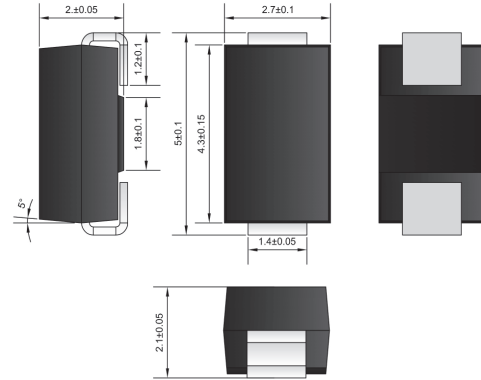


600W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
SMA /DO-214AC
Features

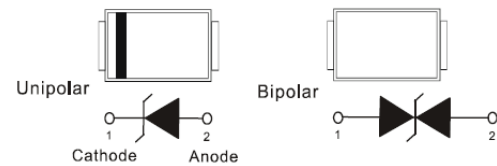
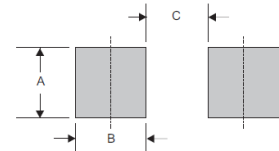
- 600W peak pulse power capability with a 10/1000us waveform, repetition rate (duty cycle): 0.01%.
- Excellent clamping capability.
- Low incremental surge resistance.
- Glass passivated chip junction.
- Ultra high-speed switching.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228



Dimensions in millimeters

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, DO-214AC / SMA
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Weight : 0.002 ounce, 0.055 gram


SMA foot print


A	B	C
0.068 (1.70)	0.104 (2.60)	0.060 (1.50)

Dimensions in inches and (millimeters)

Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified.

For capacitive load, derate current by 20%.

Parameter	Conditions	Symbol	SMAJ series	UNIT
Peak power dissipation	with a 10/1000us waveform, note 1	P_{PPM}	600	W
Peak forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method), note 2	I_{FSM}	100	A
Steady state power dissipation	on infinite heatsink at $T_L = 75^\circ\text{C}$	P_D	5.0	W
Peak pulse current	with a 10/1000us waveform, note 1	I_{PPM}	See Table 1	A
Maximum instantaneous forward voltage	at 50A for unidirectional only, note 3	V_F	3.5 / 5.0	V
Operating temperature		T_J	-55 ~ +150	°C
Storage temperature		T_{STG}	-55 ~ +150	°C

Notes : 1. Non-repetitive current pulse, per Fig. 3 and derated above $T_a=25^\circ\text{C}$ per Fig. 2.
 2. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.
 3. $V_F < 3.5\text{V}$ for devices of $V_{BR} < 200\text{V}$ and $V_F < 5.0\text{V}$ for devices of $V_{BR} > 201\text{V}$.

