

SMAG Plastic-Encapsulate Diodes

CJSMAJ SERIES Transient Voltage Suppressor Diodes

Features

- P_{PP} 400W
- V_{RWM} 10V- 100V
- Glass passivated chip

Applications

- Clamping Voltage



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Peak pulse power dissipation	P_{PPM}	W	with a 10/1000us waveform	400
Peak pulse current(note 1)	I_{PPM}	A	with a 10/1000us waveform	See Next Table
Power dissipation	P_D	W	On infinite heat sink at $T_L=50^\circ\text{C}$	3.3
Peak forward surge current	I_{FSM}	A	8.3 ms single half sine-wave uni-directional only $\left[\frac{1}{\sqrt{2}} \right]$	60
Operating junction and storage temperature range	T_J, T_{STG}	$^\circ\text{C}$		-55 to +150

Electrical Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Max
Maximum instantaneous forward Voltage	V_F	V	at 25A for uni-directional only	3.5
Thermal resistance	$R_{\theta JL}$	$^\circ\text{C/W}$	junction to lead $T_L=50^\circ\text{C}$	30
	$R_{\theta JA}$	$^\circ\text{C/W}$	junction to ambient $T_A=25^\circ\text{C}$	120

Notes:

- (1) Non-repetitive current pulse, per Fig. 3 and derated above $T_A=25^\circ\text{C}$ per Fig.2
- (2) 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minutes maximum

Electrical Characteristics (T_A=25°C unless otherwise noted)

Part Number		Device Marking Code		Breakdown Voltage VBR@IT		Test Current	Max Reverse Leakage @VRWM IR(μA)		Reverse Standoff Voltage	Max Peak Pulse Current ⁽¹⁾	Max Clamping Voltage @Ipp
UNI	BI	UNI	BI	Min.(V)	Max.(V)	IT(mA)	UNI	BI	V _{RWM} (V)	IPP(A)	Vc(V)
CJSMAJ10A	CJSMAJ10CA	A10A XX ⁽²⁾	A10CA XX	11.14	12.29	1	5	5	10	23.5	16.8
CJSMAJ11A	CJSMAJ11CA	A11A XX	A11CA XX	12.25	13.49	1	5	5	11	22	18
CJSMAJ12A	CJSMAJ12CA	A12A XX	A12CA XX	13.35	14.69	1	5	5	12	20.1	19.7
CJSMAJ13A	CJSMAJ13CA	A13A XX	A13CA XX	14.46	15.89	1	5	5	13	18.6	21.3
CJSMAJ14A	CJSMAJ14CA	A14A XX	A14CA XX	15.66	17.19	1	5	5	14	17.2	23
