

FEATURES

- 1500W Peak Pulse Power Dissipation
- 5.0V - 170V Standoff Voltages
- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability
- Classification Rating 94V-0



DO-214AB (SMC)

MECHANICAL DATA

- Case: SMC, Transfer Molded Epoxy
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity Indicator: Cathode Band
(Note: Bi-directional devices have no polarity indicator.)
- Marking: Date Code and Marking Code See Page 2
- Weight: 0.21 grams (approx.)



Cathode

MAXIMUM RATINGS (TA = 25°C unless otherwise noted)

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above TA = 25°C) (Note 1)	P _{PK}	1500	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I _{FSM}	200	A
Instantaneous Forward Voltage @IPP = 35A (Notes 1, 2, & 3)	V _F	3.5	V
Operating and Storage Temperature Range	T _J , T _{STG}	55 to +150 _C	°C

Notes:

1. Valid provided that terminals are kept at ambient temperature.
2. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
3. Unidirectional units only.

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted)

DEVICE TYPE MODIFIED "J" BEND LEAD	DEVICE MARKING CODE		BREAKDOWN VOLTAGE V _{BR} AT I _T (1) (V)		TEST CURRENT I _T (mA)	STAND-OFF VOLTAGE V _{WM}	MAXIMUM REVERSE LEAKAGE AT V _{WM} I _D (μA) (3)	MAXIMUM PEAK PULSE SURGE CURRENT I _{PPM} (A) (2)	MAXIMUM CLAMPING VOLTAGE AT
	UNI	BI	MIN.	MAX.					
(+)SMCJ5.0A (5)	GDE	GDE	6.40	7.07	10	5.0	800	163.0	9.2
(+)SMCJ6.0A	GDG	GDG	6.67	7.37	10	6.0	800	145.6	10.3
(+)SMCJ6.5A	GDK	BDK	7.22	7.98	10	6.5	500	133.9	11.2
(+)SMCJ7.0A	GDM	GDM	7.78	8.60	10	7.0	200	125.0	12.0
(+)SMCJ7.5A	GDP	BDP	8.33	9.21	1.0	7.5	100	116.3	12.9
(+)SMCJ8.0A	GDR	BDR	8.89	9.83	1.0	8.0	50	110.3	13.6
(+)SMCJ8.5A	GDT	BDT	9.44	10.4	1.0	8.5	20	104.2	14.4
(+)SMCJ9.0A	GDV	BDV	10.0	11.1	1.0	9.0	10	97.4	15.4
(+)SMCJ10A	GDX	BDX	11.1	12.3	1.0	10	5.0	88.2	17.0
