

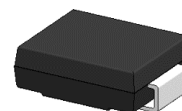
## 3000W,10 - 200V Transient Voltage Suppressors

### 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
- 3000 W peak pulse power capability with a 10/1000  $\mu$ s waveform



**RoHS**  
COMPLIANT



SMC (DO-214AB)

### Applications

- SMPS
- Adapters
- Monitor

<b>Absolute Maximum Ratings</b> ( $T_A=25^\circ\text{C}$ unless otherwise noted)			
Parameter	Symbol	Ratings	Unit
Peak power dissipation with a 10/1000us waveform	$P_{PPM}$	3000	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	$I_{FSM}$	250	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 IT (mA)	Stand off Voltage VWM (Volts)	Maximum reverse leakage at VWM ID (µA)	Maximum Peak Pulse Current IPPM (A)	Maximum Clamping Voltage at IPPM Vc(Volts)
		UNI	BI	Min	Max					
3.0SMCJ11A	3.0SMCJ11CA	HDZ	IDZ	12.2	13.5	1.0	11	5.0	165.0	18.2
3.0SMCJ12A	3.0SMCJ12CA	HEE	IEE	13.3	14.7	1.0	12	5.0	150.6	19.9
3.0SMCJ13A	3.0SMCJ13CA	HEG	IEG	14.4	15.9	1.0	13	5.0	139.4	21.5
3.0SMCJ14A	3.0SMCJ14CA	HEK	IEK	15.6	17.2	1.0	14	5.0	129.4	23.2
3.0SMCJ15A	3.0SMCJ15CA	HEM	IEM	16.7	18.5	1.0	15	5.0	123.0	24.4
3.0SMCJ16A	3.0SMCJ16CA	HEP	IEP	17.8	19.7	1.0	16	5.0	115.4	26.0
3.0SMCJ17A	3.0SMCJ17CA	HER	IER	18.9	20.9	1.0	17	5.0	106.6	27.6
3.0SMCJ18A	3.0SMCJ18CA	HET	IET	20.0	22.1	1.0	18	5.0	102.8	29.2
3.0SMCJ20A	3.0SMCJ20CA	HEV	IEV	22.2	24.5	1.0	20	5.0	92.6	32.4
3.0SMCJ22A	3.0SMCJ22CA	HEX	IEX	24.4	26.9	1.0	22	5.0	84.4	35.5
3.0SMCJ24A	3.0SMCJ24CA	HEZ	IEZ	26.7	29.5	1.0	24	5.0	77.2	38.9
3.0SMCJ26A	3.0SMCJ26CA	HFE	IFE	28.9	31.9	1.0	26	5.0	71.2	42.1
3.0SMCJ28A	3.0SMCJ28CA	HFG	IFG	31.1	34.4	1.0	28	5.0	66.0	45.4
3.0SMCJ30A	3.0SMCJ30CA	HFK	IFK	33.3	36.8	1.0	30	5.0	62.0	48.4
3.0SMCJ33A	3.0SMCJ33CA	HFM	IFM	36.7	40.6	1.0	33	5.0	56.2	53.3
3.0SMCJ36A	3.0SMCJ36CA	HFP	IFP	40.0	44.4	1.0	36	5.0	51.6	58.1
3.0SMCJ40A	3.0SMCJ40CA	HFR	IFR	44.4	49.1	1.0	40	5.0	46.4	64.5
3.0SMCJ43A	3.0SMCJ43CA	HFT	IFT	47.8	52.8	1.0	43	5.0	43.2	69.4
3.0SMCJ45A	3.0SMCJ45CA	HFV	IFV	50.0	55.3	1.0	45	5.0	41.2	72.7
3.0SMCJ48A	3.0SMCJ48CA	HFX	IFX	53.3	58.9	1.0	48	5.0	38.8	77.4
3.0SMCJ51A	3.0SMCJ51CA	HFZ	IFZ	56.7	62.7	1.0	51	5.0	36.4	82.4
3.0SMCJ54A	3.0SMCJ54CA	HGE	IGE	60.0	66.3	1.0	54	5.0	34.4	87.1
3.0SMCJ58A	3.0SMCJ58CA	HGG	IGG	64.4	71.2	1.0	58	5.0	32.1	93.6
3.0SMCJ60A	3.0SMCJ60CA	HGK	IGK	66.7	73.7	1.0	60	5.0	31.0	96.8
3.0SMCJ64A	3.0SMCJ64CA	HGM	IGM	71.1	78.6	1.0	64	5.0	29.2	103
3.0SMCJ70A	3.0SMCJ70CA	HGP	IGP	77.8	86.0	1.0	70	5.0	26.8	113
3.0SMCJ75A	3.0SMCJ75CA	HGR	IGR	83.3	92.1	1.0	75	5.0	24.8	121
3.0SMCJ78A	3.0SMCJ78CA	HGT	IGT	86.7	95.8	1.0	78	5.0	22.8	126
3.0SMCJ85A	3.0SMCJ85CA	HGV	IGV	94.4	104	1.0	85	5.0	20.8	137
3.0SMCJ90A	3.0SMCJ90CA	HGX	IGX	100	111	1.0	90	5.0	20.6	146
3.0SMCJ100A	3.0SMCJ100CA	HGZ	IGZ	111	123	1.0	100	5.0	18.6	162
3.0SMCJ110A	3.0SMCJ110CA	HHE	IHE	122	135	1.0	110	5.0	16.8	177
3.0SMCJ120A	3.0SMCJ120CA	HHG	IHG	133	147	1.0	120	5.0	15.6	193