CJSMAJ15A	CJSMAJ15CA	A15A XX	A15CA XX	16.77	18.49	1	5	5	15	16.4	24.2
CJSMAJ16A	CJSMAJ16CA	A16A XX	A16CA XX	17.87	19.69	1	5	5	16	15.4	25.7
CJSMAJ17A	CJSMAJ17CA	A17A XX	A17CA XX	18.98	20.89	1	5	5	17	14.5	27.3
CJSMAJ18A	CJSMAJ18CA	A18A XX	A18CA XX	20.08	22.08	1	5	5	18	13.7	28.9
CJSMAJ20A	CJSMAJ20CA	A20A XX	A20CA XX	22.29	24.48	1	5	5	20	12.3	32.1
CJSMAJ22A	CJSMAJ22CA	A22A XX	A22CA XX	24.5	26.88	1	5	5	22	11.3	35.1
CJSMAJ24A	CJSMAJ24CA	A24A XX	A24CA XX	26.81	29.48	1	5	5	24	10.3	38.5
CJSMAJ26A	CJSMAJ26CA	A26A XX	A26CA XX	29.02	31.88	1	5	5	26	9.5	41.7
CJSMAJ28A	CJSMAJ28CA	A28A XX	A28CA XX	31.22	34.38	1	5	5	28	8.8	44.9
CJSMAJ30A	CJSMAJ30CA	A30A XX	A30CA XX	33.43	36.77	1	5	5	30	8.3	47.9
CJSMAJ33A	CJSMAJ33CA	A33A XX	A33CA XX	36.85	40.57	1	5	5	33	7.5	52.8
CJSMAJ36A	CJSMAJ36CA	A36A XX	A36CA XX	40.16	44.17	1	5	5	36	6.9	57.5
CJSMAJ40A	CJSMAJ40CA	A40A XX	A40CA XX	44.58	49.07	1	5	5	40	6.2	63.9
CJSMAJ43A	CJSMAJ43CA	A43A XX	A43CA XX	47.99	52.76	1	5	5	43	5.8	68.7
CJSMAJ45A	CJSMAJ45CA	A45A XX	A45CA XX	50.2	55.26	1	5	5	45	5.5	72
CJSMAJ48A	CJSMAJ48CA	A48A XX	A48CA XX	53.51	58.86	1	5	5	48	5.2	76.6
CJSMAJ51A	CJSMAJ51CA	A51A XX	A51CA XX	56.93	62.66	1	5	5	51	4.9	81.6
CJSMAJ54A	CJSMAJ54CA	A54A XX	A54CA XX	60.24	66.25	1	5	5	54	4.6	86.2
CJSMAJ58A	CJSMAJ58CA	A58A XX	A58CA XX	64.66	71.15	1	5	5	58	4.3	92.7
CJSMAJ60A	CJSMAJ60CA	A60A XX	A60CA XX	66.97	73.65	1	5	5	60	4.1	95.8
CJSMAJ64A	CJSMAJ64CA	A64A XX	A64CA XX	71.39	78.54	1	5	5	64	3.9	102
CJSMAJ70A	CJSMAJ70CA	A70A XX	A70CA XX	78.11	85.94	1	5	5	70	3.5	111.9
CJSMAJ75A	CJSMAJ75CA	A75A XX	A75CA XX	83.63	92.04	1	5	5	75	3.3	119.8
CJSMAJ78A	CJSMAJ78CA	A78A XX	A78CA XX	87.05	95.73	1	5	5	78	3.2	124.7
CJSMAJ85A	CJSMAJ85CA	A85A XX	A85CA XX	94.78	103.93	1	5	5	85	2.9	135.6
CJSMAJ90A	CJSMAJ90CA	A90A XX	A90CA XX	100.4	110.92	1	5	5	90	2.7	144.5
CJSMAJ100A	CJSMAJ100CA	A100A XX	A100CA XX	111.45	122.91	1	5	5	100	2.5	160.4

