SMAK Plastic-Encapsulate Diodes

Transient Voltage Suppressor Diodes

Features

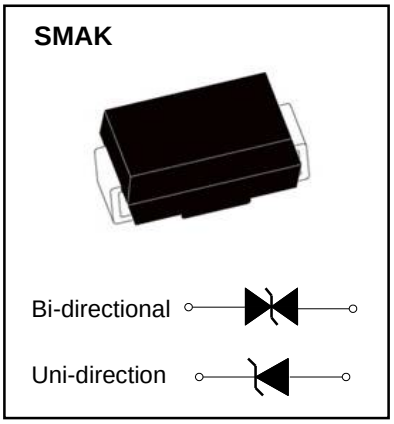
- P_{PP} 600W
- V_{RWM} 5.0V- 170V
- Glass passivated chip

Applications

- Clamping Voltage

Marking

- SMAJ
  XXCA/XXA
  XX : From 5.0 To 170



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Peak power dissipation	P_{PPM}	W	with a 10/1000us waveform	600
Peak pulse current	I_{PPM}	A	with a 10/1000us waveform	See Next Table
Power dissipation	P_D	W	On infinite heat sink at T_L=75℃	5.0
Peak forward surge current(2)	I_{FSM}	A	8.3 ms single half sine-wave unidirectional only	100
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 35A 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:

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

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

VF<3.5V for devices of VBR<100V and VF<5.0V for devices of VBR>100V

Electrical Characteristics (T_A=25℃ unless otherwise noted)

