JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD

SMAG Plastic-Encapsulate Diodes

P4SMA SERIES Transient Voltage Suppressor Diodes

Features

- P_{PP} 400W
- V_{RWM} 5.8V- 513V
- Glass passivated chip

Applications

- Clamping Voltage

Marking

- P4SMA XXCA/XXA
  XX：From 6.8 To 600

SMAG

Bi-directional

Uni-direction

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 (1)	I_{PPM}	A	with a 10/1000us waveform	See Next Table
Power dissipation	P_D	W	On infinite heat sink at T_L=75℃	1.0
Peak forward surge current(2)	I_{FSM}	A	8.3 ms single half sine-wave unidirectional only	40
Operating junction and storage temperature range	T_J,T_{STG}	℃		-55 to +150

Electrical Characteristics（T_a=25℃ Unless otherwise specified）

Item	Symbol	Unit	Conditions	Max
Maximum instantaneous forward Voltage (3)	V_F	V	at 25A for unidirectional only	3.5/5.0
Thermal resistance	$R_{\theta JL}$	℃/W	junction to lead	30
	$R_{\theta JA}$	℃/W	junction to ambient， L_{Lead} = 10 mm	120

Notes:

(1) Non-repetitive current pulse, per Fig. 3 and derated above T_A= 25℃per Fig.2.

(2) Mounted on 0.2 x 0.2" (5.0 x 5.0 mm) copper pads to each terminal

(3) VF<3.5V for devices of VBR<200V and VF<5.0V for devices of VBR>201V

Electrical Characteristics (T_A=25℃ unless otherwise noted)

