ASMBJ SERIES

SURFACE MOUNT UNIDIRECTIONAL AND BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSORS

REVERSE VOLTAGE -5.0 to 75 Volts
POWER DISSIPATION -600 Watts

FEATURES

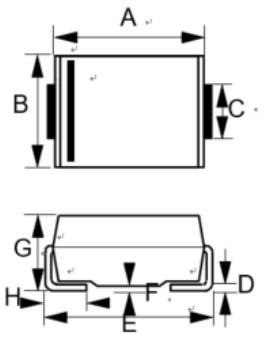
AUTOMOTIVE

- 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
- Glass Passivated Die Construction
- Automotive grade
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **The ASMBJ SERIES are suitable for automotive applications requiring specific change control; these parts are AEC-Q101 qualified, PPAP capable, and manufactured in IATF 16949 certified facilities.**
  https://www.diodes.com/quality/product-definitions/

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, non cathode band denotes bi-directional device
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 e3
- Weight: 0.003 ounces, 0.093 gram (Approximate)

SMB



SMB		
DIM.	MIN.	MAX.
A	4.06	4.57
B	3.30	3.94
C	1.96	2.21
D	0.15	0.31
E	5.21	5.59
F	0.05	0.20
G	2.01	2.50
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}	600	W
Peak Forward Surge Current 8.3ms single half sine-wave@Tj=25°C (Note 5)	I_{FSM}	90	A
Steady State Power Dissipation with PCB	$P_{M(AV)}$	1.5	W
Maximum Instantaneous forward voltage at 16A (Notes 5, 6)	V_F	2.5	V
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JC}$	90 25	°C/W
Operating Temperature Range	T_J	-55 to +175	°C
Storage Temperature Range	T_{STG}	-55 to +175	°C

Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
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 TJ= 25℃ per fig.1.
5. Only for uni-directional units.
6. VF max=2.5V at IF=16A 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)
ASMBJ5.0A	ASMBJ5.0CA	AKE	AAE	5.0	6.40	7.07	10	9.2	65.2	800
ASMBJ6.0A	ASMBJ6.0CA	AKG	AAG	6.0	6.67	7.37	10	10.3	58.3	800
ASMBJ6.5A	ASMBJ6.5CA	AKK	AAK	6.5	7.22	7.98	10	11.2	53.6	500
ASMBJ7.0A	ASMBJ7.0CA	AKM	AAM	7.0	7.78	8.60	1.0	12.0	50.0	200
ASMBJ7.5A	ASMBJ7.5CA	AKP	AAP	7.5	8.33	9.21	1.0	12.9	46.5	100
ASMBJ8.0A	ASMBJ8.0CA	AKR	AAR	8.0	8.89	9.83	1.0	13.6	44.1	50.0
ASMBJ8.5A	ASMBJ8.5CA	AKT	AAR	8.5	9.44	10.4	1.0	14.4	41.7	20.0
ASMBJ9.0A	ASMBJ9.0CA	AKV	AAV	9.0	10.0	11.1	1.0	15.4	39.0	10.0
ASMBJ10A	ASMBJ10CA	AKX	AAX	10.0	11.1	12.3	1.0	17.0	35.3	0.5
ASMBJ11A	ASMBJ11CA	AKZ	AAZ	11.0	12.2	13.5	1.0	18.2	33.0	0.5
ASMBJ12A	ASMBJ12CA	ALE	ABE	12.0	13.3	14.7	1.0	19.9	30.2	0.5
ASMBJ13A	ASMBJ13CA	ALG	ABG	13.0	14.4	15.9	1.0	21.5	27.9	0.5
ASMBJ14A	ASMBJ14CA	ALK	ABK	14.0	15.6	17.2	1.0	23.2	25.8	0.5
ASMBJ15A	ASMBJ15CA	ALM	ABM	15.0	16.7	18.5	1.0	24.4	24.0	0.5
ASMBJ16A	ASMBJ16CA	ALP	ABP	16.0	17.8	19.7	1.0	26.0	23.1	0.5
ASMBJ17A	ASMBJ17CA	ALR	ABR	17.0	18.9	20.9	1.0	27.6	21.7	0.5
ASMBJ18A	ASMBJ18CA	ALT	ABR	18.0	20.0	22.1	1.0	29.2	20.5	0.5
ASMBJ20A	ASMBJ20CA	ALV	ABV	20.0	22.2	24.5	1.0	32.4	18.5	0.5
ASMBJ22A	ASMBJ22CA	ALX	ABX	22.0	24.4	27.0	1.0	35.5	16.9	0.5
ASMBJ24A	ASMBJ24CA	ALZ	ABZ	24.0	26.7	29.5	1.0	38.9	15.4	0.5
ASMBJ26A	ASMBJ26CA	AME	ACE	26.0	28.9	31.9	1.0	42.1	14.2	0.5
ASMBJ28A	ASMBJ28CA	AMG	ACG	28.0	31.1	34.4	1.0	45.4	13.2	0.5
ASMBJ30A	ASMBJ30CA	AMK	ACK	30.0	33.3	36.8	1.0	48.4	12.4	0.5
ASMBJ33A	ASMBJ33CA	AMM	ACM	33.0	36.7	40.6	1.0	53.3	11.3	0.5
ASMBJ36A	ASMBJ36CA	AMP	ACP	36.0	40.0	44.2	1.0	58.1	10.3	0.5
ASMBJ40A	ASMBJ40CA	AMR	ACR	40.0	44.4	49.1	1.0	64.5	9.3	0.5
ASMBJ43A	ASMBJ43CA	AMT	ACR	43.0	47.8	52.8	1.0	69.4	8.6	0.5
ASMBJ45A	ASMBJ45CA	AMV	ACV	45.0	50.0	55.3	1.0	72.7	8.3	0.5
ASMBJ48A	ASMBJ48CA	AMX	ACX	48.0	53.3	58.9	1.0	77.4	7.7	0.5
ASMBJ51A	ASMBJ51CA	AMZ	ACZ	51.0	56.7	62.7	1.0	82.4	7.3	0.5
ASMBJ54A	ASMBJ54CA	ANE	ADE	54.0	60.0	66.3	1.0	87.1	6.9	0.5
ASMBJ58A	ASMBJ58CA	ANG	ADG	58.0	64.4	71.2	1.0	93.6	6.4	0.5
ASMBJ60A	ASMBJ60CA	ANK	ADK	60.0	66.7	73.7	1.0	96.8	6.2	0.5
ASMBJ61A	ASMBJ61CA	ANL	ADL	61.0	66.6	71.9	1.0	97.6	6.1	0.5
ASMBJ64A	ASMBJ64CA	ANM	ADM	64.0	71.1	78.6	1.0	103	5.8	0.5
ASMBJ70A	ASMBJ70CA	ANP	ADP	70.0	77.8	86.0	1.0	113	5.3	0.5
ASMBJ75A	ASMBJ75CA	ANR	ADR	75.0	83.3	92.1	1.0	121	4.9	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.

