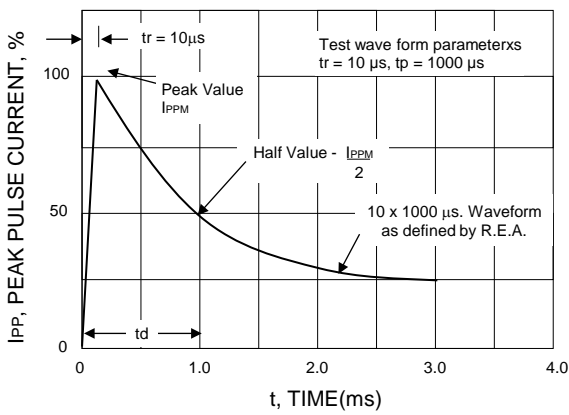


FIG.2 - PEAK PULSE POWER VS. PULSE TIME

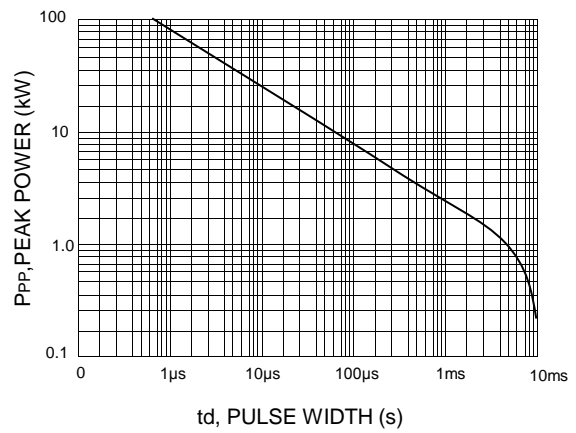


FIG.3 - DERATING CURVE