Notes:

- (1) Waveform of CJSMAJ10A -CJSMAJ100CA are defined as per fig.3
- (2) XX=Code

Figure 1. Peak Pulse Power Rating Curve

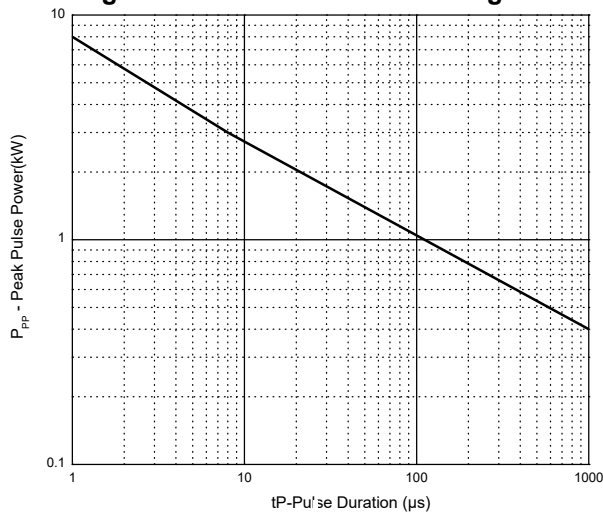


Figure 2. Pulse Derating Curve

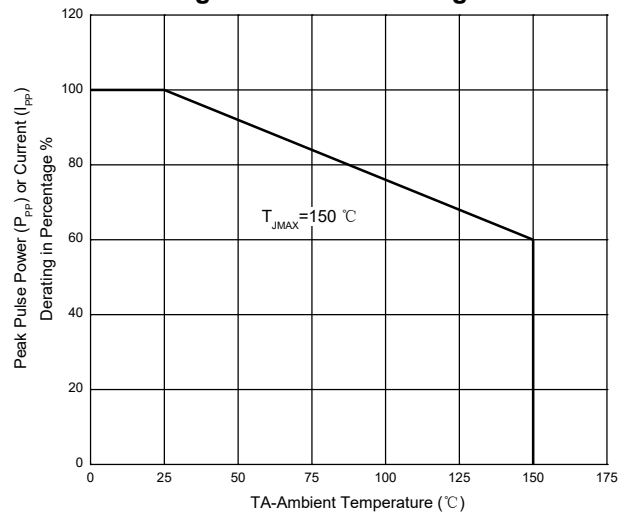


Figure 3. Pulse Waveform

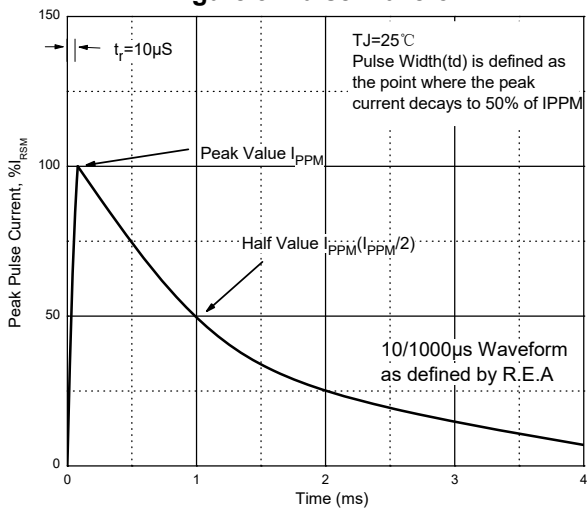


Figure 4. Typical Junction Capacitance

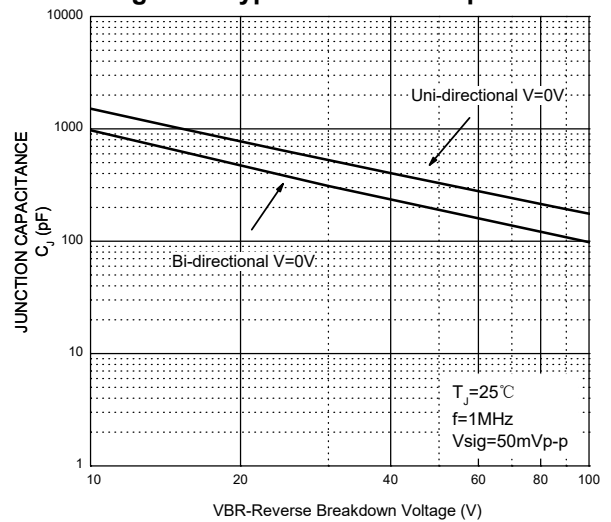


Figure 5. Steady State Power Dissipation Derating Curve