RATING AND CHARACTERISTIC CURVES
ASMBJ SERIES

FIG.1 - PULSE DERATING CURVE

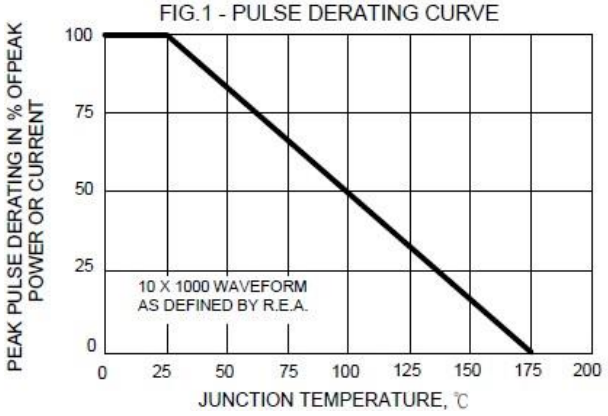


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

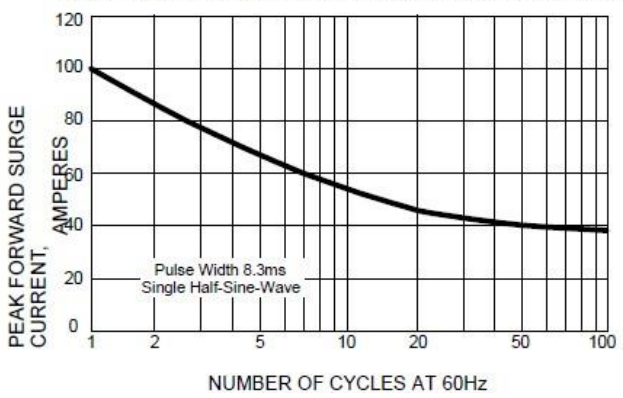


FIG.3 - PULSE WAVEFORM

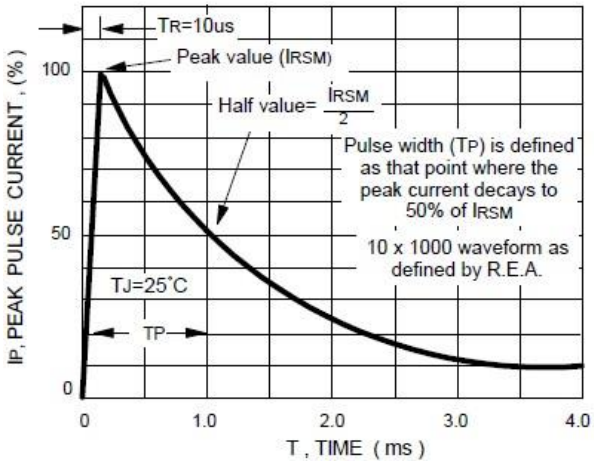


FIG.4 - TYPICAL JUNCTION CAPACITANCE

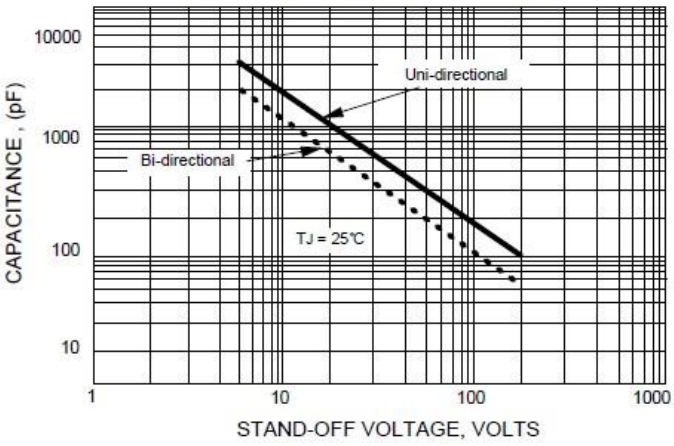


FIG.5 - PULSE RATING CURVE

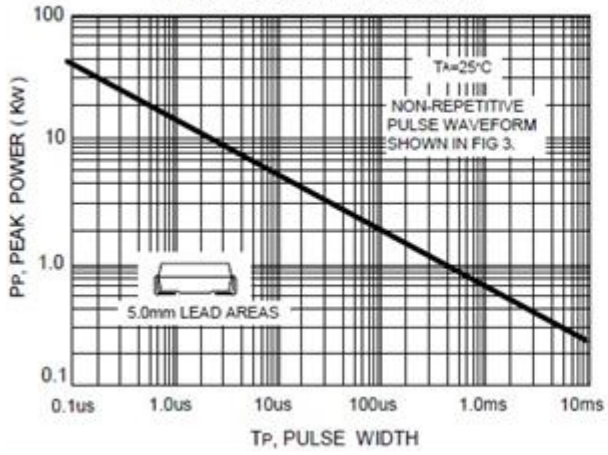
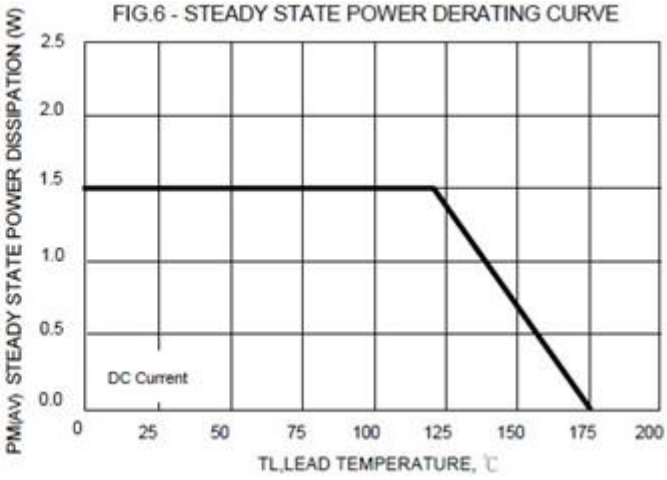


FIG.6 - STEADY STATE POWER DERATING CURVE



Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
ASMBJ SERIES	SMB	3000pcs	Reel

Marking Information :

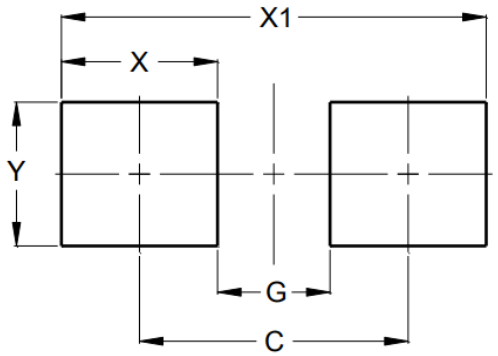
XXXX : Assembly Tracing Code
ZZZ : Product Type Marking Code
Bar Denotes Cathode Side

Packaging Information :

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
ASMBJXXA ASMBJXXCA	3000	13	6K	48K

Suggested Pad Layout :

SMB



Dimensions	Value (in mm)
C	4.30
G	1.80
X	2.50
X1	6.80
Y	2.30

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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