

A3.0SMCJ SERIES

SURFACE MOUNT UNIDIRECTIONAL AND BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSORS

STAND-OFF VOLTAGE - 5.0 to 75 Volts POWER DISSIPATION -3000 Watts

FEATURES

- For surface mounted applications
- Reliable low cost construction utilizing molded plastic technique
- Typical IR less than 2uA above 10V
- Fast response time: typically less than 1.0ns for Uni-direction less than 5.0ns for Bi-direction form 0 Volts to BV min
- AEC-Q101 qualified
- PPAP capable
- Automotive grade
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

MECHANICAL DATA

- Package: Molded plastic
- Package Material: Molding compound, UL Flammability classification 94V-0, (No Br. Sb. Cl.) "Halogen-free"
- Polarity: by cathode band denotes uni-directional device none cathode band denotes bi-directional device
- Moisture Sensitivity: Max Soldering Temperature +260°C for 30 secs as per JEDEC J-STD-020
- Terminals: Finish- Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 ③
- Weight: 0.007 ounces, 0.21 gram (Approximate)

SMC

SMC		
DIM.	MIN.	MAX.
A	6.60	7.11
B	5.59	6.22
C	2.92	3.18
D	0.15	0.31
E	7.75	8.13
F	0.05	0.20
G	2.01	2.40
H	0.76	1.52

All Dimensions in millimeter

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power at T _J =25°C, T _p =1ms (Note 4)	P _{PK}	3000	W
Peak Forward Surge Current 8.3ms single half sine-wave@T _J =25°C (Note 5)	I _{FSM}	300	A
Steady State Power Dissipation at T _L =120°C lead lengths 0.375"(9.5mm), see fig.6	P _{M(AV)}	2.0	W
Operating Temperature Range	T _J	-55 to +175	°C
Storage Temperature Range	T _{STG}	-55 to +175	°C