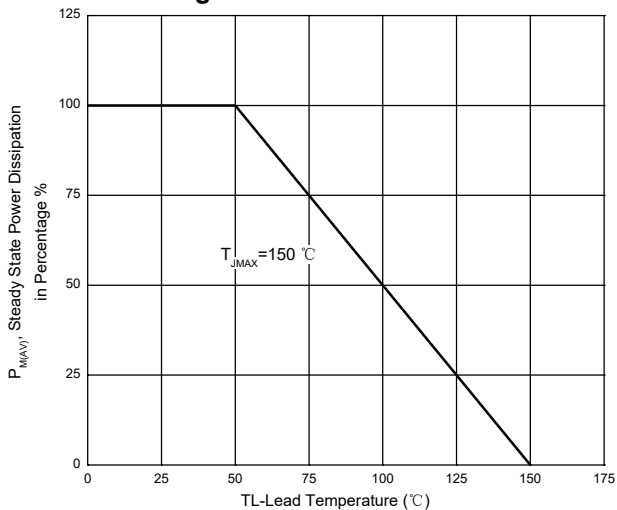
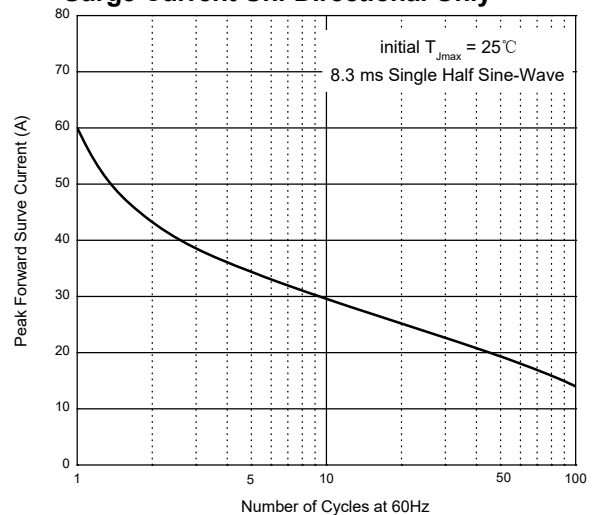
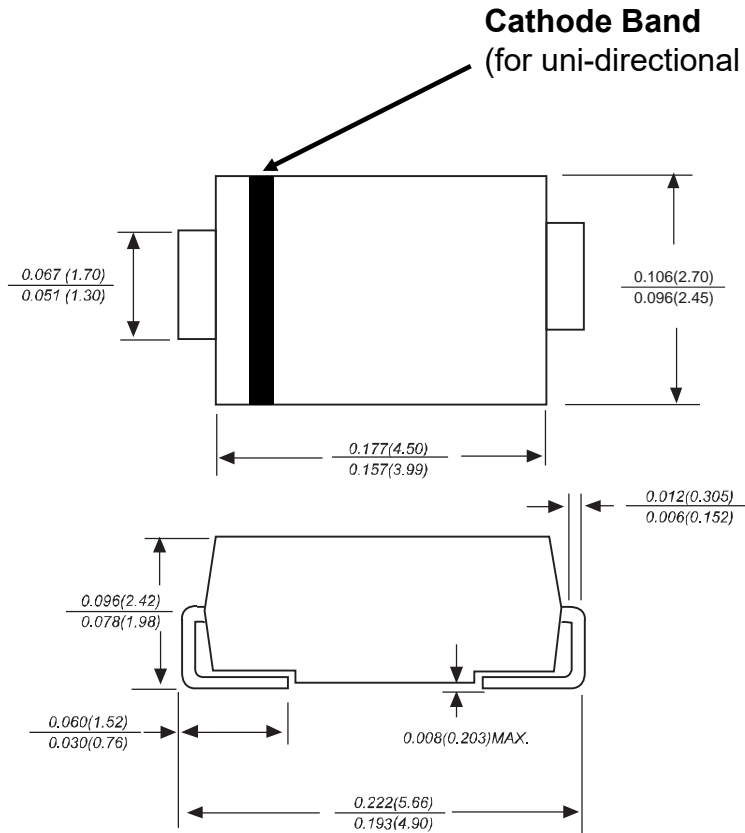


Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

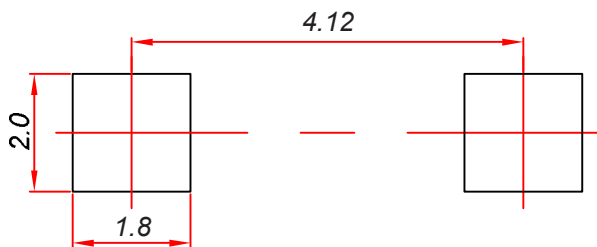


SMAG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMAG Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

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Reel Taping Specifications For Surface Mount Devices- SMAG

