

Transient Voltage Suppressor

6.0SMAJ5.0A - 6.0SMAJ120A

Features

- Low profile package with built-in strain relief for SMT applications
- Low incremental surge resistance, excellent clamping capability
- 600W peak pulse power capability with very fast response time
- High temperature soldering guaranteed: 260°C / 10s at terminals
- Uni-directional applications
- RoHS compliant with Halogen-free



Mechanical Data

- Case: SMA molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated; solderable per MIL- STD-202, Method 208

Maximum Ratings (@T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000μs waveform *1 (FIG.1)	P _{PPM}	600	W
Peak pulse current with a 10/1000μs waveform *1	I _{PP}	see E. Characteristics	A
Typical Thermal Resistance *2	R _{θJA}	70	°C/W
	R _{θJC}	25	
	R _{θJL}	30	
Operating junction and storage temperature range	T _J , T _{STG}	-55 ~ +150	°C

Note *1: Non-repetitive current pulses, per Fig. 3 and derated above T_A = 25°C

Note *2: Device mounted on p.c.b. with 10 mm x 20 mm x 0.1 mm copper pad area

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Electrical Characteristics (@T_A = 25°C unless otherwise specified)

Type	Marking code	Breakdown Voltage V _{BR} @I _T		Test Current	Reverse Stand off Voltage	Max. Reverse Leakage@ V _{RWM}	Max. Peak Pulse Current	Max. Clamping Voltage @I _{PP}
		V		I _T	V _{RWM}	I _R	I _{PP}	V _C
		Min	Max	mA	V	uA	A	V
6.0SMAJ5.0A	TZ	6.4	7.07	10	5	800	65.2	9.2
6.0SMAJ6.0A	TG	6.7	7.4	10	6	200	58.9	10.2
6.0SMAJ6.5A	TM	7.2	8.0	10	6.5	200	54	11.1
6.0SMAJ6.8A	KG	7.56	8.35	10	6.8	200	54.6	11
6.0SMAJ7.0A	KM	7.78	8.6	10	7	200	50	12
6.0SMAJ7.5A	KR	8.33	9.21	1	7.5	100	46.5	12.9
6.0SMAJ8.0A	KV	8.89	9.83	1	8	50	44.1	13.6
6.0SMAJ8.5A	UG	9.44	10.4	1	8.5	10	41.7	14.4
6.0SMAJ9.0A	KZ	10	11.1	1	9	10	39	15.4
6.0SMAJ10A	LG	11.1	12.3	1	10	5	35.3	17
6.0SMAJ11A	LM	12.2	13.5	1	11	1	33	18.2
6.0SMAJ12A	LR	13.3	14.7	1	12	1	30.2	19.9
6.0SMAJ13A	LV	14.4	15.9	1	13	1	27.9	21.5
6.0SMAJ14A	LZ	15.6	17.2	1	14	1	25.9	23.2
6.0SMAJ15A	MG	16.7	18.5	1	15	1	24.6	24.4
6.0SMAJ16A	MM	17.8	19.7	1	16	1	23.1	26
6.0SMAJ17A	MR	18.9	20.9	1	17	1	21.7	27.6
6.0SMAJ18A	MV	20	22.1	1	18	1	20.5	29.2
6.0SMAJ20A	MZ	22.2	24.5	1	20	1	18.5	32.4
6.0SMAJ22A	NG	24.4	26.9	1	22	1	16.9	35.5
6.0SMAJ24A	NM	26.7	29.5	1	24	1	15.4	38.9
6.0SMAJ26A	NR	28.9	31.9	1	26	1	14.3	42.1
6.0SMAJ28A	NV	31.1	34.4	1	28	1	13.2	45.4
6.0SMAJ30A	NZ	33.3	36.8	1	30	1	12.4	48.4
6.0SMAJ33A	PG	36.7	40.6	1	33	1	11.3	53.3
6.0SMAJ36A	PM	40	44.2	1	36	1	10.3	58.1
6.0SMAJ40A	PR	44.4	49.1	1	40	1	9.3	64.5
6.0SMAJ43A	PV	47.8	52.8	1	43	1	8.6	69.4

