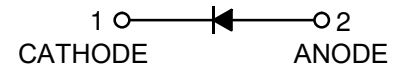
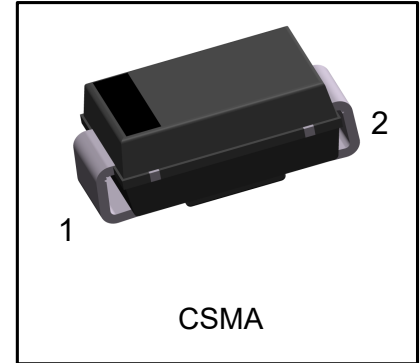


CSMAJ***A

Surface Mount Transient Voltage Suppressors
Voltage 5.0 to 250 V, 400 W Peak Pulse Power

1. FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition Rate (duty cycle):0.01%
- Fast response time: typically less than 1.0ps from 0 Volts to V(BR) for unidirectional types
- Typical IR less than 1mA above 10V
- High temperature soldering guaranteed: 260°C/10 seconds
- We declare that the material of product complies with RoHS requirements and Halogen Free.



2. MECHANICAL DATA

Case: JEDEC DO-214AC, molded plastic over glass die

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.07g

3. MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

PARAMETER	SYMBOL	VALUE	UNITS
Peak Power Dissipation at $T_A=25^\circ\text{C}$, $T_P=1\text{ms}$ (Note 1)	PPPM	Minimum 400	W
Steady State Power Dissipation at $T_L=75^\circ\text{C}$ (Note 2)	PM(AV)	1.0	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JECED Method) (Note 2)	I_{FSM}	30	A
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

NOTES:

1. Non-repetitive current pulse per Fig. 3 and derated above $T_a=25^\circ\text{C}$ Per Fig. 2
2. Mounted on Copper Leaf area of 1.57in^2 (40mm^2).
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.

4. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Uni-Directional Part Number	Device Marking	Reverse Stand-off Voltage VRWM (V)	Breakdown Voltage VBR (V) Min. @IT	Breakdown Voltage VBR (V) Max. @IT	Test Current IT (mA)	Maximum Clamping Voltage @IPP VC (V)	Peak Pulse Current Ipp (A)	Reverse Leakage @VRWM IR (uA)
CSMAJ5.0A	AE	5.00	6.40	7.00	10.00	9.20	43.50	800
CSMAJ6.0A	AG	6.00	6.67	7.37	10.00	10.30	38.80	800
CSMAJ6.5A	AK	6.50	7.22	7.98	10.00	11.20	35.70	500
CSMAJ7.0A	AM	7.00	7.78	8.60	10.00	12.00	33.30	200
CSMAJ7.5A	AP	7.50	8.33	9.21	1.00	12.90	31.00	100
CSMAJ8.0A	AR	8.00	8.89	9.83	1.00	13.60	29.40	50
CSMAJ8.5A	AT	8.50	9.44	10.40	1.00	14.40	27.80	20
CSMAJ9.0A	AV	9.00	10.00	11.10	1.00	15.40	26.00	10
CSMAJ10A	AX	10.00	11.10	12.30	1.00	17.00	23.50	1
CSMAJ11A	AZ	11.00	12.20	13.50	1.00	18.20	22.00	1
CSMAJ12A	BE	12.00	13.30	14.70	1.00	19.90	20.10	1
CSMAJ13A	BG	13.00	14.40	15.90	1.00	21.50	18.60	1
CSMAJ14A	BK	14.00	15.60	17.20	1.00	23.20	17.20	1
CSMAJ15A	BM	15.00	16.70	18.50	1.00	24.40	16.40	1
CSMAJ16A	BP	16.00	17.80	19.70	1.00	26.00	15.40	1
CSMAJ17A	BR	17.00	18.90	20.90	1.00	27.60	14.50	1
CSMAJ18A	BT	18.00	20.00	22.10	1.00	29.20	13.70	1
CSMAJ20A	BV	20.00	22.20	24.50	1.00	32.40	12.30	1
CSMAJ22A	BX	22.00	24.40	26.90	1.00	35.50	11.30	1
CSMAJ24A	BZ	24.00	26.70	29.50	1.00	38.90	10.30	1
CSMAJ26A	CE	26.00	28.90	31.90	1.00	42.10	9.50	1
CSMAJ28A	CG	28.00	31.10	34.40	1.00	45.40	8.80	1
CSMAJ30A	CK	30.00	33.30	36.80	1.00	48.40	8.30	1
CSMAJ33A	CM	33.00	36.70	40.60	1.00	53.30	7.50	1
CSMAJ36A	CP	36.00	40.00	44.20	1.00	58.10	6.90	1
CSMAJ40A	CR	40.00	44.40	49.10	1.00	64.50	6.20	1
CSMAJ43A	CT	43.00	47.80	52.80	1.00	69.40	5.80	1
CSMAJ45A	CV	45.00	50.00	55.30	1.00	72.70	5.50	1
CSMAJ48A	CX	48.00	53.30	58.90	1.00	77.40	5.20	1
CSMAJ51A	CZ	51.00	56.70	62.70	1.00	82.40	4.90	1
CSMAJ54A	RE	54.00	60.00	66.30	1.00	87.10	4.60	1
CSMAJ58A	RG	58.00	64.40	71.20	1.00	93.60	4.30	1
CSMAJ60A	RK	60.00	66.70	73.70	1.00	96.80	4.10	1
CSMAJ64A	RM	64.00	71.10	78.60	1.00	103.00	3.90	1
CSMAJ70A	RP	70.00	77.80	86.00	1.00	113.00	3.50	1
CSMAJ75A	RR	75.00	83.30	92.10	1.00	121.00	3.30	1
CSMAJ78A	RT	78.00	86.70	95.80	1.00	126.00	3.20	1
CSMAJ85A	RV	85.00	94.40	104.00	1.00	137.00	2.90	1
CSMAJ90A	RX	90.00	100.00	111.00	1.00	146.00	2.70	1
CSMAJ100A	RZ	100.00	111.00	123.00	1.00	162.00	2.50	1
CSMAJ110A	SE	110.00	122.00	135.00	1.00	177.00	2.30	1
CSMAJ120A	SG	120.00	133.00	147.00	1.00	193.00	2.10	1
CSMAJ130A	SK	130.00	144.00	159.00	1.00	209.00	1.90	1
CSMAJ150A	SM	150.00	167.00	185.00	1.00	243.00	1.60	1
CSMAJ160A	SP	160.00	178.00	197.00	1.00	259.00	1.50	1
CSMAJ170A	SR	170.00	189.00	209.00	1.00	275.00	1.50	1
CSMAJ180A	ST	180.00	198.00	221.00	1.00	291.00	1.40	1
CSMAJ190A	SV	190.00	209.00	233.00	1.00	307.00	1.30	1
CSMAJ200A	SX	200.00	220.00	246.00	1.00	324.00	1.30	1
CSMAJ220A	SY	220.00	246.00	272.00	1.00	356.00	1.20	1
CSMAJ250A	SZ	250.00	279.00	309.00	1.00	405.00	1.00	1