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Part Number		Marking		V _R	I _R @ V _R	V _{BR} @I _T		I _T	V _C @I _{PP}	I _{PP} ^①
Uni-Polar	Bi-Polar	Uni	Bi	V	μA	min(V)	max(V)	mA	max(V)	A
P6SMAJ5.0A	P6SMAJ5.0CA	KE	AE	5.0	100	6.40	7.00	10	9.2	65.2
P6SMAJ6.0A	P6SMAJ6.0CA	KG	AG	6.0	100	6.67	7.37	10	10.3	58.3
P6SMAJ6.5A	P6SMAJ6.5CA	KK	AK	6.5	50	7.22	7.98	10	11.2	53.6
P6SMAJ7.0A	P6SMAJ7.0CA	KM	AM	7.0	50	7.78	8.60	10	12.0	50.0
P6SMAJ7.5A	P6SMAJ7.5CA	KP	AP	7.5	50	8.33	9.21	1	12.9	46.5
P6SMAJ8.0A	P6SMAJ8.0CA	KR	AR	8.0	20	8.89	9.83	1	13.6	44.1
P6SMAJ8.5A	P6SMAJ8.5CA	KT	AT	8.5	10	9.44	10.40	1	14.4	41.7
P6SMAJ9.0A	P6SMAJ9.0CA	KV	AV	9.0	5	10.00	11.10	1	15.4	39.0
P6SMAJ10A	P6SMAJ10CA	KX	AX	10.0	2	11.10	12.30	1	17.0	35.3
P6SMAJ11A	P6SMAJ11CA	KZ	AZ	11.0	1	12.20	13.50	1	18.2	33.0
P6SMAJ12A	P6SMAJ12CA	LE	BE	12.0	1	13.30	14.70	1	19.9	30.2
P6SMAJ13A	P6SMAJ13CA	LG	BG	13.0	1	14.40	15.90	1	21.5	27.9
P6SMAJ14A	P6SMAJ14CA	LK	BK	14.0	1	15.60	17.20	1	23.2	25.9
P6SMAJ15A	P6SMAJ15CA	LM	BM	15.0	1	16.70	18.50	1	24.4	24.6
P6SMAJ16A	P6SMAJ16CA	LP	BP	16.0	1	17.80	19.70	1	26.0	23.1
P6SMAJ17A	P6SMAJ17CA	LR	BR	17.0	1	18.90	20.90	1	27.6	21.8
P6SMAJ18A	P6SMAJ18CA	LT	BT	18.0	1	20.00	22.10	1	29.2	20.6
P6SMAJ20A	P6SMAJ20CA	LV	BV	20.0	1	22.20	24.50	1	32.4	18.6
P6SMAJ22A	P6SMAJ22CA	LX	BX	22.0	1	24.40	26.90	1	35.5	16.9
P6SMAJ24A	P6SMAJ24CA	LZ	BZ	24.0	1	26.70	29.50	1	38.9	15.4
P6SMAJ26A	P6SMAJ26CA	ME	CE	26.0	1	28.90	31.90	1	42.1	14.3
P6SMAJ28A	P6SMAJ28CA	MG	CG	28.0	1	31.10	34.40	1	45.4	13.2
P6SMAJ30A	P6SMAJ30CA	MK	CK	30.0	1	33.30	36.80	1	48.4	12.4
P6SMAJ33A	P6SMAJ33CA	MM	CM	33.0	1	36.70	40.60	1	53.3	11.3
P6SMAJ36A	P6SMAJ36CA	MP	CP	36.0	1	40.00	44.20	1	58.1	10.4
P6SMAJ40A	P6SMAJ40CA	MR	CR	40.0	1	44.40	49.10	1	64.5	9.3
P6SMAJ43A	P6SMAJ43CA	MT	CT	43.0	1	47.80	52.80	1	69.4	8.7
P6SMAJ45A	P6SMAJ45CA	MV	CV	45.0	1	50.00	55.30	1	72.7	8.3
P6SMAJ48A	P6SMAJ48CA	MX	CX	48.0	1	53.30	58.90	1	77.4	7.8
P6SMAJ51A	P6SMAJ51CA	MZ	CZ	51.0	1	56.70	62.70	1	82.4	7.3

Electrical Characteristics (@T_A=25°C unless otherwise specified) Table 1 (Cont'd)

