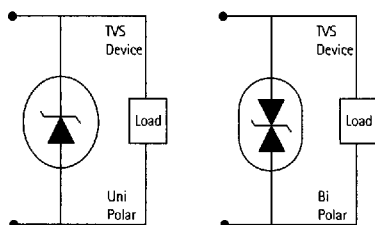


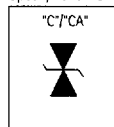
SMCJ Series

Electrical Description

all dimensions in millimetres



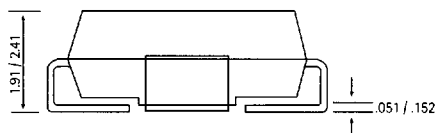
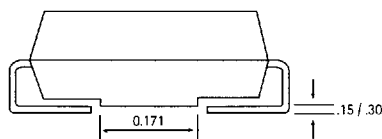
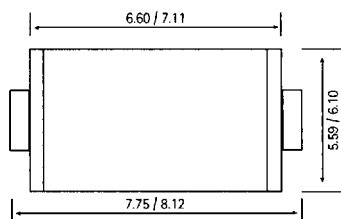
For Bipolar Applications
Specify "C" or "CA"



Features:
1500 Watt Peak Power Protection
Excellent Clamping Capability
Fast Response Time
Meets or Exceeds UL Flammability Spec. 94V-0
Typical $I_{r} < 1\mu\text{A}$ above 10V
Glass Passivated Chip Construction

Mechanical Details

all dimensions in millimetres



Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

P_{PK}	Peak Pulse Power Dissipation at $T_p=1\text{ms}$	Min 1500 W
P_d	Steady State Power Dissipation @ $T_t=75^\circ\text{C}$ (Note 2)	5.00 W
I_{FSM}	Peak Forward Surge Current, 8.3ms single half Sine-Wave Superimposed on Rated Load (JEDEC method. Note 3)	200 A
G_{RM}	Weight	0.20 grammes
S_t	Soldering requirements (Time and temp) 250°C	11 Sec min to solder
T_j	Operating temperature	-65 to +175°C
T_{stg}	Storage temperature	-65 to +175°C

Notes:

- For BiDirectional applications use C or CA Electrical Characteristics apply in both directions
- Mounted on 20mm copper pads to each terminal.
- 8.3ms single half sine-wave duty cycle, @ 4 pulses per minutes maximum
- Vor measured after it applies for 300 us I_t = Square Wave Pulse or equivalent
- Non-repetitive Current Pulse. Per Fig.3 and Derated above $T_a = 25^\circ\text{C}$

