

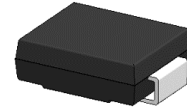
1500W,10 - 220V Transient Voltage Suppressors

Features

- Very fast response time
- Glass passivated junction
- Moisture sensitivity: level 1, per J-STD-020
- Available in unidirectional and bidirectional
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21 definition
- 1500W peak pulse power capability with a 10/1000 μ s waveform



RoHS
COMPLIANT



SMC (DO-214AB)

Applications

- SMPS
- Adapters
- Monitor

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Peak power dissipation with a 10/1000us waveform	P_{PPM}	1500	W
Peak pulse current with a 10/1000us waveform	I_{PPM}	See Next Table	A
Power dissipation, on infinite heat sink at $T_L=75^\circ\text{C}$	P_D	5	W
Peak forward surge current, 8.3ms single half-sine wave	I_{FSM}	200	A
Typical Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	65	$^\circ\text{C/W}$
Typical Thermal Resistance , Junction to Case	$R_{\theta JC}$	10	$^\circ\text{C/W}$
Typical Thermal Resistance , Junction to Lead	$R_{\theta JL}$	15	$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$



Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Marking		Breakdown Voltage VBR (Volts)		Test Current I _r (mA)	Stand off Voltage V _{WM} (Volts)	Maximum reverse leakage at V _{WM} I _D (μA)	Maximum Peak Pulse Current I _{ppM} (A)	Maximum Clamping Voltage at I _{ppM} V _C (Volts)
		UNI	BI	Min	Max					
SMCJ10A	SMCJ10CA	GDX	BDX	11.1	12.3	1.0	10	5.0	88.2	17.0
SMCJ11A	SMCJ11CA	GDZ	BDZ	12.2	13.5	1.0	11	5.0	82.4	18.2
SMCJ12A	SMCJ12CA	GEE	BEE	13.3	14.7	1.0	12	5.0	75.4	19.9
SMCJ13A	SMCJ13CA	GEG	BEG	14.4	15.9	1.0	13	1.0	69.8	21.5
SMCJ14A	SMCJ14CA	GEK	BEK	15.6	17.2	1.0	14	1.0	64.7	23.2
SMCJ15A	SMCJ15CA	GEM	BEM	16.7	18.5	1.0	15	1.0	61.5	24.4
SMCJ16A	SMCJ16CA	GEP	BEP	17.8	19.7	1.0	16	1.0	57.7	26.0
SMCJ17A	SMCJ17CA	GER	BER	18.9	20.9	1.0	17	1.0	54.3	27.6
SMCJ18A	SMCJ18CA	GET	BET	20.0	22.1	1.0	18	1.0	51.4	29.2
SMCJ20A	SMCJ20CA	GEV	BEV	22.2	24.5	1.0	20	1.0	46.3	32.4
SMCJ22A	SMCJ22CA	GEX	BEX	24.4	26.9	1.0	22	1.0	42.3	35.5
SMCJ24A	SMCJ24CA	GEZ	BEZ	26.7	29.5	1.0	24	1.0	38.6	38.9
SMCJ26A	SMCJ26CA	GFE	BFE	28.9	31.9	1.0	26	1.0	35.6	42.1
SMCJ28A	SMCJ28CA	GFG	BFG	31.1	34.4	1.0	28	1.0	33.0	45.4
SMCJ30A	SMCJ30CA	GFK	BFK	33.3	36.8	1.0	30	1.0	31.0	48.4
SMCJ33A	SMCJ33CA	GFM	BFM	36.7	40.6	1.0	33	1.0	28.1	53.3
SMCJ36A	SMCJ36CA	GFP	BFP	40.0	44.4	1.0	36	1.0	25.8	58.1
SMCJ40A	SMCJ40CA	GFR	BFR	44.4	49.1	1.0	40	1.0	23.3	64.5
SMCJ43A	SMCJ43CA	GFT	BFT	47.8	52.8	1.0	43	1.0	21.6	69.4
SMCJ45A	SMCJ45CA	GFV	BFV	50.0	55.3	1.0	45	1.0	20.6	72.7
SMCJ48A	SMCJ48CA	GFX	BFX	53.3	58.9	1.0	48	1.0	19.4	77.4
SMCJ51A	SMCJ51CA	GFZ	BFZ	56.7	62.7	1.0	51	1.0	18.2	82.4
SMCJ54A	SMCJ54CA	GGE	BGE	60.0	66.3	1.0	54	1.0	17.2	87.1
SMCJ58A	SMCJ58CA	GGG	BGG	64.4	71.2	1.0	58	1.0	16.0	93.6
SMCJ60A	SMCJ60CA	GGK	BGK	66.7	73.7	1.0	60	1.0	15.5	96.8
SMCJ64A	SMCJ64CA	GGM	BGM	71.1	78.6	1.0	64	1.0	14.6	103
SMCJ70A	SMCJ70CA	GGP	BGP	77.8	86.0	1.0	70	1.0	13.3	113
SMCJ75A	SMCJ75CA	GGR	BGR	83.3	92.1	1.0	75	1.0	12.4	121
SMCJ78A	SMCJ78CA	GGT	BGT	86.7	95.8	1.0	78	1.0	11.9	126
SMCJ85A	SMCJ85CA	GGV	BGV	94.4	104	1.0	85	1.0	10.9	137
SMCJ90A	SMCJ90CA	GGX	BGX	100	111	1.0	90	1.0	10.3	146
SMCJ100A	SMCJ100CA	GGZ	BGZ	111	123	1.0	100	1.0	9.3	162
SMCJ110A	SMCJ110CA	GHE	BHE	122	135	1.0	110	1.0	8.5	177
SMCJ120A	SMCJ120CA	GHG	BHG	133	147	1.0	120	1.0	7.8	193

Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Marking		Breakdown Voltage VBR (Volts)		Test Current I _T (mA)	Stand off Voltage V _{WM} (Volts)	Maximum reverse leakage at V _{WM} I _D (μA)	Maximum Peak Pulse Current I _{PPM} (A)	Maximum Clamping Voltage at I _{PPM} V _C (Volts)
		UNI	BI	Min	Max					
SMCJ130A	SMCJ130CA	GHK	BHK	144	159	1.0	130	1.0	7.2	209
SMCJ150A	SMCJ150CA	GHM	BHM	167	185	1.0	150	1.0	6.2	243
SMCJ160A	SMCJ160CA	GHP	BHP	178	197	1.0	160	1.0	5.8	259
SMCJ170A	SMCJ170CA	GHR	BHR	189	209	1.0	170	1.0	5.5	275
SMCJ180A	SMCJ180CA	GHT	BHT	201	222	1.0	180	1.0	5.0	292
SMCJ200A	SMCJ200CA	GHV	BHV	224	247	1.0	200	1.0	4.6	324
SMCJ220A	SMCJ220CA	GHX	BHX	246	272	1.0	220	1.0	4.2	356

Note:

1. The thermal resistance from junction to ambient, case or lead, mounted on P.C.B with 8×8mm copper pads

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

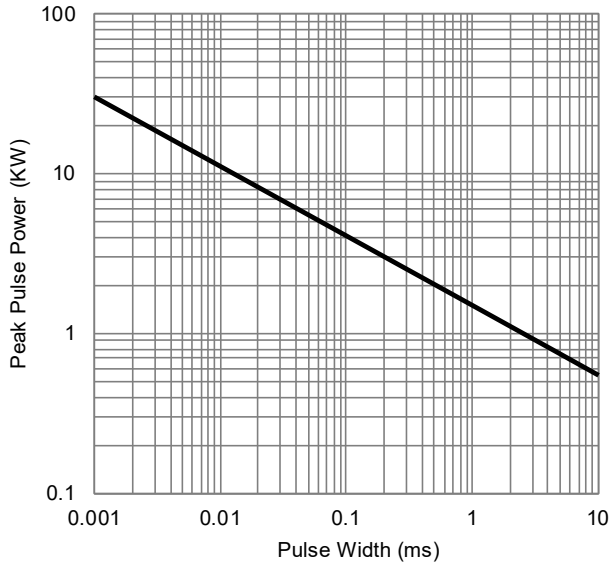


Fig.1 - Peak Pulse Power Derating Curve

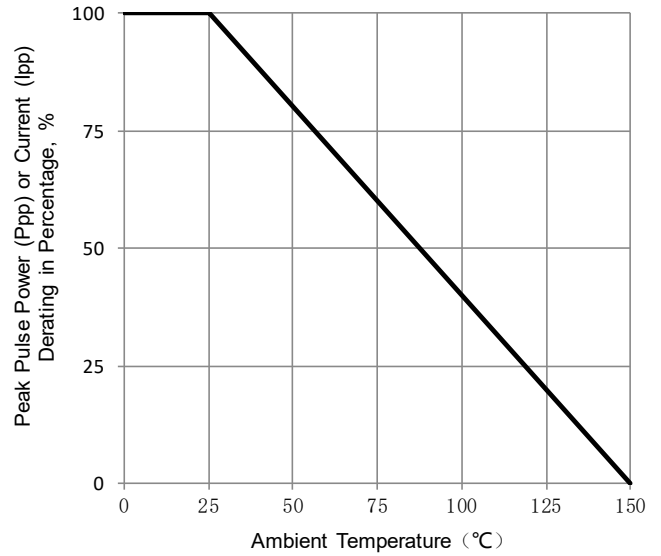


Fig.2 - Pulse Power vs Ambient Temperature

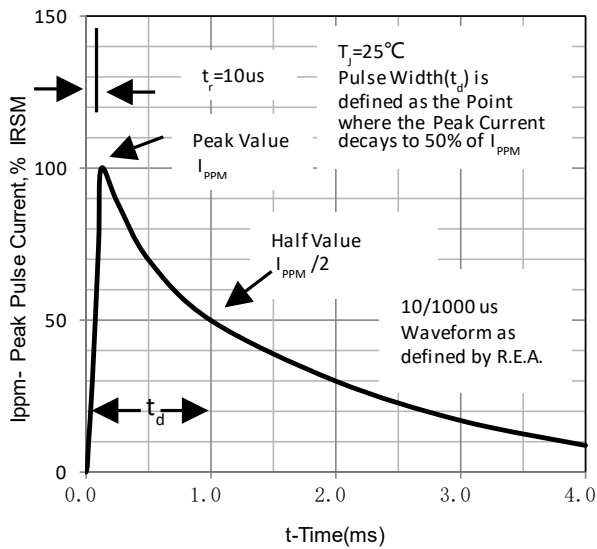


Fig.3 - Pulse Waveform



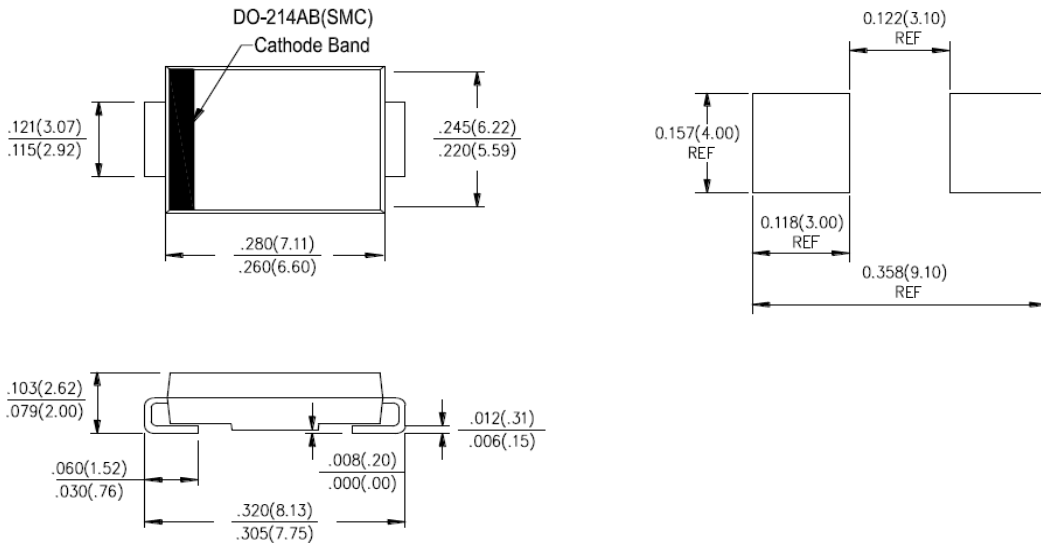
Fig.4 - Maximum Non-Repetitive Surge Current

Package Outline Dimensions

in inches (millimeters)

SMC (DO-214AB)

Mounting Pad Layout



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.15	Released Datasheet
Rev.B	2023.10.23	Modify document format
Rev.C	2023.12.18	Update product range

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