ASMCJ SERIES

SURFACE MOUNT UNIDIRECTIONAL AND BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSORS

REVERSE VOLTAGE - 5.0 to 75 Volts
POWER DISSIPATION - 1500 Watts

FEATURES

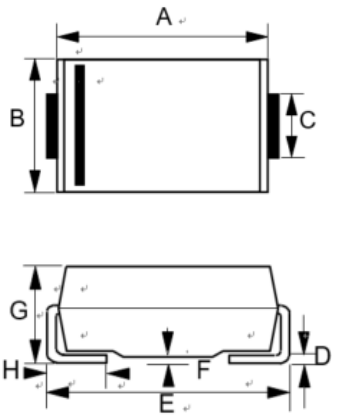
AUTOMOTIVE

- For surface mounted applications
- Reliable low cost construction utilizing molded plastic technique
- Typical IR less than 1uA 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 JEDECJ-STD-020
- Terminals: Finish Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 e3
- 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 POWER DISSIPATION AT TA = 25 C, TP = 1ms (Note 4)	P_{PK}	1500	W
Peak Forward Surge Current 8.3ms single half sine-wave @Tj=25℃ (Note 5)	I_{FSM}	200	A
Steady State Power Dissipation with PCB	$P_{M(AV)}$	2.0	W
Maximum Instantaneous forward voltage at 16A (Notes 5, 6)	V_F	2.0	V
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. 5 and derated above TA= 25℃ per fig.1.
5. Only for uni-directional units.
6. VF max=2.0V at IF=16 A 300us square wave pulse.

ELECTRICAL CHARACTERISTICS

Device Uni-Directional	Device Bi- Directional	Device Marking Code		Reverse Standoff Voltage	Breakdown Voltage VBR Volts			Max. Clamping Voltage @Ipp	Max. Peak Pulse Current	Max. Reverse Leakage @ VR
		(UNI)	(BI)	VR (V)	Min.	Max.	@It (mA)	VC (V)	IPP (A)	IR (uA)
ASMCJ5.0A	ASMCJ5.0CA	AGDE	ABDE	5.0	6.40	7.07	10	9.2	163.0	1000
ASMCJ6.0A	ASMCJ6.0CA	AGDG	ABDG	6.0	6.67	7.37	10	10.3	145.6	1000
ASMCJ6.5A	ASMCJ6.5CA	AGDK	ABDK	6.5	7.22	7.98	10	11.2	133.9	500
ASMCJ7.0A	ASMCJ7.0CA	AGDM	ABDM	7.0	7.78	8.60	10	12.0	125.0	200
ASMCJ7.5A	ASMCJ7.5CA	AGDP	ABDP	7.5	8.33	9.21	1.0	12.9	116.3	100
ASMCJ8.0A	ASMCJ8.0CA	AGDR	ABDR	8.0	8.89	9.83	1.0	13.6	110.3	50.0
ASMCJ8.5A	ASMCJ8.5CA	AGDT	ABDT	8.5	9.44	10.43	1.0	14.4	104.2	20.0