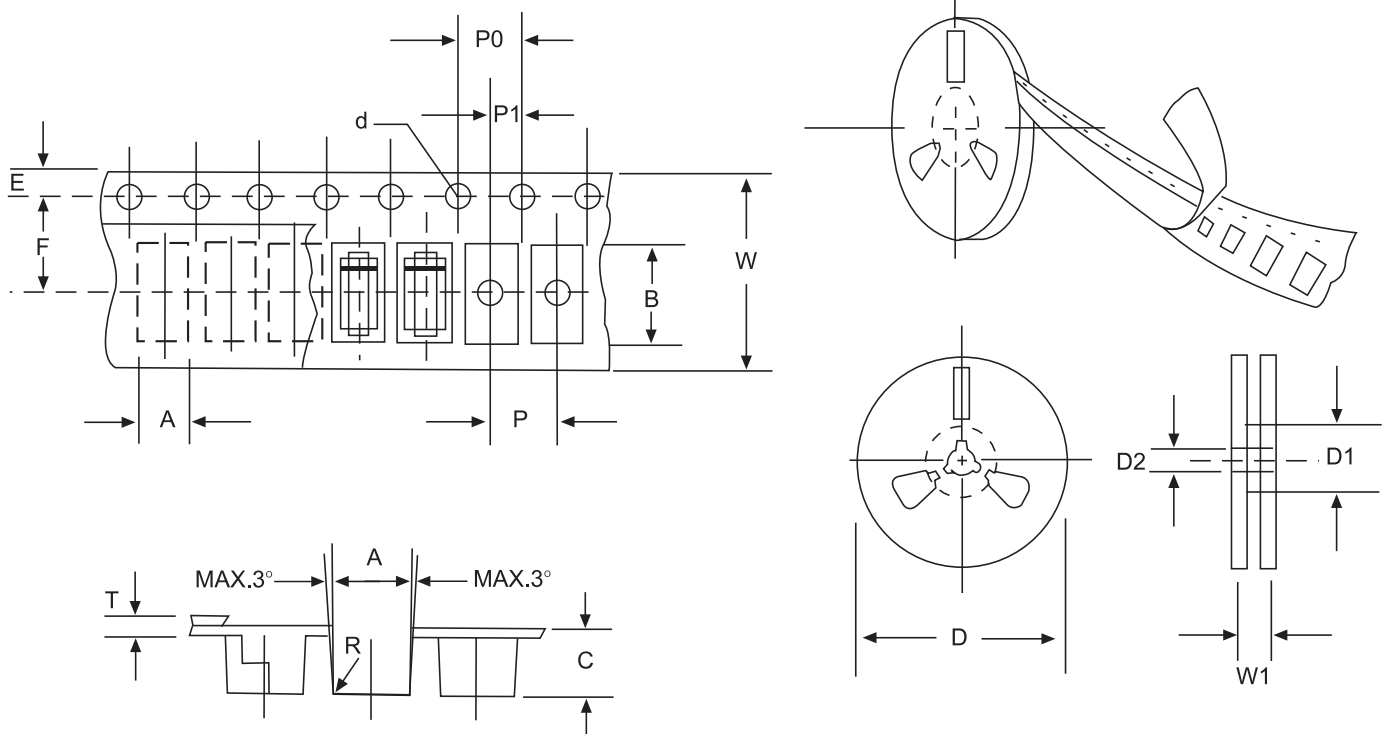


FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

ITEM	SYMBOL	SMAG mm(inch)
Carrier width	A	2.79±0.1(0.110±0.004)
Carrier length	B	5.33±0.1(0.210±0.004)
Carrier depth	C	2.36±0.1(0.093±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	279±2.0 (11± 0.079)
Reel inner diameter	D1	75 ±1.0 (2.95 ±0.039)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Sprocket hole position	E	1.75±0.1(0.069±0.004)
Punch hole position	F	5.5±0.05(0.217±0.002)
Punch hole pitch	P	4.0±0.1(0.157±0.004)
Sprocket hole pitch	P0	4.0±0.1(0.157±0.004)
Embossment center	P1	2.0±0.1(0.079±0.004)
Totall tape thickness	T	0.28±0.02(0.011 ±0.0008)
Tape width	W	12.0±0.2(0.472±0.008)
Reel width	W1	16.8±2.0(0.661±0.079)

NOTE: Devices are packed in accordance with EIA standard RS-481-A and specification given above.

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