SMCJ Series

Device	Device Marking Code	Breakdown Voltage (Vbr) VOLTS			Reverse Stand-Off Voltage V _{RM}	Max Reverse Leakage @ V _{RM}	Max Peak Impulse Surge Current I _{ppm}	Max Clamping Voltage at I _{ppm} (Note 5)
		Min	Max	IT mA	VOLTS	Id(μA)	AMPS	VOLTS
SMCJ5.0	GDD	6.40	7.55	10	5.0	1000	156.2	9.6
SMCJ5.0A	GDE	6.40	7.25	10	5.0	1000	163.0	9.2
SMCJ6.0	GDF	6.67	8.45	10	5.0	1000	131.6	11.4
SMCJ6.0A	GDG	6.67	7.67	10	6.0	1000	145.6	10.3
SMCJ6.5	GDH	7.22	9.14	10	6.5	500	122.0	12.3
SMCJ6.5A	GDK	7.22	8.30	10	6.5	500	133.9	11.2
SMCJ7.0	GDL	7.78	9.86	10	7.0	200	112.8	13.3
SMCJ7.0A	GDM	7.78	8.95	10	7.0	200	125.0	12.0
SMCJ7.5	GDN	8.33	10.67	1.0	7.5	100	104.9	14.3
SMCJ7.5A	GDP	8.33	9.58	1.0	7.5	100	116.3	12.9
SMCJ8.0	GDO	8.89	11.30	1.0	8.0	50	100.0	15.0
SMCJ8.0A	GDR	8.89	10.20	1.0	8.0	50	110.3	13.6
SMCJ8.5	GDS	9.44	11.90	1.0	8.5	25	95.3	15.9
SMCJ8.5A	GDT	9.44	11.80	1.0	8.5	20	104.2	14.4
SMCJ9.0	GDU	10.00	12.60	1.0	9.0	10	88.7	16.9
SMCJ9.0A	GDV	10.00	11.50	1.0	9.0	10	97.4	15.4
SMCJ10	GDW	11.10	14.10	1.0	10.0	5.0	79.8	18.8
SMCJ10A	GDX	11.10	12.80	1.0	10.0	5.0	88.2	17.0
SMCJ11	GDY	12.20	15.40	1.0	11.0	5.0	74.6	20.1
SMCJ11A	GDZ	12.20	14.00	1.0	11.0	5.0	82.4	18.2
SMCJ12	GED	13.30	16.90	1.0	11.0	5.0	68.2	22.0
SMCJ12A	GEE	13.30	15.30	1.0	12.0	5.0	75.3	19.9
SMCJ13	GEF	14.40	18.20	1.0	13.0	5.0	63.0	23.8
SMCJ13A	GEG	14.40	16.50	1.0	13.0	5.0	69.7	21.5
SMCJ14	GEH	15.60	19.80	1.0	14.0	5.0	58.1	25.8
SMCJ14A	GEK	15.60	17.90	1.0	14.0	5.0	64.7	23.2
SMCJ15	GEL	16.70	21.10	1.0	15.0	5.0	55.8	26.9
SMCJ15A	GEM	16.70	19.20	1.0	15.0	5.0	61.5	24.4
SMCJ16	GEN	17.80	22.60	1.0	16.0	5.0	52.1	28.8
SMCJ16A	GEP	17.80	20.50	1.0	16.0	5.0	57.7	26.0
SMCJ17	GEQ	18.90	23.90	1.0	17.0	5.0	49.2	30.5
SMCJ17A	GER	18.90	21.70	1.0	17.0	5.0	53.3	27.6
SMCJ18	GES	20.00	25.30	1.0	18.0	5.0	46.6	32.2
SMCJ18A	GET	20.00	23.30	1.0	18.0	5.0	51.4	29.2
SMCJ20	GEU	22.20	28.10	1.0	20.0	5.0	41.9	35.8
SMCJ20A	GEV	22.20	25.50	1.0	20.0	5.0	46.3	32.4
SMCJ22	GEW	24.40	30.90	1.0	22.0	5.0	38.1	39.4
SMCJ22A	GEX	24.40	28.00	1.0	22.0	5.0	42.2	35.5
SMCJ24	GEY	26.70	33.80	1.0	24.0	5.0	34.9	43.0
SMCJ24A	GEZ	26.70	36.70	1.0	24.0	5.0	38.6	38.9
SMCJ26	GFD	28.90	36.60	1.0	26.0	5.0	32.2	46.6
SMCJ26A	GFE	28.90	33.20	1.0	26.0	5.0	35.6	42.1
SMCJ28	GFF	31.10	39.40	1.0	28.0	5.0	30.0	50.0
SMCJ28A	GFG	31.10	35.80	1.0	28.0	5.0	33.0	45.4
SMCJ30	GFH	33.30	42.20	1.0	30.0	5.0	28.0	53.5
SMCJ30A	GFK	33.30	38.30	1.0	30.0	5.0	31.0	48.4
SMCJ33	GFL	36.70	46.50	1.0	33.0	5.0	30.0	50.0
SMCJ33A	GFM	36.70	42.30	1.0	33.0	5.0	28.1	53.3
SMCJ36	GFN	40.00	50.70	1.0	36.0	5.0	23.3	64.3
SMCJ36A	GFP	40.00	46.00	1.0	36.0	5.0	25.8	58.1
SMCJ40	GFQ	44.40	56.30	1.0	40.0	5.0	21.0	71.4
SMCJ40A	GFR	44.40	51.10	1.0	40.0	5.0	23.2	64.5
SMCJ43	GFS	47.80	60.50	1.0	43.0	5.0	19.6	76.7
SMCJ43A	GFT	47.80	54.90	1.0	43.0	5.0	21.6	69.4
SMCJ45	GFU	50.00	63.30	1.0	45.0	5.0	18.7	80.3
SMCJ45A	GFV	50.00	57.50	1.0	45.0	5.0	20.6	72.7
SMCJ48	GFW	53.30	67.50	1.0	48.0	5.0	17.5	85.5
SMCJ48A	GFX	53.30	61.30	1.0	48.0	5.0	19.4	77.4
SMCJ51	GFY	56.70	71.80	1.0	51.0	5.0	18.5	91.1
SMCJ51A	GFZ	56.70	65.20	1.0	51.0	5.0	18.2	82.4
SMCJ54	GGD	60.00	76.00	1.0	54.0	5.0	15.6	96.3
SMCJ54A	GGE	60.00	69.00	1.0	54.0	5.0	17.2	87.1