5. ELECTRICAL CHARACTERISTIC CURVES

Fig. 1-Peak Pulse Power Rating Curve

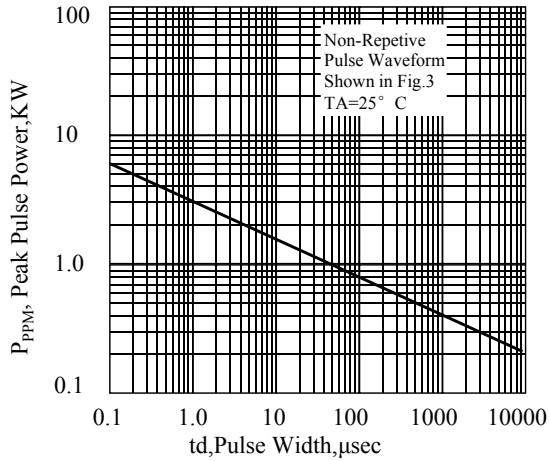


Fig. 2-Pulse Derating Curve

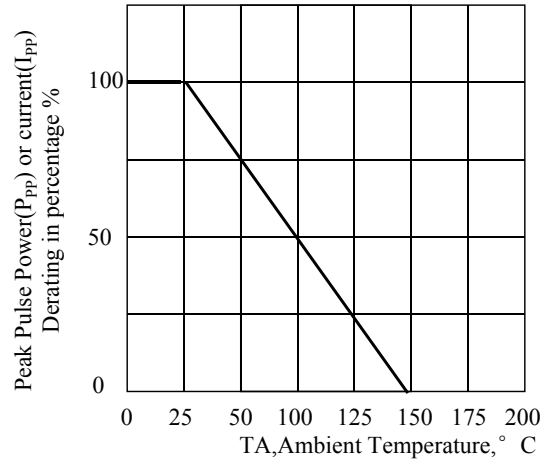


Fig. 3-Pulse Waveform

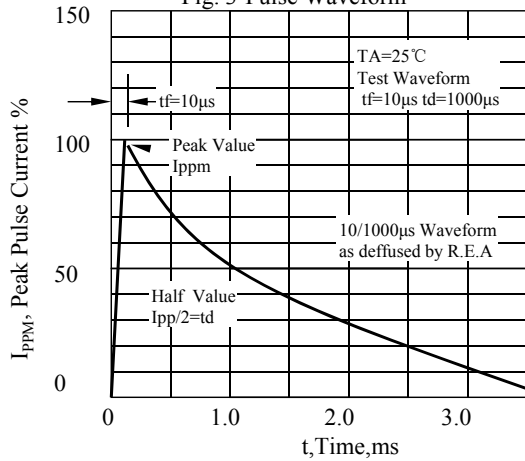


Fig. 4-Typical Junction Capacitance Unidirectional

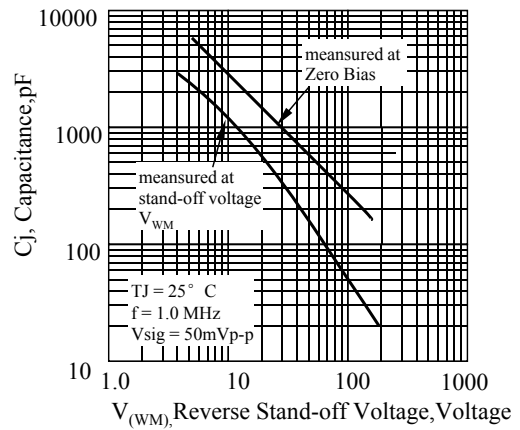


Fig 5. - typical transient thermal impedance

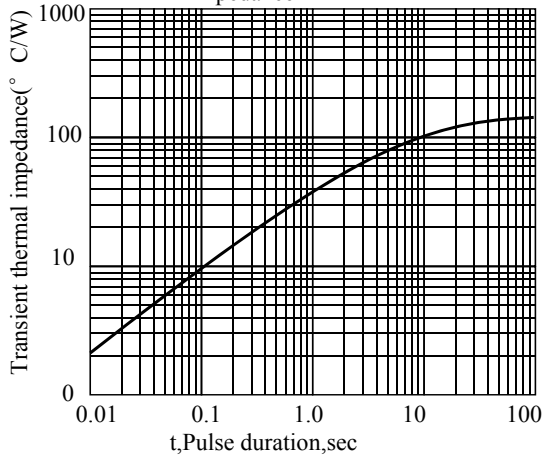
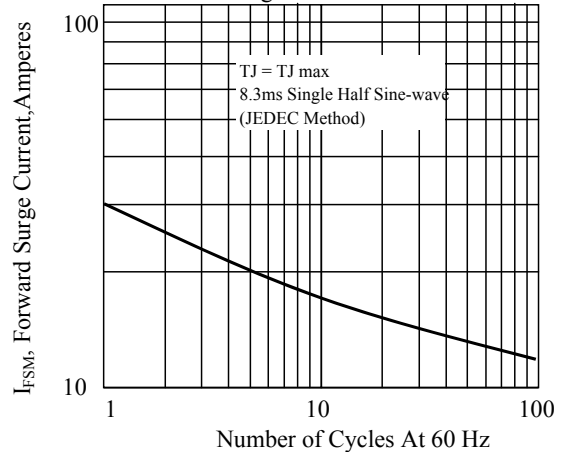
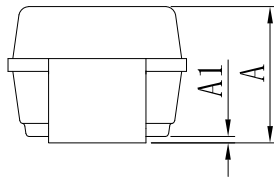
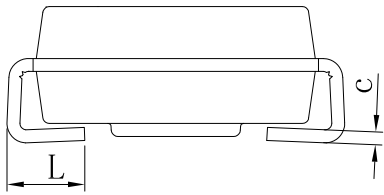