(+)SMCJ11A	GDZ	GDZ	12.2	13.5	1.0	11	5.0	82.4	18.2
(+)SMCJ12A	GEE	BEE	13.3	14.7	1.0	12	5.0	75.4	19.9
(+)SMCJ13A	GEG	GEG	14.4	15.9	1.0	13	1.0	69.8	21.5
(+)SMCJ14A	GEK	BEK	15.6	17.2	1.0	14	1.0	64.7	23.2
(+)SMCJ15A	GEM	BEM	16.7	18.5	1.0	15	1.0	61.5	24.4
(+)SMCJ16A	GEP	GEM	17.8	19.7	1.0	16	1.0	57.7	26.0
(+)SMCJ17A	GER	GER	18.9	20.9	1.0	17	1.0	54.3	27.6
(+)SMCJ18A	GET	BET	20.0	22.1	1.0	18	1.0	51.4	29.2
(+)SMCJ20A	GEV	BEV	22.2	24.5	1.0	20	1.0	46.3	32.4
(+)SMCJ22A	GEX	BEX	24.4	26.9	1.0	22	1.0	42.3	35.5
(+)SMCJ24A	GEZ	BEZ	26.7	29.5	1.0	24	1.0	38.6	38.9
(+)SMCJ26A	GFE	BFE	28.9	31.9	1.0	26	1.0	35.6	42.1
(+)SMCJ28A	GFG	GFG	31.1	34.4	1.0	28	1.0	33.0	45.4
(+)SMCJ30A	GFK	BFK	33.3	36.8	1.0	30	1.0	31.0	48.4
(+)SMCJ33A	GFM	BFM	36.7	40.6	1.0	33	1.0	28.1	53.3
(+)SMCJ36A	GFP	BFP	40.0	44.2	1.0	36	1.0	25.8	58.1
(+)SMCJ40A	GFR	BFR	44.4	49.1	1.0	40	1.0	23.3	64.5
(+)SMCJ43A	GFT	BFT	47.8	52.8	1.0	43	1.0	21.6	69.4
(+)SMCJ45A	GFV	GFV	50.0	55.3	1.0	45	1.0	20.6	72.7
(+)SMCJ48A	GFX	GFX	53.3	58.9	1.0	48	1.0	19.4	77.4
(+)SMCJ51A	GFZ	GFZ	56.7	62.7	1.0	51	1.0	18.2	82.4
(+)SMCJ54A	GGE	GGE	60.0	66.3	1.0	54	1.0	17.2	87.1
(+)SMCJ58A	GGG	GGG	64.4	71.2	1.0	58	1.0	16.0	93.6
(+)SMCJ60A	GGK	GGK	66.7	73.7	1.0	60	1.0	15.5	96.8
(+)SMCJ64A	GGM	GGM	71.1	78.6	1.0	64	1.0	14.6	103
(+)SMCJ70A	GGP	GGP	77.8	86.0	1.0	70	1.0	13.3	113
(+)SMCJ75A	GGR	GGR	83.3	92.1	1.0	75	1.0	12.4	121
(+)SMCJ78A	GGT	GGT	86.7	95.8	1.0	78	1.0	11.9	126
(+)SMCJ85A	GGV	GGV	94.4	104	1.0	85	1.0	10.9	137
(+)SMCJ90A	GGX	GGX	100	111	1.0	90	1.0	10.3	146
(+)SMCJ100A	GGZ	GGZ	111	123	1.0	100	1.0	9.3	162
(+)SMCJ110A	GHE	GHE	122	135	1.0	110	1.0	8.5	177
(+)SMCJ120A	GHG	GHG	133	147	1.0	120	1.0	7.8	193
(+)SMCJ130A	GHK	GHK	144	159	1.0	130	1.0	7.2	209
(+)SMCJ150A	GHM	GHM	167	185	1.0	150	1.0	6.2	243
(+)SMCJ160A	GHP	GHP	178	197	1.0	160	1.0	5.8	259
(+)SMCJ170A	GHR	GHR	189	209	1.0	170	1.0	5.5	275