Part Number		Marking		V _R	I _R @ V _R	V _{BR} @I _T		I _T	V _C @I _{PP}	I _{PP} ^①
Uni-Polar	Bi-Polar	Uni	Bi	V	μA	min(V)	max(V)	mA	max(V)	A
P6SMAJ54A	P6SMAJ54CA	NE	DE	54.0	1	60.00	66.30	1	87.1	6.9
P6SMAJ58A	P6SMAJ58CA	NG	DG	58.0	1	64.40	71.20	1	93.6	6.4
P6SMAJ60A	P6SMAJ60CA	NK	DK	60.0	1	66.70	73.70	1	96.8	6.2
P6SMAJ64A	P6SMAJ64CA	NM	DM	64.0	1	71.10	78.60	1	103.0	5.8
P6SMAJ70A	P6SMAJ70CA	NP	DP	70.0	1	77.80	86.00	1	113.0	5.3
P6SMAJ75A	P6SMAJ75CA	NR	DR	75.0	1	83.30	92.10	1	121.0	5.0
P6SMAJ78A	P6SMAJ78CA	NT	DT	78.0	1	86.70	95.80	1	126.0	4.8
P6SMAJ85A	P6SMAJ85CA	NV	DV	85.0	1	94.40	104.0	1	137.0	4.4
P6SMAJ90A	P6SMAJ90CA	NX	DX	90.0	1	100.0	111.0	1	146.0	4.1
P6SMAJ100A	P6SMAJ100CA	NZ	DZ	100.0	1	100.0	111.0	1	162.0	3.7
P6SMAJ110A	P6SMAJ110CA	PE	EE	110.0	1	111.0	123.0	1	177.0	3.4
P6SMAJ120A	P6SMAJ120CA	PG	EG	120.0	1	122.0	135.0	1	193.0	3.1
P6SMAJ130A	P6SMAJ130CA	PK	EK	130.0	1	133.0	147.0	1	209.0	2.9
P6SMAJ150A	P6SMAJ150CA	PM	EM	150.0	1	144.0	159.0	1	243.0	2.5
P6SMAJ160A	P6SMAJ160CA	PP	EP	160.0	1	167.0	185.0	1	259.0	2.3
P6SMAJ170A	P6SMAJ170CA	PR	ER	170.0	1	178.0	197.0	1	275.0	2.2
P6SMAJ180A	P6SMAJ180CA	PT	ET	180.0	1	189.0	209.0	1	292.0	2.1
P6SMAJ200A	P6SMAJ200CA	PW	EW	200.0	1	201.0	222.0	1	324.0	1.9
P6SMAJ220A	P6SMAJ220CA	PX	EX	220.0	1	246.0	272.0	1	356.0	1.7
P6SMAJ250A	P6SMAJ250CA	PZ	EZ	250.0	1	279.0	309.0	1	405.0	1.5
P6SMAJ300A	P6SMAJ300CA	QE	FE	300.0	1	335.0	371.0	1	486.0	1.2
P6SMAJ350A	P6SMAJ350CA	QG	FG	350.0	1	391.0	432.0	1	567.0	1.1
P6SMAJ400A	P6SMAJ400CA	QK	FK	400.0	1	447.0	494.0	1	648.0	0.9
P6SMAJ440A	P6SMAJ440CA	QM	FM	440.0	1	492.0	543.0	1	713.0	0.8