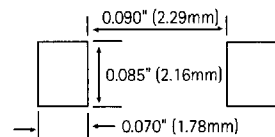
Device	Device Marking Code	Breakdown Voltage (Vbr) VOLTS		Reverse Stand-Off Voltage Vwm	Max Reverse Leakage @ Vwm	Max Peak Impulse Surge Current Ippm	Max Clamping Voltage at Ippm (Note 5)
		Min	Max	IT mA	VOLTS	Id(μA)	AMPS
SMCJ58	GGF	64.40	81.60	1.0	58	5.0	14.6
SMCJ58A	GGG	64.40	74.10	1.0	58	5.0	16.0
SMCJ60	GGH	66.70	84.50	1.0	60	5.0	14.0
SMCJ60A	GGK	66.70	76.70	1.0	60	5.0	15.5
SMCJ64	GGL	71.10	90.10	1.0	64	5.0	13.2
SMCJ64A	GGM	71.10	81.80	1.0	64	5.0	14.6
SMCJ70	GGN	77.80	98.60	1.0	70	5.0	12.0
SMCJ70A	GGP	77.80	89.50	1.0	70	5.0	13.3
SMCJ75	GGQ	83.30	105.70	1.0	75	5.0	11.2
SMCJ75A	GGR	83.30	95.80	1.0	75	5.0	12.4
SMCJ78	GGS	86.70	109.90	1.0	78	5.0	10.8
SMCJ78A	GGT	86.70	99.70	1.0	78	5.0	11.4
SMCJ85	GGU	94.40	119.20	1.0	85	5.0	9.9
SMCJ85A	GGV	94.40	108.20	1.0	85	5.0	10.4
SMCJ90	GGW	100.00	126.50	1.0	90	5.0	9.4
SMCJ90A	GGX	100.00	115.50	1.0	90	5.0	10.3
SMCJ100	GGY	111.00	141.00	1.0	100	5.0	8.4
SMCJ100A	GGZ	111.00	128.00	1.0	100	5.0	9.3
SMCJ110	GHD	122.00	154.50	1.0	110	5.0	7.7
SMCJ110A	GHE	122.00	140.50	1.0	110	5.0	8.4
SMCJ120	GHF	133.00	169.00	1.0	120	5.0	7.0
SMCJ120A	GHG	133.00	153.00	1.0	120	5.0	7.9
SMCJ130	GHH	144.00	182.50	1.0	130	5.0	6.5
SMCJ130A	GHK	144.00	165.50	1.0	130	5.0	7.2
SMCJ150	GHL	167.00	211.50	1.0	150	5.0	5.6
SMCJ150A	GHM	167.00	192.50	1.0	150	5.0	6.2
SMCJ160	GHN	178.00	226.00	1.0	160	5.0	5.2
SMCJ160A	GHP	178.00	205.00	1.0	160	5.0	5.8
SMCJ170	GHQ	189.00	239.50	1.0	170	5.0	4.9
SMCJ170A	GHR	189.00	217.50	1.0	170	5.0	5.5

Notes:

1. V(BR) measured after IT applied for 300μs IT = Square Wave Pulse or equivalent.
2. Surge Current Waveform per form Figure 3 and Derate per figure 2.
3. A Transshield TVS is normally selected according to the reverse "Stand Off Voltage" (VWM) which should be equal to or greater than the DC or continuous peak operating voltage level.
4. All terms and symbols are consistent with ANSI/IEEE C62.35 specifications.

Recommended Pad Sizes

The pad dimensions should be 0.010" (.25mm) longer than the contact size, in the lead axis. This allows a solder fillet to form, see figure (right). Contact factory for soldering methods.

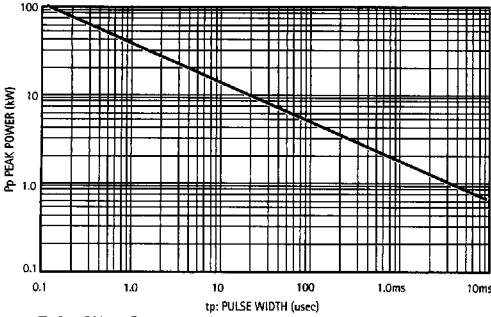


Modified J-Bend

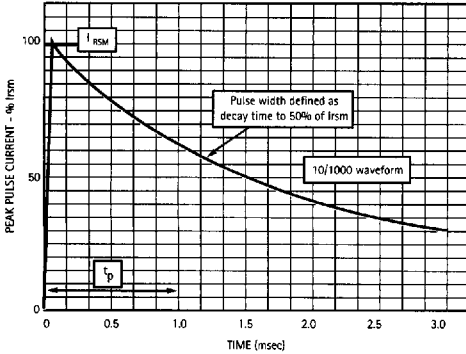
SMCJ Series

SMCJ Series

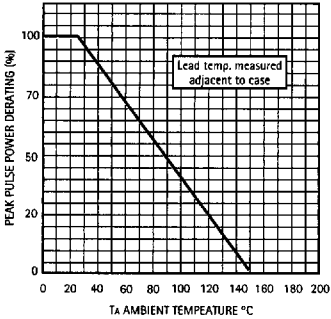
Pulse Rating Curve



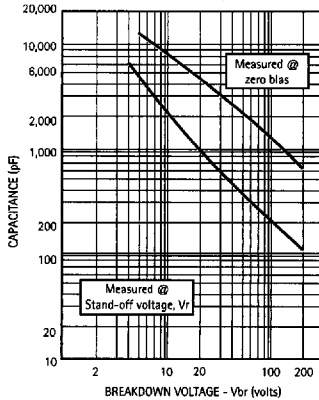
Pulse Waveform



Pulse Derating Curve



Typical Junction Capacitance



Peak Forward Surge Current