Part Number		Working Peak Reverse Voltage V_{RWM} (V)	Breakdown Voltage V_{BR}@I_T		Test Current I_T (mA)	Maximum Clamping Voltage Vc @ I_{PP} (V)	Maximum Reverse Surge Current IPP (A)	Maximum Reverse Leakage I_{R}@ V_{WM} (μA)
Uni	Bi		Min(V)	Max (V)				
P4SMA6.8A	P4SMA6.8CA	5.8	6.46	7.14	10	10.5	38.10	1000
P4SMA7.5A	P4SMA7.5CA	6.4	7.13	7.88	10	11.3	35.40	500
P4SMA8.2A	P4SMA8.2CA	7.0	7.79	8.61	10	12.1	33.06	200
P4SMA9.1A	P4SMA9.1CA	7.8	8.65	9 56	1	13.4	29.85	50
P4SMA10A	P4SMA10CA	8.6	9.50	10.50	1	14.5	27.59	10
P4SMA11A	P4SMA11CA	9.4	10.45	11.55	1	15.6	25.64	5
P4SMA12A	P4SMA12CA	10.2	11.40	12.60	1	16.7	23.95	5
P4SMA13A	P4SMA13CA	11.1	12.35	13.65	1	18.2	21.98	1
P4SMA15A	P4SMA15CA	12.8	14.25	15.75	1	21.2	18.87	1
P4SMA16A	P4SMA16CA	13.6	15.20	16.80	1	22.5	17.78	1
P4SMA18A	P4SMA18CA	15.3	17.10	18.90	1	25.2	15.87	1
P4SMA20A	P4SMA20CA	17.1	19.00	21.00	1	27.7	14.44	1
P4SMA22A	P4SMA22CA	18.8	20.90	23.10	1	30.6	13.07	1
P4SMA24A	P4SMA24CA	20.5	22.80	25.20	1	33.2	12.05	1
P4SMA27A	P4SMA27CA	23.1	25.65	28.35	1	37.5	10.67	1
P4SMA30A	P4SMA30CA	25.6	28.50	31.50	1	41.4	9.66	1
P4SMA33A	P4SMA33CA	28.2	31.35	34.65	1	45.7	8.75	1
P4SMA36A	P4SMA36CA	30.8	34.20	37.80	1	49.9	8.02	1
P4SMA39A	P4SMA39CA	33.3	37.05	40.95	1	53.9	7.42	1
P4SMA43A	P4SMA43CA	36.8	40.85	45.15	1	59.3	6.75	1
P4SMA47A	P4SMA47CA	40.2	44.65	49.35	1	64.8	6.17	1
P4SMA51A	P4SMA51CA	43.6	48.45	53.55	1	70.1	5.71	1
P4SMA56A	P4SMA56CA	47.8	53.20	58.80	1	77.0	5.19	1
P4SMA62A	P4SMA62CA	53.0	58.90	65.10	1	85.0	4.71	1
P4SMA68A	P4SMA68CA	58.1	64.60	71.40	1	92.0	4.35	1
P4SMA75A	P4SMA75CA	64.1	71.25	78.75	1	103.0	3.88	1
P4SMA82A	P4SMA82CA	70.1	77.90	86.10	1	113.0	3.54	1
P4SMA91A	P4SMA91CA	77.8	86.45	95.55	1	125.0	3.20	1
P4SMA100A	P4SMA100CA	85.5	95.00	105.00	1	137.0	2.92	1
P4SMA110A	P4SMA110CA	94.0	104.50	115.50	1	152.0	2.63	1
P4SMA120A	P4SMA120CA	102.0	114.00	126.00	1	165.0	2.42	1
P4SMA130A	P4SMA130CA	111.0	123.50	136.50	1	179.0	2.23	1
P4SMA150A	P4SMA150CA	128.0	142.50	157.50	1	207.0	1.93	1
P4SMA160A	P4SMA160CA	136.0	152.00	168.00	1	219.0	1.83	1
P4SMA170A	P4SMA170CA	145.0	161.50	178.50	1	234.0	1.71	1
P4SMA180A	P4SMA180CA	154.0	171.00	189.00	1	246.0	1.63	1
P4SMA200A	P4SMA200CA	171.0	190.00	210.00	1	274.0	1.46	1
P4SMA220A	P4SMA220CA	185.0	209.00	231.00	1	328.0	1.22	1
P4SMA250A	P4SMA250CA	214.0	237.50	262.50	1	344.0	1.16	1
P4SMA300A	P4SMA300CA	256.0	285.00	315.00	1	414.0	0.97	1
P4SMA350A	P4SMA350CA	299.3	332.50	367.50	1	482.0	0.83	1
P4SMA380A	P4SMA380CA	324.9	361.00	399.00	1	524.4	0.76	1
P4SMA400A	P4SMA400CA	342.0	380.00	420.00	1	552.0	0.72	1
P4SMA440A	P4SMA440CA	376.2	418.00	462.00	1	607.2	0.66	1
P4SMA500A	P4SMA500CA	427.5	475.00	525.00	1	690.0	0.58	1
P4SMA520A	P4SMA520CA	444.6	494.00	546.00	1	717.6	0.56	1
P4SMA550A	P4SMA550CA	470.3	522.50	577.50	1	759.0	0.53	1
P4SMA600A	P4SMA600CA	513.0	570.00	630.00	1	828.0	0.48	1