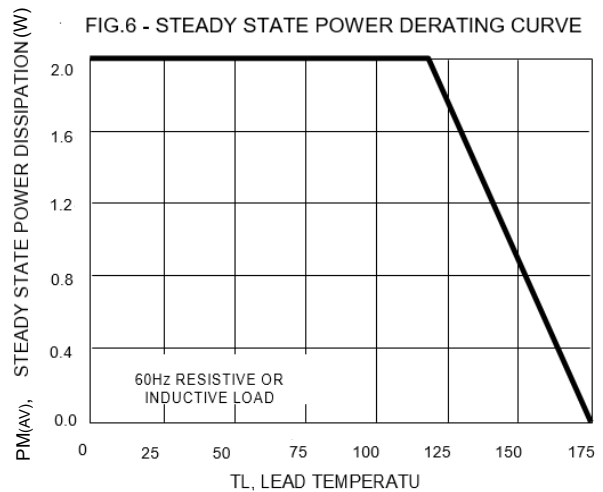
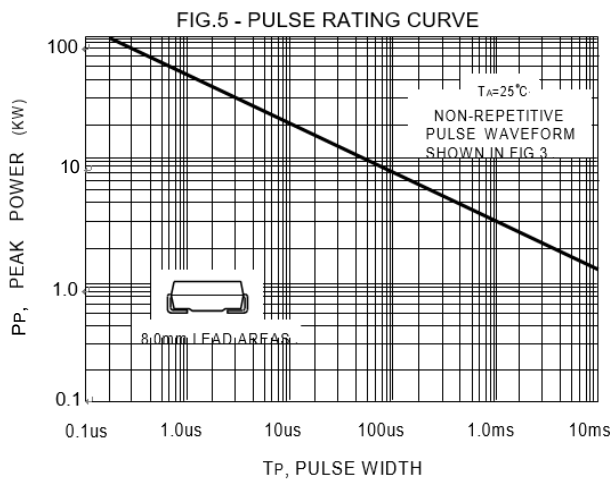
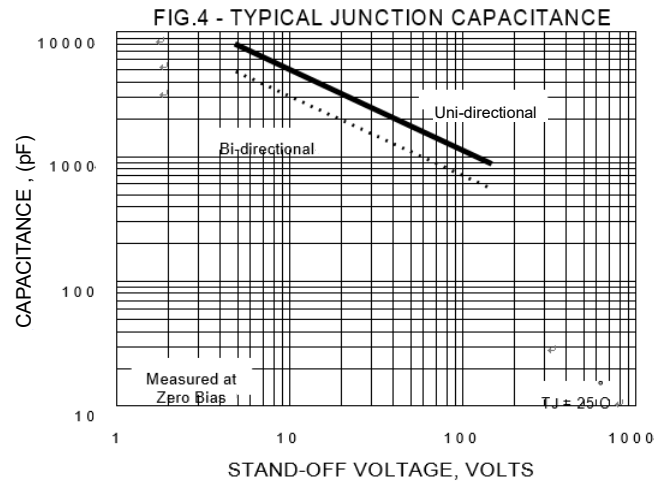
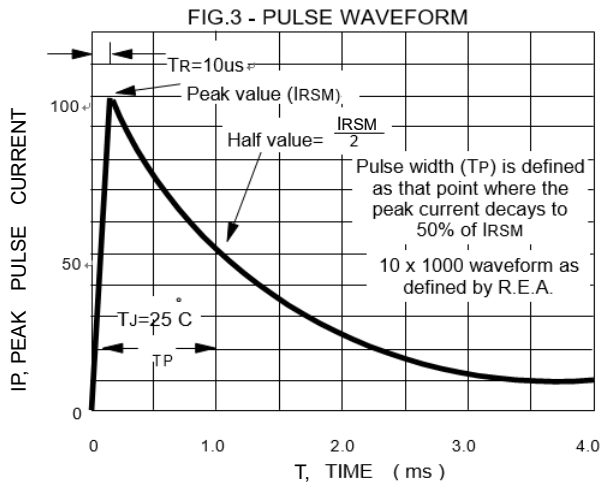
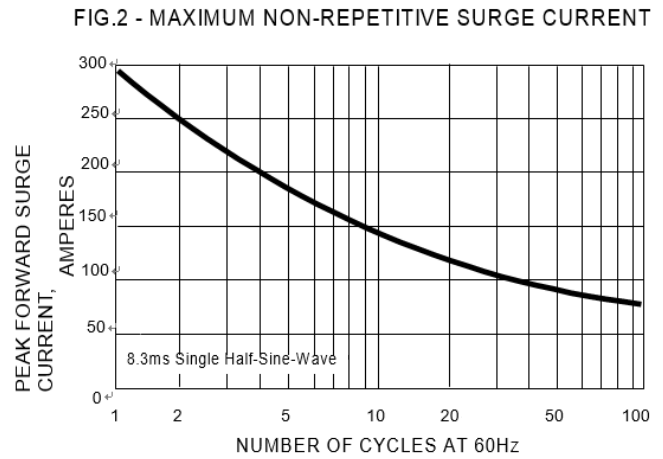
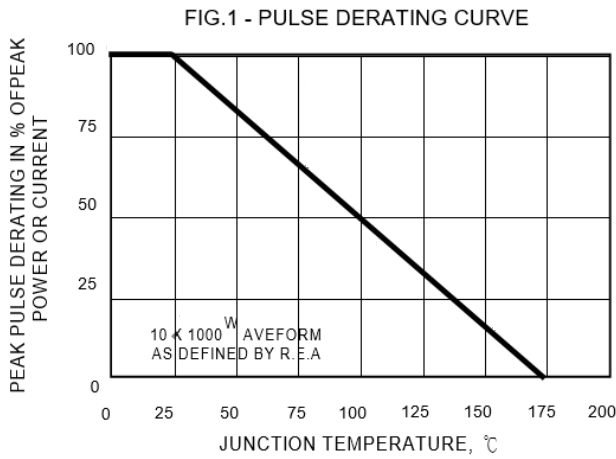
- Notes:**
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. Non-repetitive current pulse, per Fig. 3 and derated above T_J = 25°C per Fig.1.
 5. Only for unidirectional units.