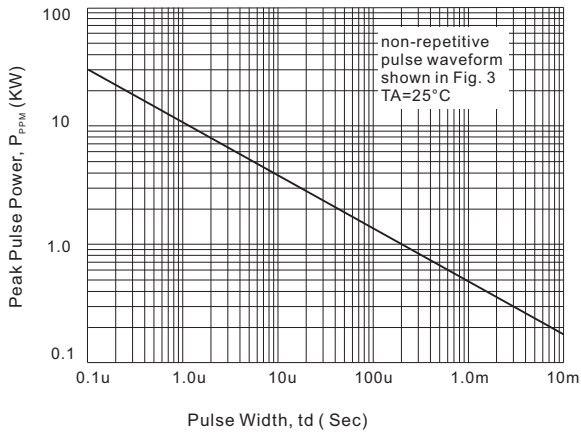
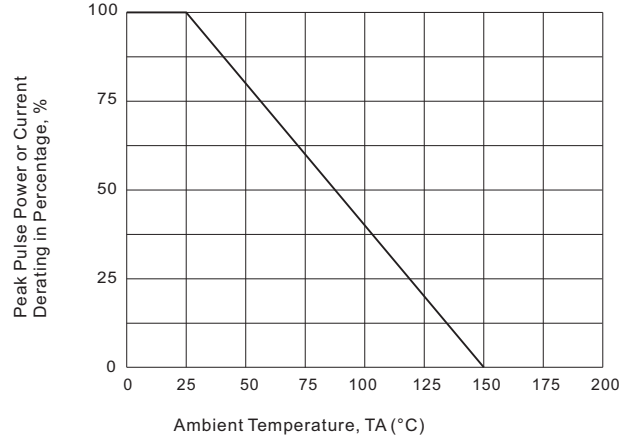
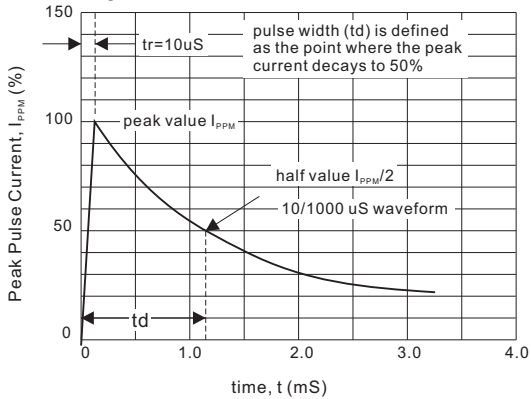
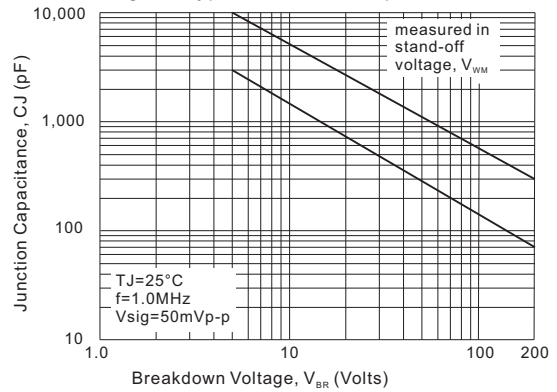
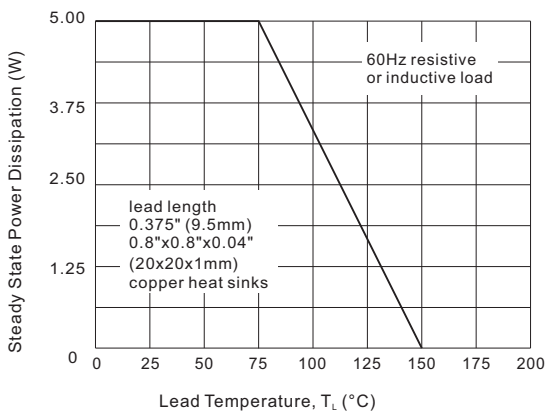
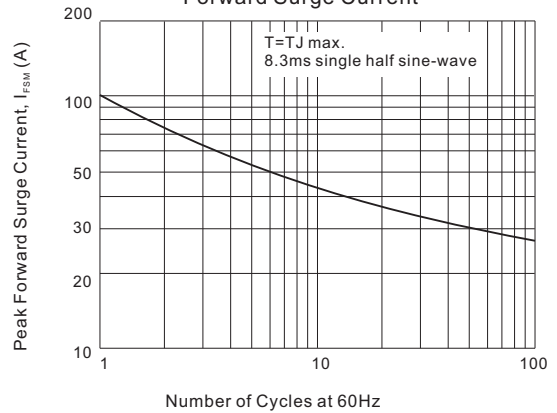
① Surge waveform: 10/1000μs

V_R : Stand-off Voltage -- Maximum voltage that can be applied

V_{BR}: Breakdown Voltage

V_C: Clamping Voltage -- Peak voltage measured across the suppressor at a specified I_{pp}

I_R: Reverse Leakage Current

Rating and characteristic curves
Fig.1 - Peak Pulse Power Rating Curve

Fig.2 - Pulse Derating Curve

Fig.3 - Pulse Waveform

Fig.4 - Typical Junction Capacitance

Fig.5 - Steady State Power Derating Curve

Fig.6 - Maximum Non-Repetitive Forward Surge Current


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