Typical Characteristics

FIG1:Peak Pulse Power Rating Curve

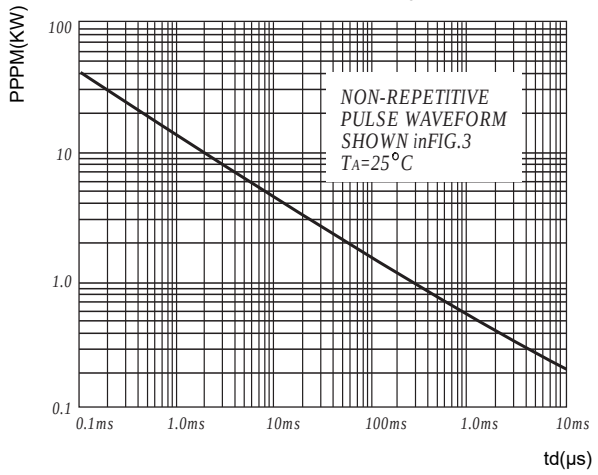


FIG2: Pulse Power or Current vs. Initial Junction Temperature

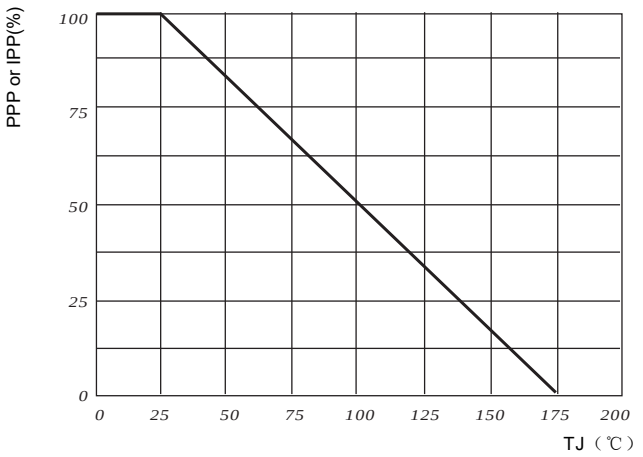


FIG3: Pulse Waveform

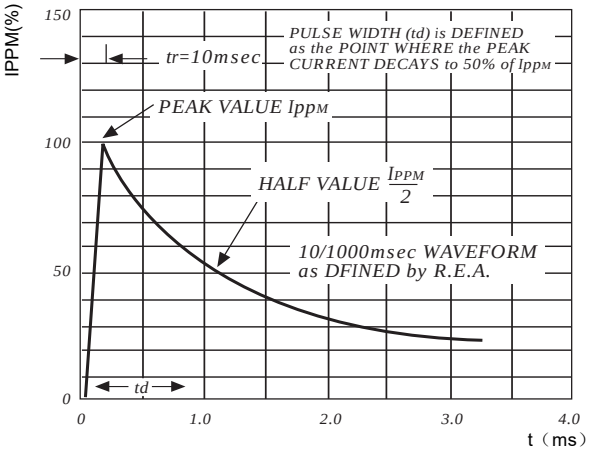