 Notes (1) Pulse test: t_{ps} 50 ms

(2) Surge current waveform per fig. 3 and derate per fig. 2

 (3) For bi-directional types having V_{WM} of 10 V and less, the I_D limit is doubled

(4) All terms and symbols are consistent with ANSI/IEEE C62.35

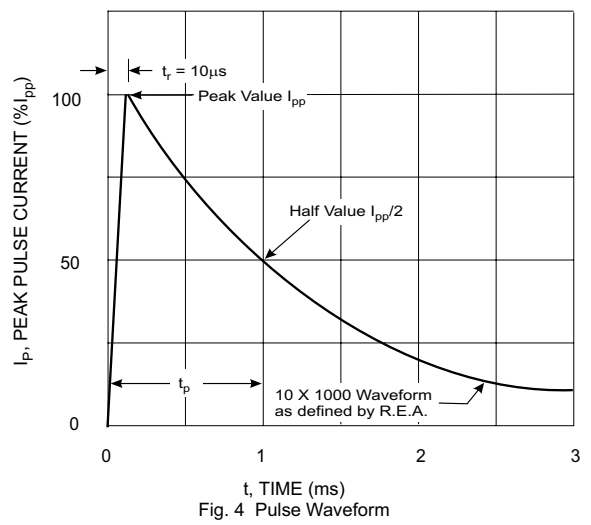
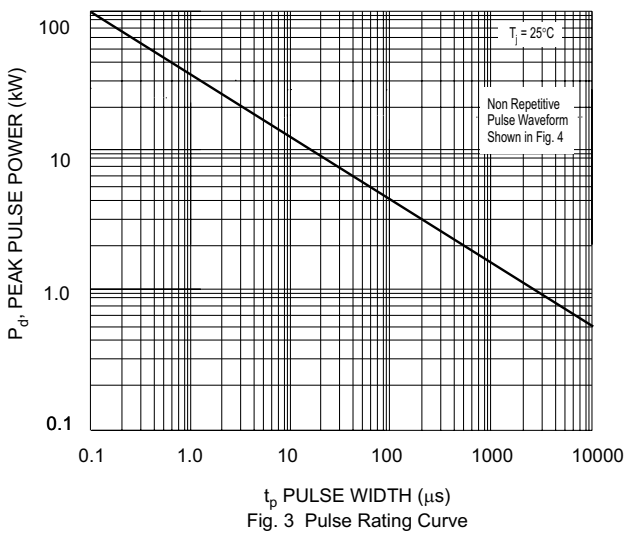
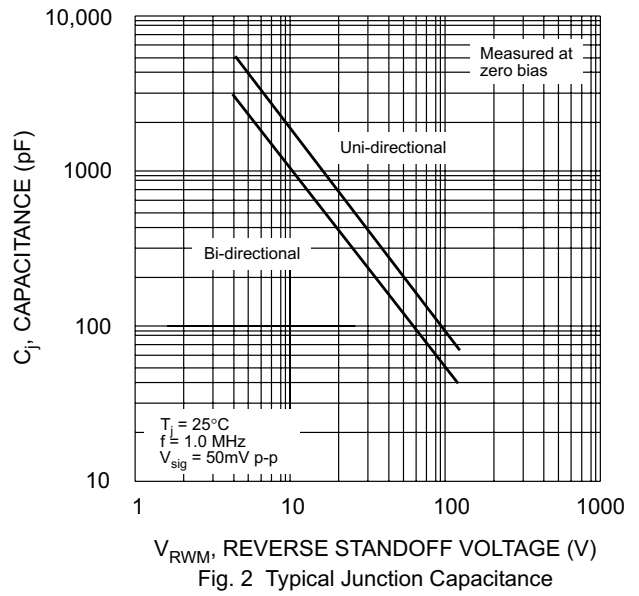
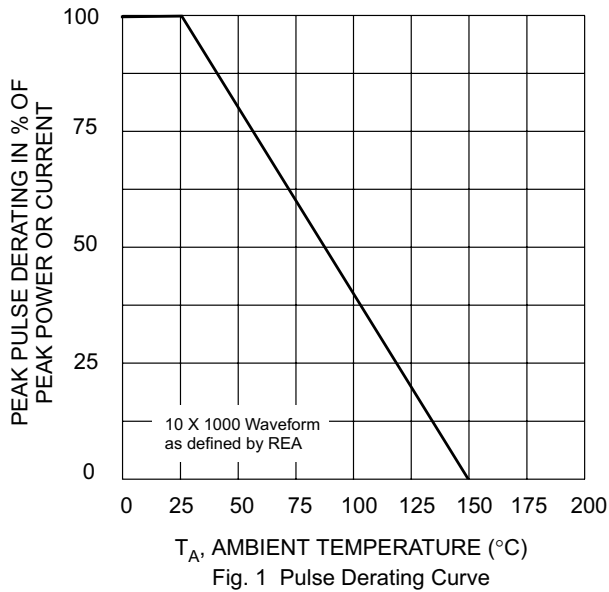
 (5) For the bi-directional SMCJ5.0CA, the maximum V_{BR} is 7.25 V

