	E480232

Features

- For Surface Mount Application in Order to Optimize Board Space
- Built-in Strain Relief
- Glass Passivated Junction
- Plastic Package Has Underwrites Laboratory Flammability
- Temperature Coefficient, Typical Value is 0.1%
- Fast Response Time: Typical Less than 1ps from 0V to BV Min
- Typical I_D Less than 1μA Above 10V
- High Temperature Soldering: 260°C/10 Seconds at Terminals
- Halogen Free. “Green” Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates Compliant. See Ordering Information)

Mechanical Data

- Polarity: Color Band Denotes Positive End(Cathode) Except Bi-directional Types(Note4)
- IEC-61000-4-2 ESD 15kV(Air), 8kV(Contact)

Maximum Ratings

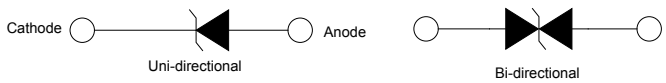
- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Typical Thermal Resistance: 15°C/W Junction to Lead
- Typical Thermal Resistance: 75°C/W Junction to Ambient

Electrical Characteristics @ 25°C Unless Otherwise Specified

Peak Pulse Power Surge Current on 10/1000μs Waveform	I_{PPM}	See the Table	Note 3
Peak Pulse Power Dissipation on 10/1000μs Waveform	P_{PPM}	1500W	Note 3,4,Fig1
Power Dissipationon infinite heat sink	P_D	6.5W	T_L = 75°C.
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only	I_{FSM}	200A	
Maximum instantaneous forward voltage at 100A for unidirectional only	V_F	3.5V MAX 1.7 TYP /5V MAX 4 TYP	Note 6

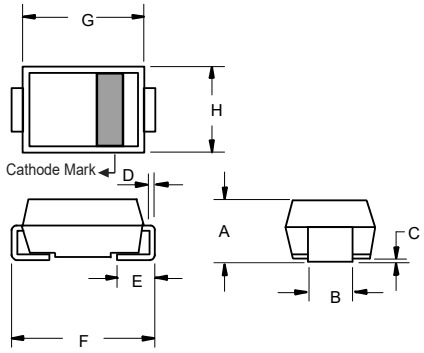
1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Non-repetitive current pulse, per Fig.3 and derated above T_A=25 °C per Fig.4.
4. Mounted on 8.0mm²copper pads to each terminal.
5. Unidirectional and bidirectional available,for bidirectional devices add “C”suffix to the pn#SMCJ5.0CA
6. V_F<3.5V for devices of V_{BR}<200V and V_F<5.0V for devices of V_{BR}>201V

Pin Configuration:



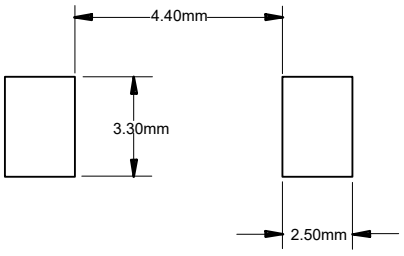
1500 Watt TVS
5.0 to 440 Volts

SMC (DO-214AB)
(LEAD FRAME)