Part Number Add C For Bi-Directional (Note 4)	Reverse Standoff Voltage	Breakdown Voltage V_{BR} @ I_T (Note 5)		Test Current	Max. Reverse Leakage @ V_{RWM} (Note 6)	Max. Clamping Voltage @ I_{pp}	Max. Peak Pulse Current Ipp	Marking Code	
	V_{RWM} (V)	Min (V)	Max (V)	I_T(mA)	I_R (μA)	V_C (V)	(A)	BI-	UNI-
SMAJ5.0(C)A	5.0	6.40	7.23	10	800	9.2	65.2	AE	KE
SMAJ6.0(C)A	6.0	6.67	7.67	10	800	10.3	58.3	AG	KG
SMAJ6.5(C)A	6.5	7.22	8.30	10	500	11.2	53.6	AK	KK
SMAJ7.0(C)A	7.0	7.78	8.95	10	200	12.0	50.0	AM	KM
SMAJ7.5(C)A	7.5	8.33	9.58	1.0	100	12.9	46.5	AP	KP
SMAJ8.0(C)A	8.0	8.89	10.23	1.0	50	13.6	44.1	AR	KR
SMAJ8.5(C)A	8.5	9.44	10.82	1.0	10	14.4	41.7	AT	KT
SMAJ9.0(C)A	9.0	10.00	11.50	1.0	5.0	15.4	39.0	AV	KV
SMAJ10(C)A	10.0	11.10	12.80	1.0	5.0	17.0	35.3	AX	KX
SMAJ11(C)A	11.0	12.20	14.40	1.0	5.0	18.2	33.0	AZ	KZ
SMAJ12(C)A	12.0	13.30	15.30	1.0	5.0	19.9	30.2	BE	LE
SMAJ13(C)A	13.0	14.40	16.50	1.0	5.0	21.5	27.9	BG	LG
SMAJ14(C)A	14.0	15.60	17.90	1.0	5.0	23.2	25.8	BK	LK
SMAJ15(C)A	15.0	16.70	19.20	1.0	5.0	24.4	24.0	BM	LM
SMAJ16(C)A	16.0	17.80	20.50	1.0	5.0	26.0	23.1	BP	LP
SMAJ17(C)A	17.0	18.90	21.70	1.0	5.0	27.6	21.7	BR	LR
SMAJ18(C)A	18.0	20.00	23.30	1.0	5.0	29.2	20.5	BT	LT
SMAJ20(C)A	20.0	22.20	25.50	1.0	5.0	32.4	18.5	BV	LV
SMAJ22(C)A	22.0	24.40	28.00	1.0	5.0	35.5	16.9	BX	LX
SMAJ24(C)A	24.0	26.70	30.70	1.0	5.0	38.9	15.4	BZ	LZ
SMAJ26(C)A	26.0	28.90	33.20	1.0	5.0	42.1	14.2	CE	ME
SMAJ28(C)A	28.0	31.10	35.80	1.0	5.0	45.4	13.2	CG	MG
SMAJ30(C)A	30.0	33.30	38.30	1.0	5.0	48.4	12.4	CK	MK
SMAJ33(C)A	33.0	36.70	42.20	1.0	5.0	53.3	11.3	CM	MM
SMAJ36(C)A	36.0	40.00	46.00	1.0	5.0	58.1	10.3	CP	MP
SMAJ40(C)A	40.0	44.40	51.10	1.0	5.0	64.5	9.3	CR	MR
SMAJ43(C)A	43.0	47.80	54.90	1.0	5.0	69.4	8.6	CT	MT
SMAJ45(C)A	45.0	50.00	57.50	1.0	5.0	72.7	8.3	CV	MV
SMAJ48(C)A	48.0	53.30	61.30	1.0	5.0	77.4	7.7	CX	MX
SMAJ51(C)A	51.0	56.70	65.20	1.0	5.0	82.4	7.3	CZ	MZ
SMAJ54(C)A	54.0	60.00	69.00	1.0	5.0	87.1	6.9	DE	NE
SMAJ58(C)A	58.0	64.40	74.60	1.0	5.0	93.6	6.4	DG	NG
SMAJ60(C)A	60.0	66.70	76.70	1.0	5.0	96.8	6.2	DK	NK
SMAJ64(C)A	64.0	71.10	81.80	1.0	5.0	103.0	5.8	DM	NM
SMAJ70(C)A	70.0	77.80	89.50	1.0	5.0	113.0	5.3	DP	NP
SMAJ75(C)A	75.0	83.30	95.80	1.0	5.0	121.0	4.9	DR	NR
SMAJ78(C)A	78.0	86.70	99.70	1.0	5.0	126.0	4.7	DT	NT
SMAJ85(C)A	85.0	94.40	108.20	1.0	5.0	137.0	4.4	DV	NV
SMAJ90(C)A	90.0	100.0	115.50	1.0	5.0	146.0	4.1	DX	NX
SMAJ100(C)A	100.0	111.0	128.00	1.0	5.0	162.0	3.7	DZ	NZ
SMAJ110(C)A	110.0	122.0	140.00	1.0	5.0	177.0	3.4	EE	PE
SMAJ120(C)A	120.0	133.0	153.00	1.0	5.0	193.0	3.1	EG	PG
SMAJ130(C)A	130.0	144.0	165.50	1.0	5.0	209.0	2.9	EK	PK
SMAJ150(C)A	150.0	167.0	192.50	1.0	5.0	243.0	2.5	EM	PM
SMAJ160(C)A	160.0	178.0	205.00	1.0	5.0	259.0	2.3	EP	PP
SMAJ170(C)A	170.0	189.0	217.50	1.0	5.0	275.0	2.2	ER	PR

Notes: 4. Suffix C denotes Bi-directional device.
5. V_{BR} measured with I_T current pulse = 300μs
6. For Bi-Directional devices having V_{RWM} of 10V and under, the I_R is doubled.