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

Part Number (Uni)	Part Number (Bi)	Marking		Breakdown Voltage VBR (Volts)		Test Current IT (mA)	Stand off Voltage VWM (Volts)	Maximum reverse leakage at VWM ID (µA)	Maximum Peak Pulse Current IPPM (A)	Maximum Clamping Voltage at IPPM VC(Volts)
		UNI	BI	Min	Max					
3.0SMCJ130A	3.0SMCJ130CA	HHK	IHK	144	159	1.0	130	5.0	14.4	209
3.0SMCJ150A	3.0SMCJ150CA	HHM	IHM	167	185	1.0	150	5.0	12.4	243
3.0SMCJ160A	3.0SMCJ160CA	HHP	IHP	178	197	1.0	160	5.0	11.6	259
3.0SMCJ170A	3.0SMCJ170CA	HHR	IHR	189	209	1.0	170	5.0	11.0	275
3.0SMCJ180A	3.0SMCJ180CA	HHT	IHT	200	220	1.0	180	5.0	10.3	292
3.0SMCJ190A	3.0SMCJ190CA	HHV	IHV	211	232	1.0	190	5.0	9.7	308
3.0SMCJ200A	3.0SMCJ200CA	HHX	IHX	224	247	1.0	200	5.0	9.3	324

Note:

1. The thermal resistance from junction to ambient, case or lead, mounted on P.C.B with 8x8mm copper pads

## Ratings and Characteristics Curves

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

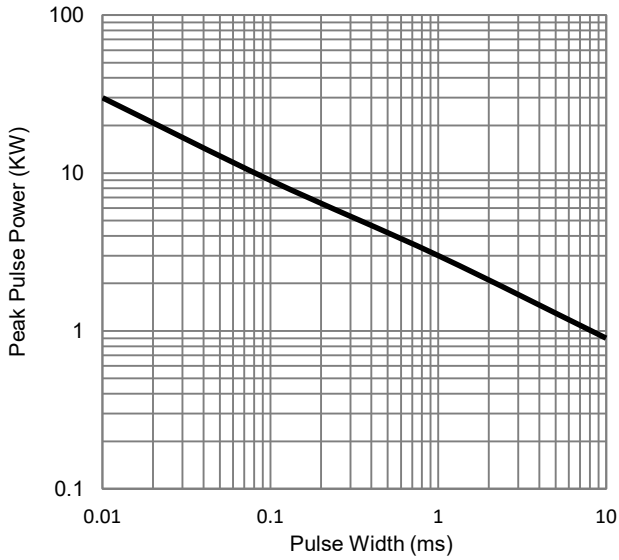


Fig.1 - Peak Pulse Power Derating Curve

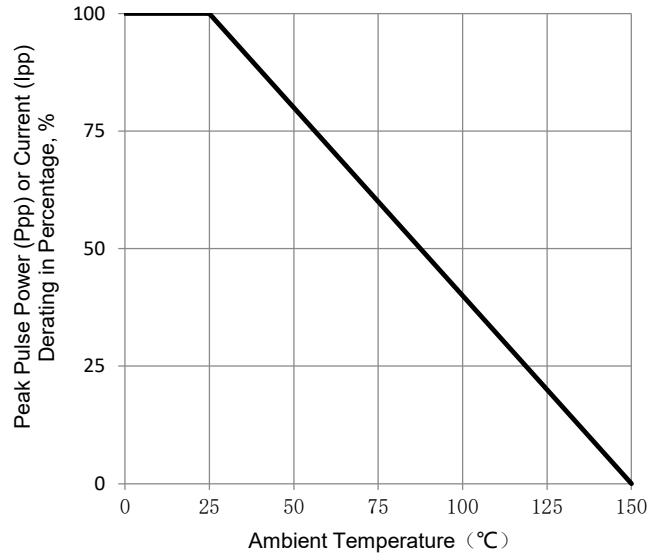


Fig.2 - Pulse Power vs Ambient Temperature

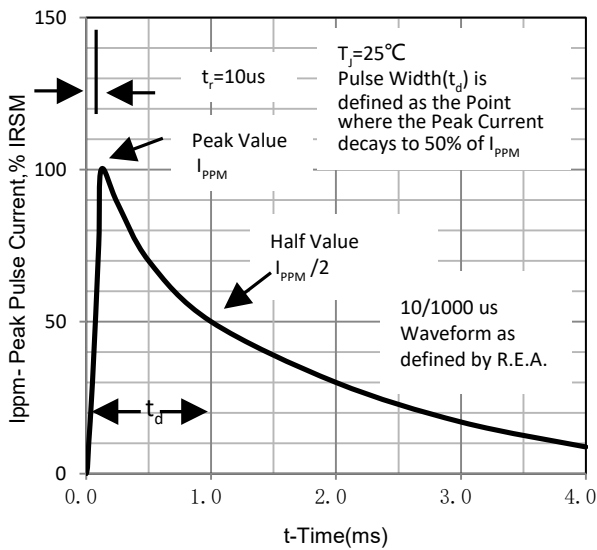


Fig.3 - Pulse Waveform

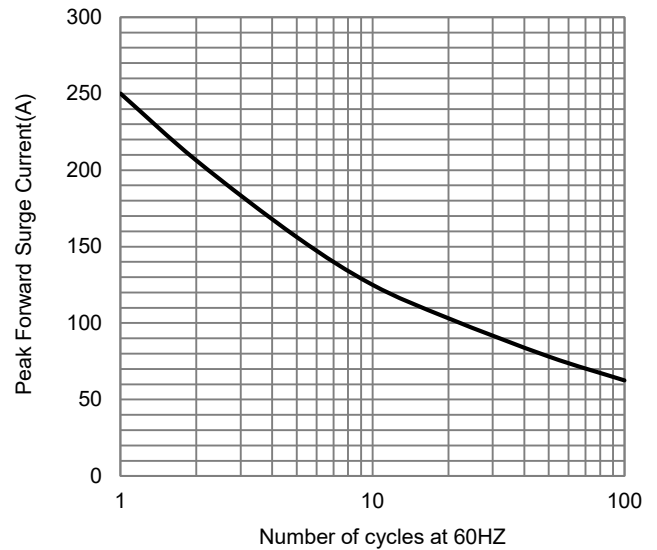
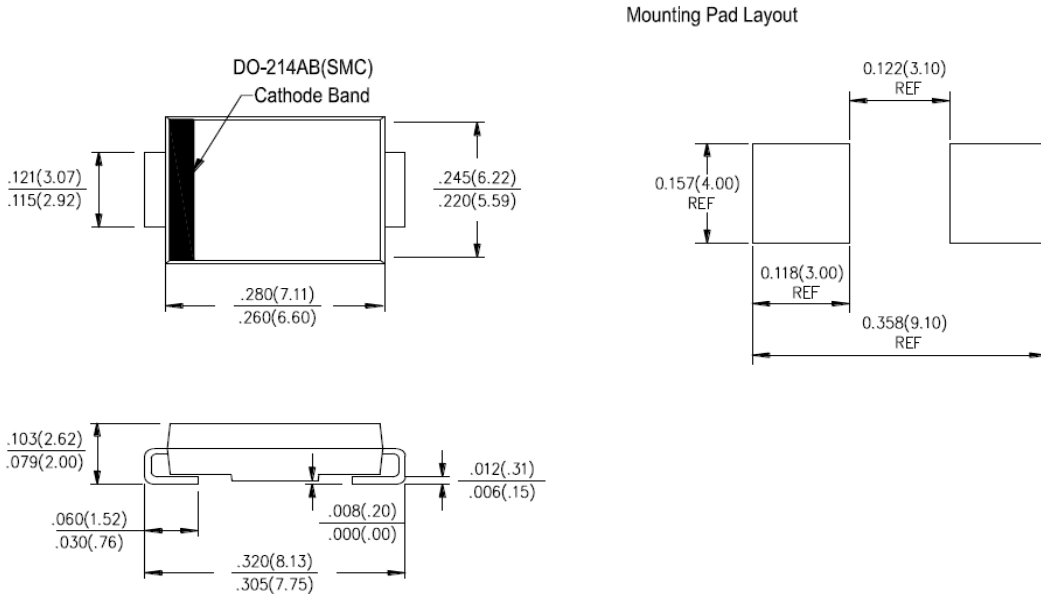


Fig.4 - Maximum Non-Repetitive Surge Current

## Package Outline Dimensions

in inches (millimeters)

### SMC (DO-214AB)



## 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
Rev.D	2024.04.12	Update product range to 3.0SMCJ200CA



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