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.108	0.128	2.75	3.25	
C	0.002	0.008	0.051	0.203	
D	0.006	0.012	0.152	0.305	
E	0.030	0.060	0.76	1.52	
F	0.305	0.320	7.75	8.13	
G	0.260	0.280	6.60	7.11	
H	0.220	0.245	5.59	6.22	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC Part Number		Reverse Stand-Off Voltage	Breakdown Voltage V_{BR}(V)		Test Current	Max. Clamping Voltage @I_{PP}	Peak Pulse Current	Reverse Leakage Current@V_{WM}	Marking Code	
Uni-Polar	Bi-Polar	V_{WM}(V)	Min	Max	I_T(mA)	V_C(V)	I_{PP}(A)	I_D(μA)	UNI	BI
SMCJ5.0A	SMCJ5.0CA	5	6.4	7.0	10	9.2	163.0	800	GDE	BDE
SMCJ6.0A	SMCJ6.0CA	6	6.7	7.4	10	10.3	145.7	800	GDG	BDG
SMCJ6.5A	SMCJ6.5CA	6.5	7.2	8.0	10	11.2	134.0	500	GDK	BDK
SMCJ7.0A	SMCJ7.0CA	7	7.8	8.6	10	12.0	125.0	200	GDM	BDM
SMCJ7.5A	SMCJ7.5CA	7.5	8.3	9.2	1	12.9	116.3	100	GDP	BDP
SMCJ8.0A	SMCJ8.0CA	8	8.9	9.8	1	13.6	110.3	50	GDR	BDR
SMCJ8.5A	SMCJ8.5CA	8.5	9.4	10.4	1	14.4	104.2	20	GDT	BDT
SMCJ9.0A	SMCJ9.0CA	9	10.0	11.1	1	15.4	97.4	10	GDV	BDV
SMCJ10A	SMCJ10CA	10	11.1	12.3	1	17.0	88.3	5	GDX	BDX
SMCJ11A	SMCJ11CA	11	12.2	13.5	1	18.2	82.5	1	GDZ	BDZ
SMCJ12A	SMCJ12CA	12	13.3	14.7	1	19.9	75.4	1	GEE	BEE
SMCJ13A	SMCJ13CA	13	14.4	15.9	1	21.5	69.8	1	GEG	BEG
SMCJ14A	SMCJ14CA	14	15.6	17.2	1	23.2	64.7	1	GEK	BEK
SMCJ15A	SMCJ15CA	15	16.7	18.5	1	24.4	61.5	1	GEM	BEM
SMCJ16A	SMCJ16CA	16	17.8	19.7	1	26.0	57.7	1	GEP	BEP
SMCJ17A	SMCJ17CA	17	18.9	20.9	1	27.6	54.4	1	GER	BER
SMCJ18A	SMCJ18CA	18	20.0	22.1	1	29.2	51.4	1	GET	BET
SMCJ20A	SMCJ20CA	20	22.2	24.5	1	32.4	46.3	1	GEV	BEV
SMCJ22A	SMCJ22CA	22	24.4	26.9	1	35.5	42.3	1	GEX	BEX