Typical Characteristics

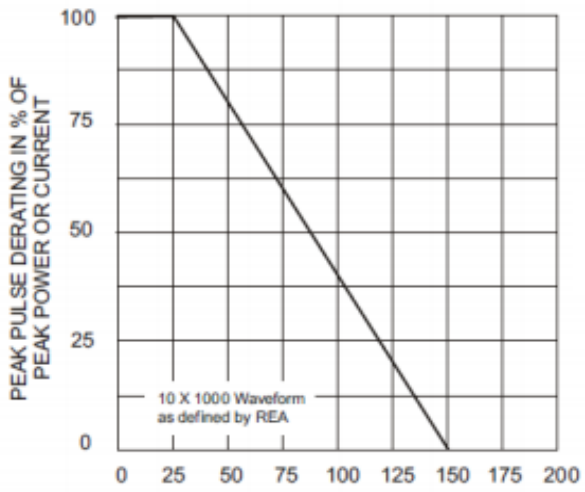


Fig. 1 Pulse Derating Curve

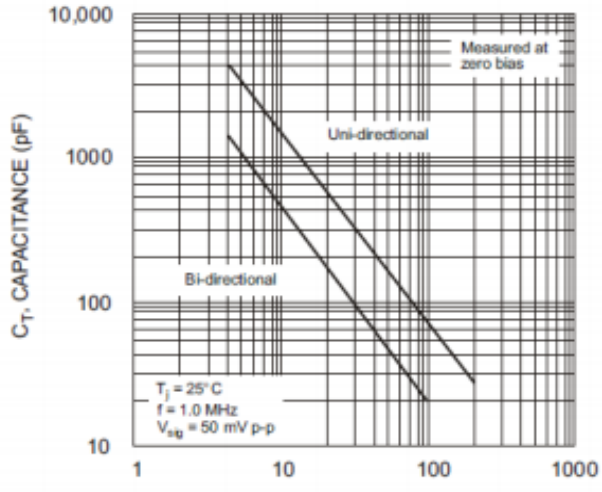


Fig. 2 Typical Total Capacitance

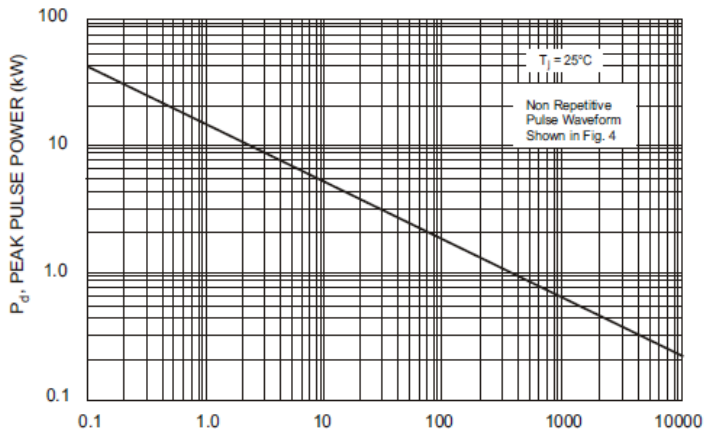


Fig. 3 Pulse Rating Curve

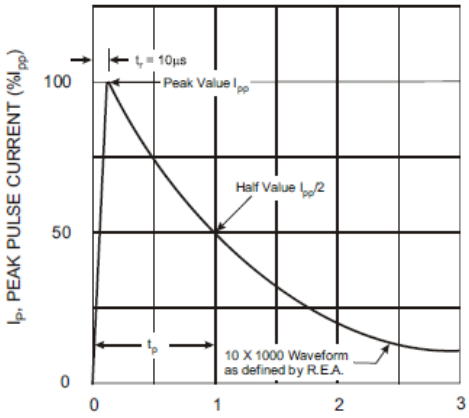


Fig. 4 Pulse Waveform

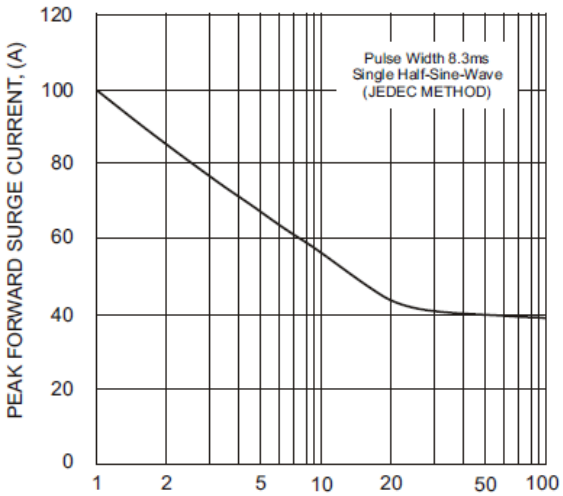


Fig. 5, Maximum Non-Repetitive Surge Current

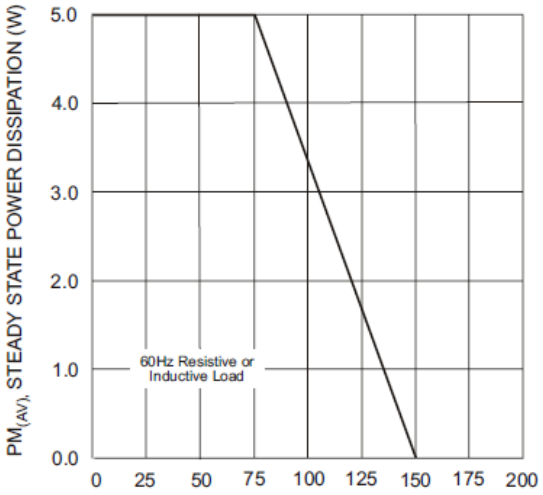
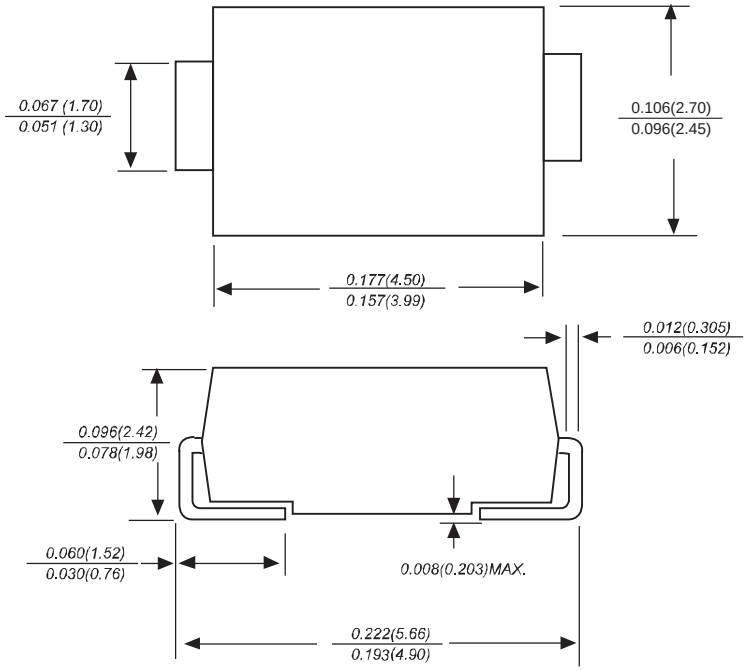


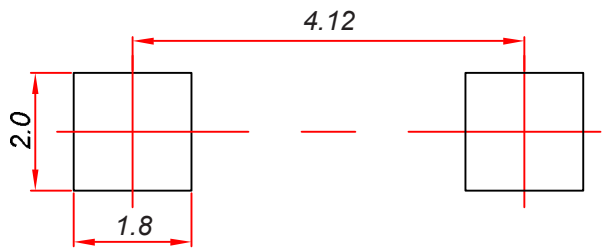
Fig. 6 Steady State Power Derating Curve

SMAK Package Outline Dimensions



Dimensions in inches and (millimeters)

SMAK Suggested Pad Layout



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

NOTICE

JSHD reserve the right to make modifications,enhancements, improvements, corrections or other changes without further notice to any product herein .JSHD does not assume any liability arising out of the application or use of any product described herein.