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Type	Marking code	Breakdown Voltage $V_{BR}@I_T$		Test Current	Reverse Stand off Voltage	Max. Reverse Leakage@ V_{RWM}	Max. Peak Pulse Current	Max. Clamping Voltage @ I_{PP}
		V		I_T	V_{RWM}	I_R	I_{PP}	V_C
		Min	Max	mA	V	uA	A	V
6.0SMAJ45A	PZ	50	55.3	1	45	1	8.3	72.7
6.0SMAJ48A	QG	53.3	58.9	1	48	1	7.8	77.4
6.0SMAJ51A	QM	56.7	62.7	1	51	1	7.3	82.4
6.0SMAJ54A	QR	60	66.3	1	54	1	6.9	87.1
6.0SMAJ58A	QV	64.4	71.2	1	58	1	6.4	93.6
6.0SMAJ60A	QZ	66.7	73.7	1	60	1	6.2	96.8
6.0SMAJ64A	RG	71.1	78.6	1	64	1	5.8	103
6.0SMAJ68A	RM	75.5	83.5	1	68	1	5.5	109
6.0SMAJ70A	RR	77.8	86	1	70	1	5.3	113
6.0SMAJ75A	RV	83.3	92.1	1	75	1	5	121
6.0SMAJ78A	RZ	86.7	95.8	1	78	1	4.8	126
6.0SMAJ85A	SG	94.4	104	1	85	1	4.4	137
6.0SMAJ90A	SM	100	111	1	90	1	4.1	146
6.0SMAJ100A	SR	111	123	1	100	1	3.7	162
6.0SMAJ110A	SV	122	135	1	110	1	3.4	177
6.0SMAJ120A	SZ	133	147	1	120	1	3.1	193

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Ratings and Characteristic Curves (@ $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Fig.1 Peak Pulse Power Rating Curve

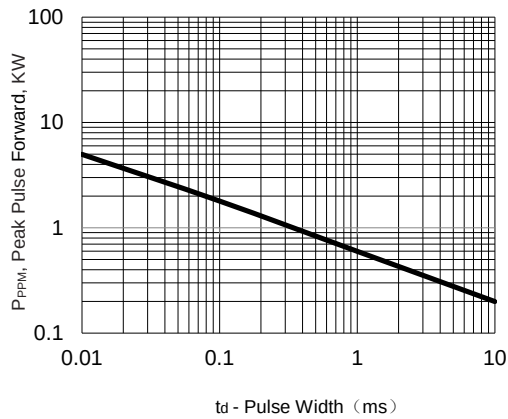


Fig.2 DERATING CURVE

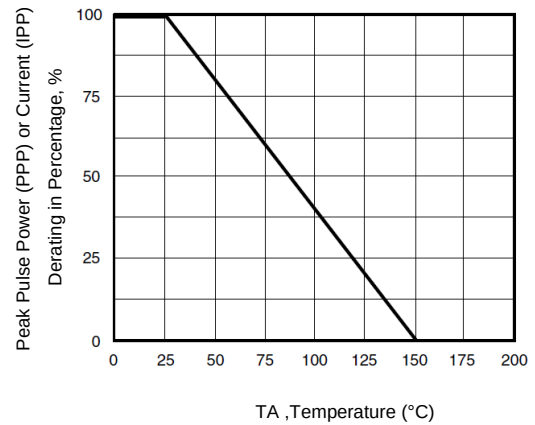
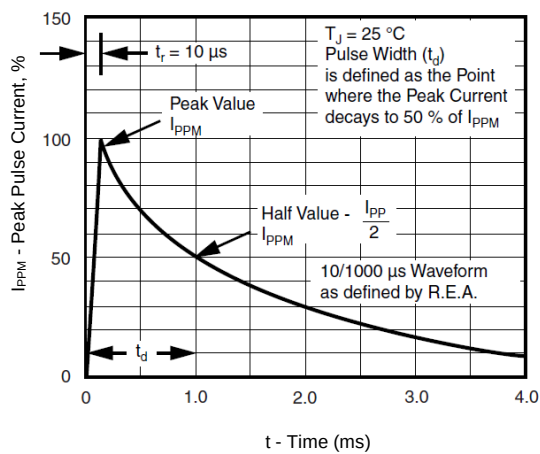