ELECTRICAL CHARACTERISTICS

Device Uni- Directional	Device Bi- Directional	Device Marking Code		Reverse Standoff Voltage	Breakdown Voltage VBR Volts			Max. Peak Pulse Current	Max. Clamping Voltage @Ipp	Max. Peak Pulse Current
		(UNI)	(BI)		Min (V)	Max (V)	It (mA)			
A3.0SMCJ5.0A	A3.0SMCJ5.0CA	AHDE	AIDE	5.0.	6.40	7.07	10	1000.0	9.2	326.1
A3.0SMCJ6.0A	A3.0SMCJ6.0CA	AHDG	AIDG	6.0	6.67	7.37	10	1000.0	10.3	291.3
A3.0SMCJ6.5A	A3.0SMCJ6.5CA	AHDK	AIDK	6.5	7.22	7.98	10	500.0	11.2	267.9
A3.0SMCJ7.0A	A3.0SMCJ7.0CA	AHDM	AIDM	7.0	7.78	8.60	10	200.0	12.0	250.0
A3.0SMCJ7.5A	A3.0SMCJ7.5CA	AHDP	AIDP	7.5	8.33	9.21	1	100.0	12.9	232.6
A3.0SMCJ8.0A	A3.0SMCJ8.0CA	AHDR	AIDR	8.0	8.89	9.83	1	50.0	13.6	220.6
A3.0SMCJ8.5A	A3.0SMCJ8.5CA	AHDT	AIDT	8.5	9.44	10.43	1	25.0	14.4	208.3
A3.0SMCJ9.0A	A3.0SMCJ9.0CA	AHDV	AIDV	9.0	10.0	11.05	1	10.0	15.4	194.8
A3.0SMCJ10A	A3.0SMCJ10CA	AHDX	AIDX	10.0	11.1	12.27	1	2.0	17.0	176.5
A3.0SMCJ11A	A3.0SMCJ11CA	AHDZ	AIDZ	11.0	12.2	13.5	1	2.0	18.2	164.8
A3.0SMCJ12A	A3.0SMCJ12CA	AHEE	AIEE	12.0	13.3	14.7	1	2.0	19.9	150.8
A3.0SMCJ13A	A3.0SMCJ13CA	AHEG	AIEG	13.0	14.4	15.9	1	2.0	21.5	139.5
A3.0SMCJ14A	A3.0SMCJ14CA	AHEK	AIEK	14.0	15.6	17.2	1	2.0	23.2	129.3
A3.0SMCJ15A	A3.0SMCJ15CA	AHEM	AIEM	15.0	16.7	18.5	1	2.0	24.2	124.0
A3.0SMCJ16A	A3.0SMCJ16CA	AHEP	AIEP	16.0	17.8	19.7	1	2.0	26.0	115.4
A3.0SMCJ17A	A3.0SMCJ17CA	AHER	AIER	17.0	18.9	20.9	1	2.0	27.6	108.7
A3.0SMCJ18A	A3.0SMCJ18CA	AHET	AIET	18.0	20.0	22.1	1	2.0	29.2	102.7
A3.0SMCJ20A	A3.0SMCJ20CA	AHEV	AIEV	20.0	22.2	24.5	1	2.0	32.4	92.6
A3.0SMCJ22A	A3.0SMCJ22CA	AHEX	AIEX	22.0	24.4	27.0	1	2.0	35.5	84.5
A3.0SMCJ24A	A3.0SMCJ24CA	AHEZ	AIEZ	24.0	26.7	29.5	1	2.0	38.9	77.1
A3.0SMCJ26A	A3.0SMCJ26CA	AHFE	AIFE	26.0	28.9	31.9	1	2.0	42.1	71.3
A3.0SMCJ28A	A3.0SMCJ28CA	AHFG	AIFG	28.0	31.1	34.4	1	2.0	45.4	66.1
A3.0SMCJ30A	A3.0SMCJ30CA	AHFK	AIFK	30.0	33.3	36.8	1	2.0	48.4	62.0
A3.0SMCJ33A	A3.0SMCJ33CA	AHFM	AIFM	33.0	36.7	40.6	1	2.0	53.3	56.3
A3.0SMCJ36A	A3.0SMCJ36CA	AHFP	AIFP	36.0	40.0	44.2	1	2.0	58.1	51.6
A3.0SMCJ40A	A3.0SMCJ40CA	AHFR	AIFR	40.0	44.4	49.1	1	2.0	64.5	46.5
A3.0SMCJ43A	A3.0SMCJ43CA	AHFT	AIFT	43.0	47.8	52.8	1	2.0	69.4	43.2
A3.0SMCJ45A	A3.0SMCJ45CA	AHFV	AIFV	45.0	50.0	55.3	1	2.0	72.7	41.3
A3.0SMCJ48A	A3.0SMCJ48CA	AHFX	AIFX	48.0	53.3	58.9	1	2.0	77.4	38.8
A3.0SMCJ51A	A3.0SMCJ51CA	AHFZ	AIFZ	51.0	56.7	62.7	1	2.0	82.4	36.4
A3.0SMCJ54A	A3.0SMCJ54CA	AHGE	AIGE	54.0	60.0	66.3	1	2.0	87.1	34.4
A3.0SMCJ58A	A3.0SMCJ58CA	AHGG	AIGG	58.0	64.4	71.2	1	2.0	93.6	32.1
A3.0SMCJ60A	A3.0SMCJ60CA	AHGK	AIGK	60.0	66.7	73.7	1	2.0	96.8	31.0
A3.0SMCJ64A	A3.0SMCJ64CA	AHGM	AIGM	64.0	71.1	78.6	1	2.0	103.0	29.1
A3.0SMCJ70A	A3.0SMCJ70CA	AHGP	AIGP	70.0	77.8	86.0	1	2.0	113.0	26.5
A3.0SMCJ75A	A3.0SMCJ75CA	AHGR	AIGR	75.0	83.3	92.1	1	2.0	121.0	24.8