FIG4:Typical Transient Thermal Impedance

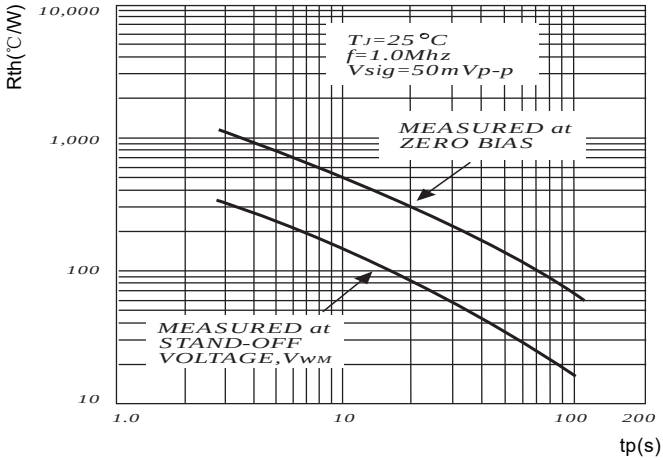


FIG5: Maximum Non-Repetitive Surge Current

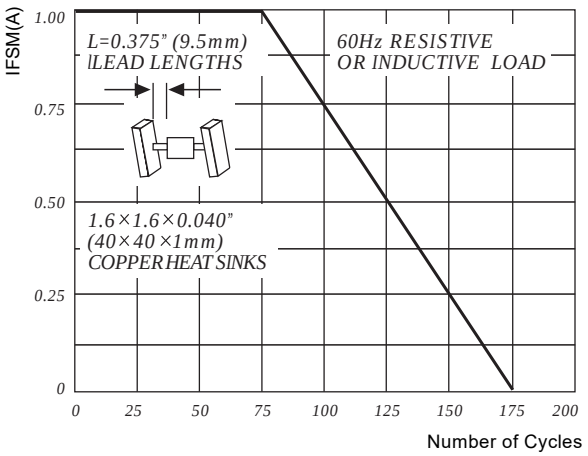
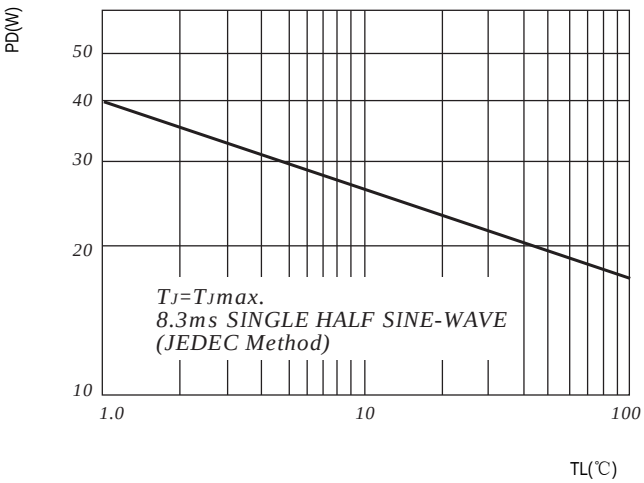
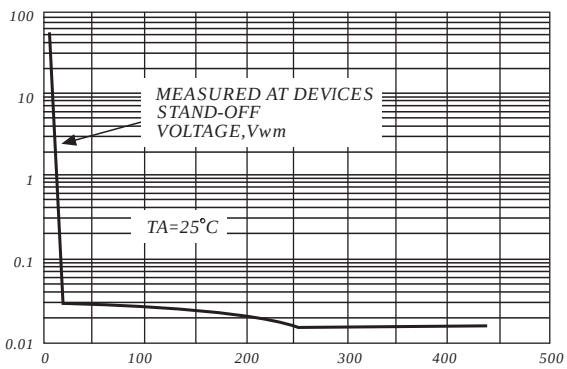
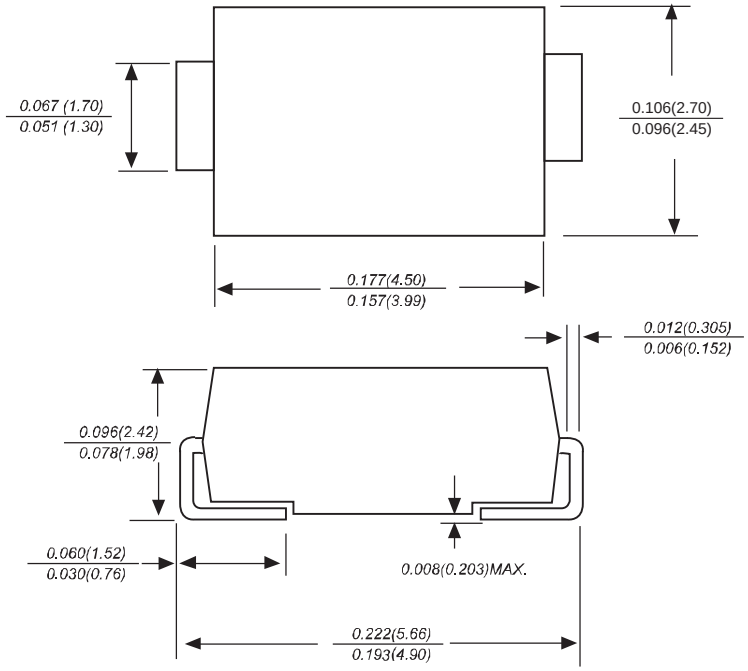