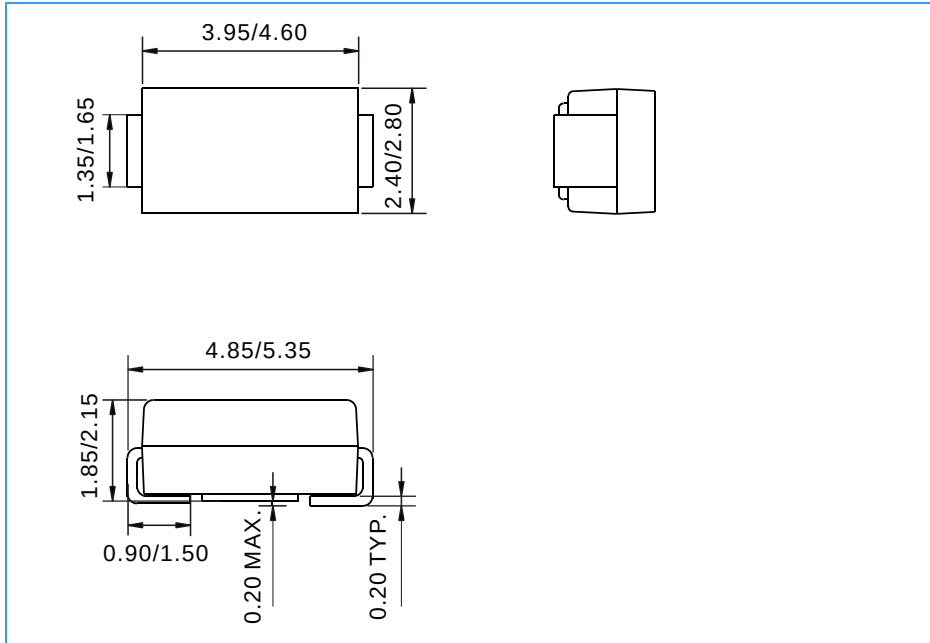
Fig.3 Pulse Waveform



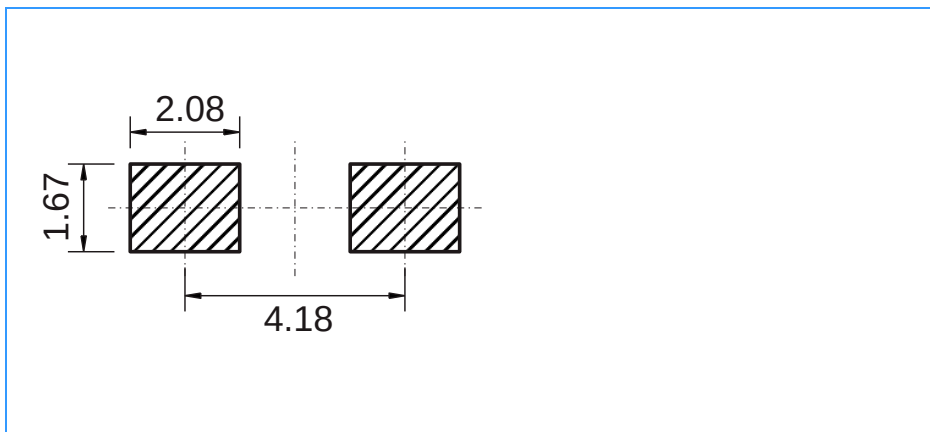
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Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Package	Shipping Quantity
6.0SMAJ5.0A - 6.0SMAJ120A	SMA	5000 pcs / Tape & Reel