Reel Taping Specifications For Surface Mount Devices- SMA

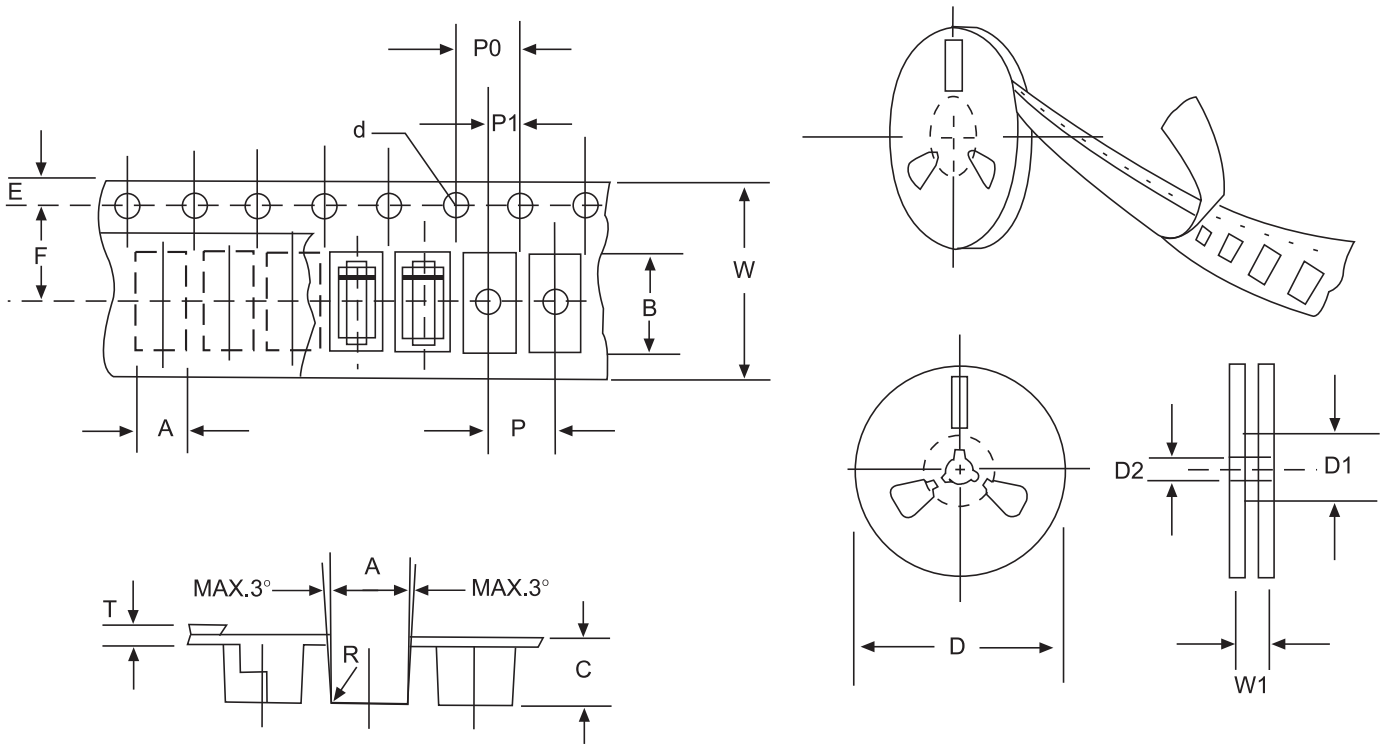


FIG:CONFIGURATION OF AXIAL TAPING

ITEM	SYMBOL	SMA 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	1.5±0.05 (0.059±0.0002)
Reel outside diameter	D	330/178±2.0(13/7.0±0.79)
Reel inner diameter	D1	8.0±0.2(0.315±0.008)
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 packde in accordance with EIA standard RS-481-A and specification given above.