Note: 1. The IR limit is double for Bi-Directional devices.

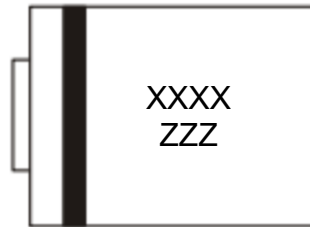
RATING AND CHARACTERISTIC CURVES
A3.0SMCJ SERIES



Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
A3.0SMCJ SERIES	SMC	3000pcs	Reel

Marking Information :



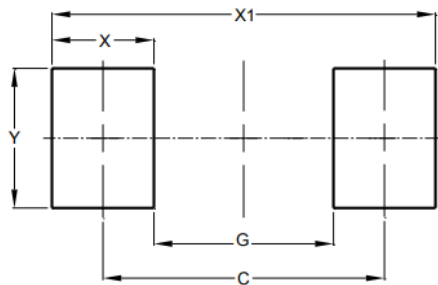
XXXX : Assembly Tracing code
ZZZ : Product Type Marking code
Bar Denotes Cathode Side

Packaging Information :

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
A3.0SMCXXXXA A3.0SMCXXXCA	3000	13	6K	36K

Suggested Pad Layout :

SMC



Dimensions	Value (in mm)
C	6.90
G	4.40
X	2.50
X1	9.40
Y	3.30

Note: The suggested land pattern dimensions have been provided for reference only, as actual pad layouts may vary depending on application. These dimensions may be modified based on user equipment capability or fabrication criteria. A more robust pattern may be desired for wave soldering and is calculated by adding 0.2 mm to the 'Z' dimension. For further information, please reference document IPC-7351A, Naming Convention for Standard SMT Land Patterns, and for International grid details, please see document IEC, Publication 97.

Note: For high voltage applications, the appropriate industry sector guidelines should be considered with regards to creepage and clearance distances between device Terminals and PCB tracking.

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