 (6) V_F = 3.5 V at I_F = 25 A (uni-directional only)

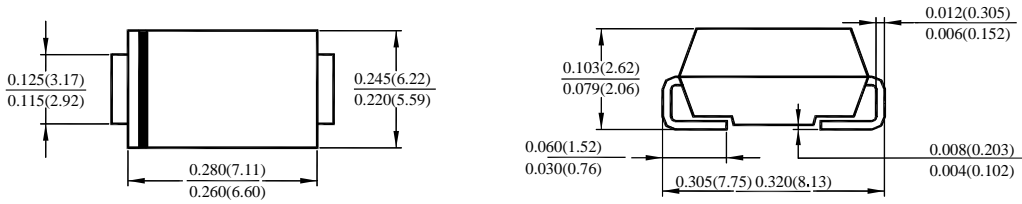
(7) For bi-directional use CA suffix (e.g. SMCJ100CA).

(+) Underwriters laboratory recognition for the classification of protectors (QVGGQ2) under the UL standard for safety 497B and file number E136766 for both uni-directional and bi-directional devices

Typical Characteristics

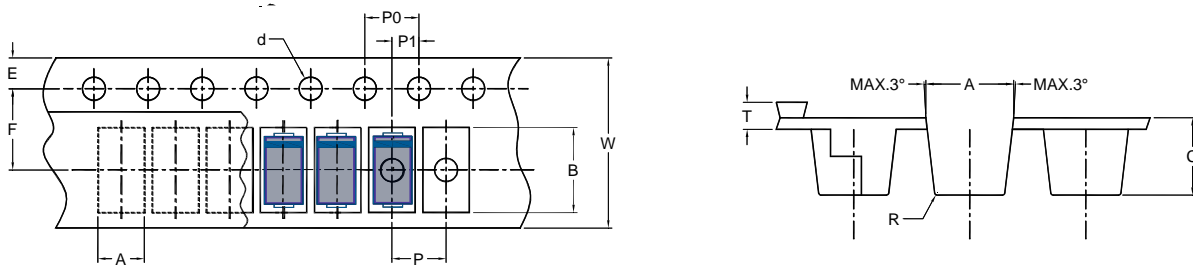


SMC Package Outline Dimensions



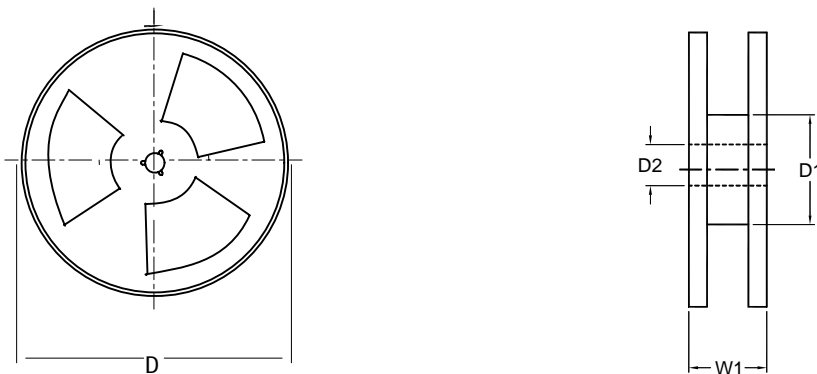
(DIMENSIONS ARE IN MILLIMETER)

SMC Embossed Carrier Tape



DIMENSIONS ARE IN MILLIMETER											
TYPE	A	B	C	d	E	F	P	P0	P1	T	W
SOT-23	6.0	8.30	2.5	1.5	1.5	7.65	8	4	4	0.6 Max.	16
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.1	±0.1	±0.1	±0.1	±0.2

SMC Reel



DIMENSIONS ARE IN MILLIMETER				
REEL OPTION	D	D1	D2	W1
7" DIA	178	50 min.	13	24
TOLERANCE	±2	±0.1	±0.5	±2