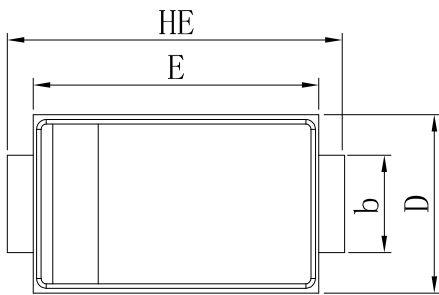
Fig. 6-Maximum Non-Repetitive Peak Forward Surge Current Unidirectional



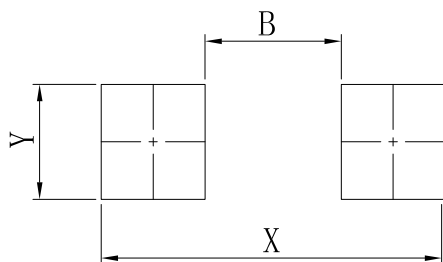
6. OUTLINE AND DIMENSIONS



CSMA			
DIM	MIN	TYP	MAX
A	1.97	2.10	2.29
A1	0.05	0.10	0.20
b	1.35	1.50	1.65
c	0.10	0.20	0.30
D	2.40	2.75	2.92
E	4.10	4.40	4.57
HE	4.70	5.27	5.59
L	0.76	1.20	1.52
All Dimensions in mm			



7. SOLDERING FOOTPRINT



CSMA		
DIM	MIN	MAX
X	5.30REF	
Y	1.72	1.82
B	1.90	2.30

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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