FIG6:Steady State Power Dissipation



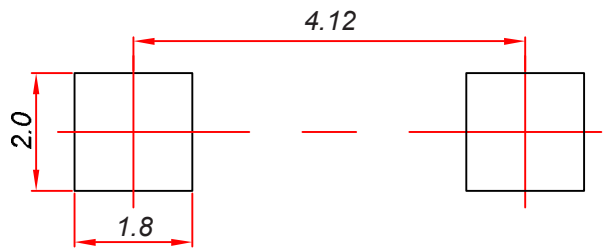


SMAG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMAG Suggested Pad Layout



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

Reel Taping Specifications For Surface Mount Devices- SMAG

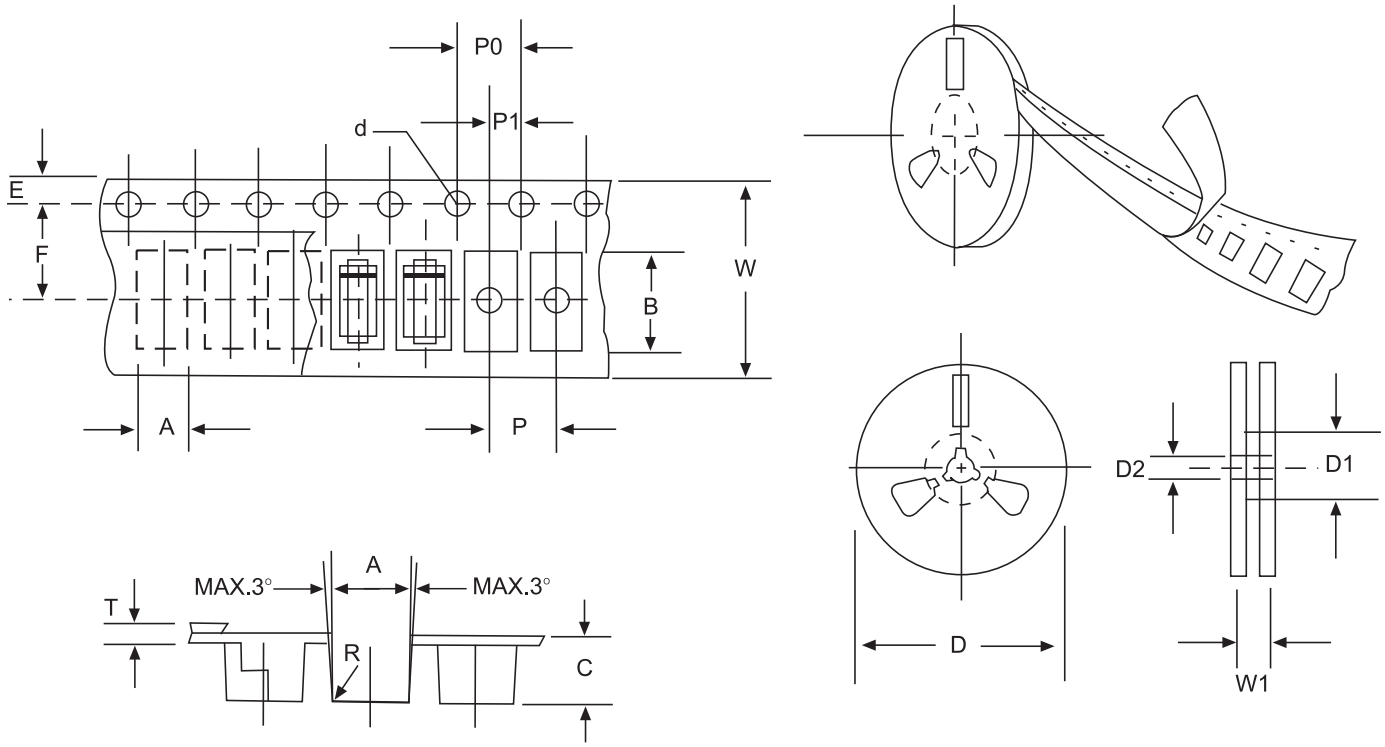


FIG:CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

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)
Stroket 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.