ASMCJ9.0A	ASMCJ9.0CA	AGDV	ABDV	9.0	10.0	11.1	1.0	15.4	97.4	10.0
ASMCJ10A	ASMCJ10CA	AGDX	ABDX	10	11.1	12.3	1.0	17.0	88.2	5.0
ASMCJ11A	ASMCJ11CA	AGDZ	ABDZ	11	12.2	13.5	1.0	18.2	82.4	0.5
ASMCJ12A	ASMCJ12CA	AGEE	ABEE	12	13.3	14.7	1.0	19.9	75.3	0.5
ASMCJ13A	ASMCJ13CA	AGEG	ABEG	13	14.4	15.9	1.0	21.5	69.7	0.5
ASMCJ14A	ASMCJ14CA	AGEK	ABEK	14	15.6	17.2	1.0	23.2	64.7	0.5
ASMCJ15A	ASMCJ15CA	AGEM	ABEM	15	16.7	18.5	1.0	24.4	61.5	0.5
ASMCJ16A	ASMCJ16CA	AGEP	ABEP	16	17.8	19.7	1.0	26.0	57.7	0.5
ASMCJ17A	ASMCJ17CA	AGER	ABER	17	18.9	20.9	1.0	27.6	53.3	0.5
ASMCJ18A	ASMCJ18CA	AGET	ABET	18	20.0	22.1	1.0	29.2	51.4	0.5
ASMCJ20A	ASMCJ20CA	AGEV	ABEV	20	22.2	24.5	1.0	32.4	46.3	0.5
ASMCJ22A	ASMCJ22CA	AGEX	ABEX	22	24.4	27.0	1.0	35.5	42.2	0.5
ASMCJ24A	ASMCJ24CA	AGEZ	ABEZ	24	26.7	29.5	1.0	38.9	38.6	0.5
ASMCJ26A	ASMCJ26CA	AGFE	ABFE	26	28.9	31.9	1.0	42.1	35.6	0.5
ASMCJ28A	ASMCJ28CA	AGFG	ABFG	28	31.1	34.4	1.0	45.4	33.0	0.5
ASMCJ30A	ASMCJ30CA	AGFK	ABFK	30	33.3	36.8	1.0	48.4	31.0	0.5
ASMCJ33A	ASMCJ33CA	AGFM	ABFM	33	36.7	40.6	1.0	53.3	28.1	0.5
ASMCJ33A	ASMCJ33CAC	AGFM	ABFMC	33	36.7	40.6	1.0	53.3	28.1	0.5
ASMCJ36A	ASMCJ36CA	AGFP	ABFP	36	40.0	44.2	1.0	58.1	25.8	0.5
ASMCJ40A	ASMCJ40CA	AGFR	ABFR	40	44.4	49.1	1.0	64.5	23.3	0.5
ASMCJ43A	ASMCJ43CA	AGFT	ABFT	43	47.8	52.8	1.0	69.4	21.6	0.5
ASMCJ45A	ASMCJ45CA	AGFV	ABFV	45	50.0	55.3	1.0	72.7	20.6	0.5
ASMCJ48A	ASMCJ48CA	AGFX	ABFX	48	53.3	58.9	1.0	77.4	19.4	0.5
ASMCJ51A	ASMCJ51CA	AGFZ	ABFZ	51	56.7	62.7	1.0	82.4	18.2	0.5
ASMCJ54A	ASMCJ54CA	AGGE	ABGE	54	60.0	66.3	1.0	87.1	17.2	0.5
ASMCJ58A	ASMCJ58CA	AGGG	ABGG	58	64.4	71.2	1.0	93.6	16.0	0.5
ASMCJ60A	ASMCJ60CA	AGGK	ABGK	60	66.7	73.7	1.0	96.8	15.5	0.5
ASMCJ64A	ASMCJ64CA	AGGM	ABGM	64	71.1	78.6	1.0	103	14.6	0.5
ASMCJ70A	ASMCJ70CA	AGGP	ABGP	70	77.8	86.0	1.0	113	13.3	0.5
ASMCJ75A	ASMCJ75CA	AGGR	ABGR	75	83.3	92.1	1.0	121	12.4	0.5