SMCJ24A	SMCJ24CA	24	26.7	29.5	1	38.9	38.6	1	GEZ	BEZ
SMCJ26A	SMCJ26CA	26	28.9	31.9	1	42.1	35.7	1	GFE	BFE
SMCJ28A	SMCJ28CA	28	31.1	34.4	1	45.4	33.1	1	GFG	BFG
SMCJ30A	SMCJ30CA	30	33.3	36.8	1	48.4	31.0	1	GFK	BFK
SMCJ33A	SMCJ33CA	33	36.7	40.6	1	53.3	28.2	1	GFM	BFM
SMCJ36A	SMCJ36CA	36	40.0	44.2	1	58.1	25.9	1	GFP	BFP
SMCJ40A	SMCJ40CA	40	44.4	49.1	1	64.5	23.3	1	GFR	BFR
SMCJ43A	SMCJ43CA	43	47.8	52.8	1	69.4	21.7	1	GFT	BFT
SMCJ45A	SMCJ45CA	45	50.0	55.3	1	72.7	20.6	1	GFV	BFV
SMCJ48A	SMCJ48CA	48	53.3	58.9	1	77.4	19.4	1	GFX	BFX
SMCJ51A	SMCJ51CA	51	56.7	62.7	1	82.4	18.2	1	GFZ	BFZ
SMCJ54A	SMCJ54CA	54	60.0	66.3	1	87.1	17.3	1	GGE	BGE
SMCJ58A	SMCJ58CA	58	64.4	71.2	1	93.6	16.1	1	GGG	BGG
SMCJ60A	SMCJ60CA	60	66.7	73.7	1	96.8	15.5	1	GGK	BGK
SMCJ64A	SMCJ64CA	64	71.1	78.6	1	103.0	14.6	1	GGM	BGM
SMCJ70A	SMCJ70CA	70	77.8	86.0	1	113.0	13.3	1	GGP	BGP
SMCJ75A	SMCJ75CA	75	83.3	92.1	1	121.0	12.4	1	GGR	BGR
SMCJ78A	SMCJ78CA	78	86.7	95.8	1	126.0	11.9	1	GGT	BGT
SMCJ85A	SMCJ85CA	85	94.4	104.0	1	137.0	11.0	1	GGV	BGV
SMCJ90A	SMCJ90CA	90	100.0	111.0	1	146.0	10.3	1	GGX	BGX
SMCJ100A	SMCJ100CA	100	111.0	123.0	1	162.0	9.3	1	GGZ	BGZ
SMCJ110A	SMCJ110CA	110	122.0	135.0	1	177	8.5	1	GHE	BHE
SMCJ120A	SMCJ120CA	120	133.0	147.0	1	193	7.8	1	GHG	BHG
SMCJ130A	SMCJ130CA	130	144.0	159.0	1	209	7.2	1	GHK	BHK
SMCJ150A	SMCJ150CA	150	167.0	185.0	1	243	6.2	1	GHM	BHM
SMCJ160A	SMCJ160CA	160	178.0	197.0	1	259	5.8	1	GHP	BHP
SMCJ170A	SMCJ170CA	170	189.0	209.0	1	275	5.5	1	GHR	BHR
SMCJ180A	SMCJ180CA	180	201.0	222.0	1	292	5.1	1	GHT	BHT
SMCJ200A	SMCJ200CA	200	224.0	247.0	1	324	4.6	1	GHV	BHV