Notes:
Suffix 'A ' denotes 5% tolerance device.
1) Add suffix 'C 'or ' CA ' after part number to specify Bi-directional devices.
2) The IR limit is double for Bi-Directional devices.
3) ASMCJ33CA for special customer used.

RATING AND CHARACTERISTIC CURVES
ASMCJ SERIES

FIG.1 - PULSE DERATING CURVE

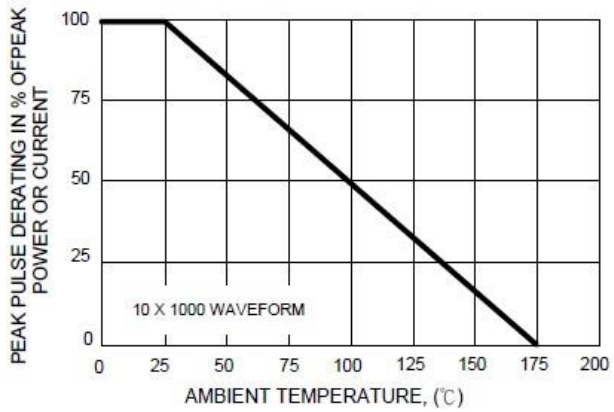


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

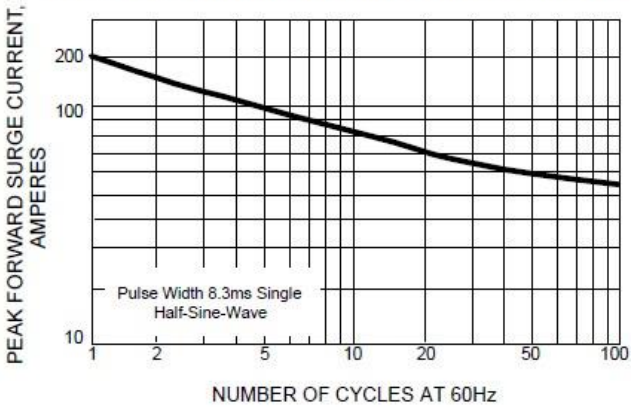


FIG.3 - PULSE WAVEFORM

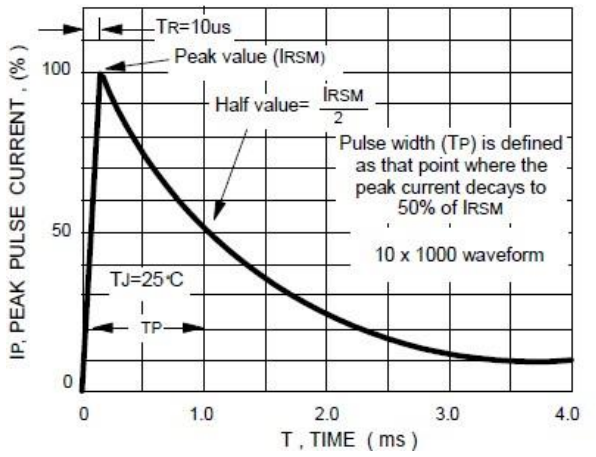


FIG.4 - TYPICAL JUNCTION CAPACITANCE

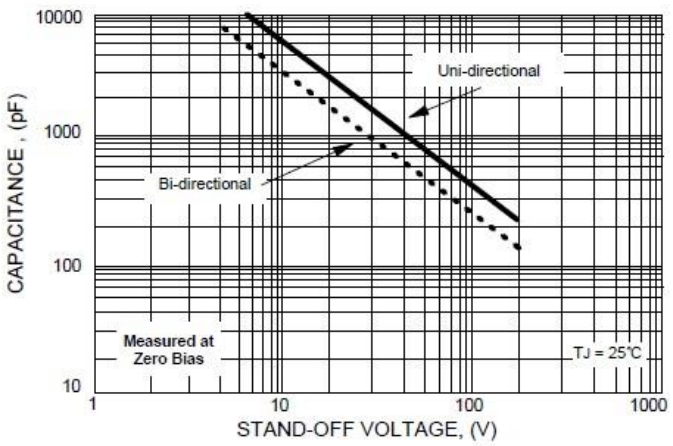


FIG.5 - PULSE RATING CURVE

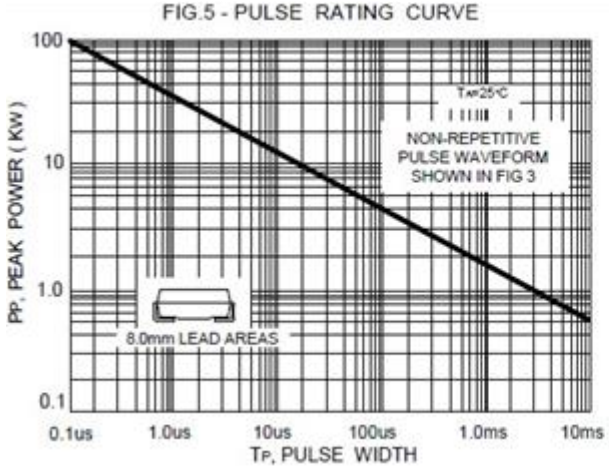
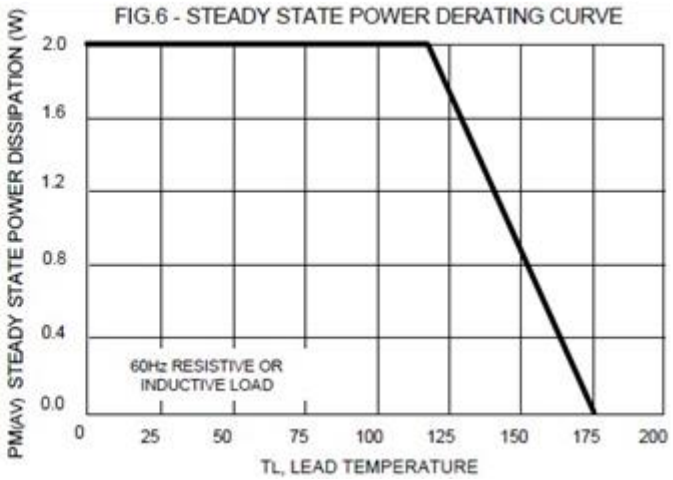


FIG.6 - STEADY STATE POWER DERATING CURVE



Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
ASMCJ SERIES	SMC	3000pcs	Reel

Marking Information :

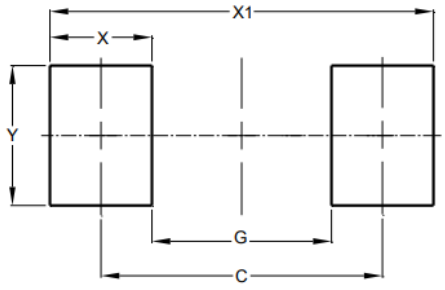
XXXX : Assembly Tracing code
ZZZ : Product Type Marking code
Bar Denotes Cathode Side

Packaging Information :

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
ASMCJXXA ASMCJXXCA	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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