For bi-directional type having V_{rwm} of 10volts and less, the I_R limit is double. For parts without A, the V_{BR} is ±10%

Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC Part Number		Reverse Stand-Off Voltage	Breakdown Voltage V_{BR}(V)		Test Current	Max. Clamping Voltage @I_{PP}	Peak Pulse Current	Reverse Leakage Current@V_{WM}	Marking Code	
SMCJ220A	SMCJ220CA	220	246.0	272.0	1	356	4.2	1	GHX	BHX
SMCJ250A	SMCJ250CA	250	279.0	309.0	1	405	3.7	1	GHZ	BHZ
SMCJ300A	SMCJ300CA	300	335.0	371.0	1	486	3.1	1	GJE	BJE
SMCJ350A	SMCJ350CA	350	391.0	432.0	1	567	2.6	1	GJG	BJG
SMCJ400A	SMCJ400CA	400	447.0	494.0	1	648	2.3	1	GJK	BJK
SMCJ440A	SMCJ440CA	440	492.0	543.0	1	713	2.1	1	GJM	BJM

For bi-directional type having V_{rwm} of 10volts and less, the I_R limit is double. For parts without A, the V_{BR} is ±10%

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

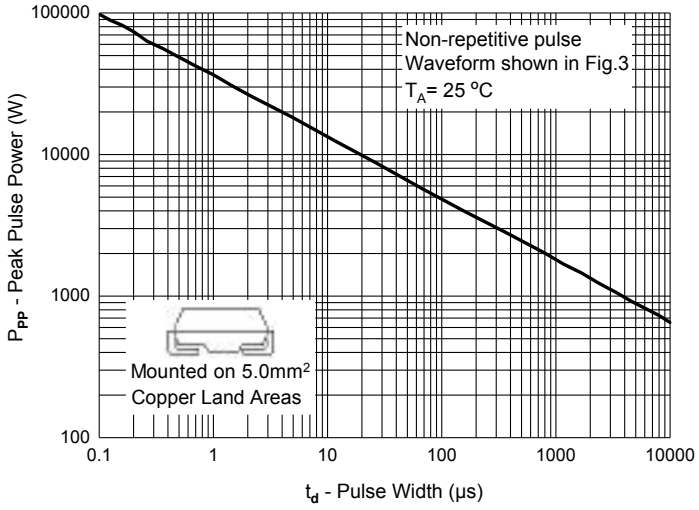


Fig. 2 - Typical Junction Capacitance

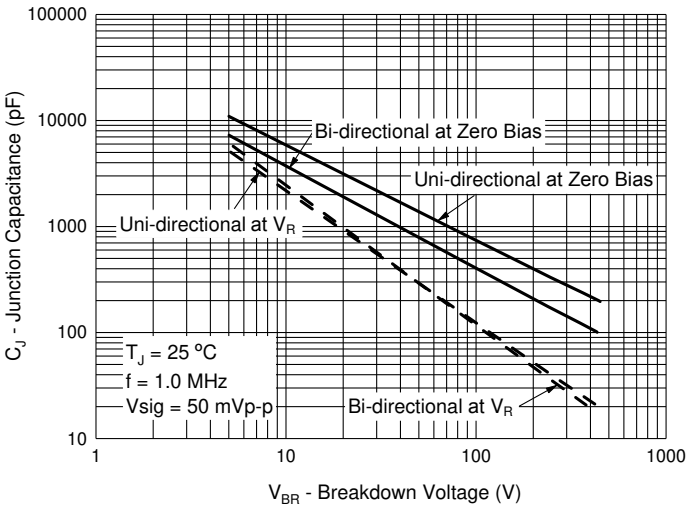


Fig. 3 - Pulse Waveform

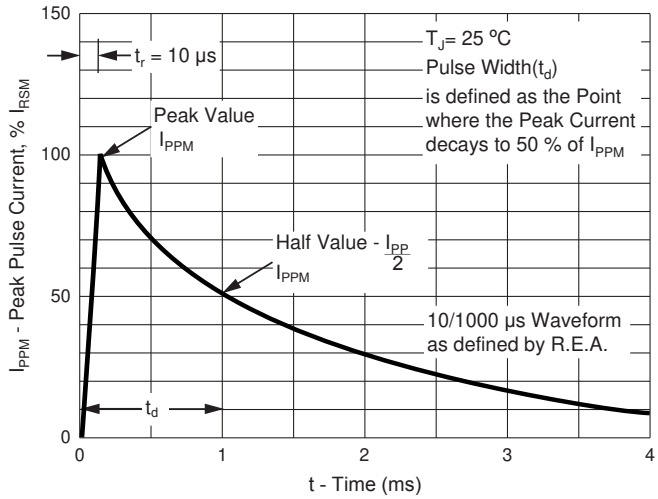
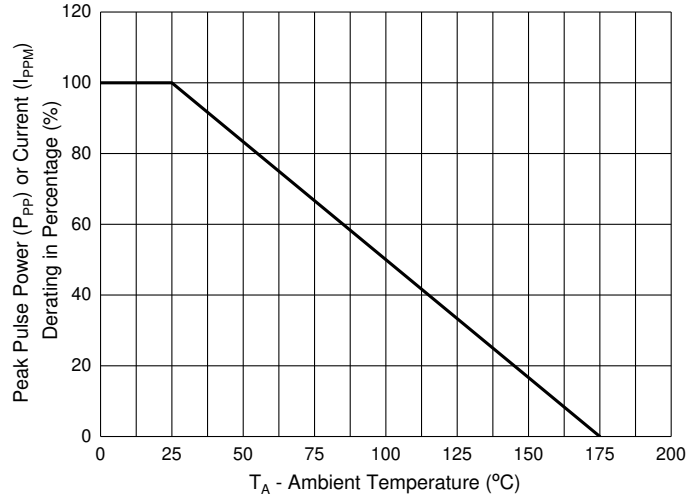


Fig. 4 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel

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