

SMA6J5.0(C)A THRU SMA6J440(C)A

600W Surface Mount Transient Voltage Suppressors

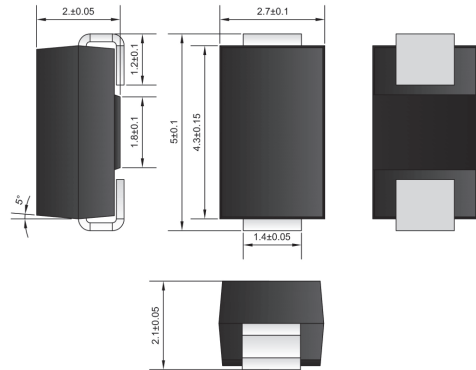
■ Features

- 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

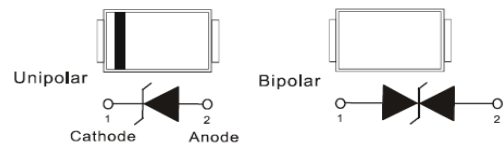
■ Mechanical data

- 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

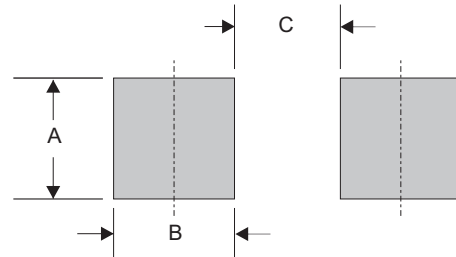
■ Outline SMA(DO-214AC)



Dimensions in millimeters



■ 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. Single phase, half wave, 60Hz, resistive or inductive load. 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 $V_{BR} > 201\text{V}$.

RATINGS AND CHARACTERISTIC CURV SMA6J5.0(C)A THRU SMA6J440(C)A

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
SMA6J5.0A	SMA6J5.0CA	KE	AE	5.0	100	6.40	7.00	10	9.2	65.2
SMA6J6.0A	SMA6J6.0CA	KG	AG	6.0	100	6.67	7.37	10	10.3	58.3
SMA6J6.5A	SMA6J6.5CA	KK	AK	6.5	50	7.22	7.98	10	11.2	53.6
SMA6J7.0A	SMA6J7.0CA	KM	AM	7.0	50	7.78	8.60	10	12.0	50.0
SMA6J7.5A	SMA6J7.5CA	KP	AP	7.5	50	8.33	9.21	1	12.9	46.5
SMA6J8.0A	SMA6J8.0CA	KR	AR	8.0	20	8.89	9.83	1	13.6	44.1
SMA6J8.5A	SMA6J8.5CA	KT	AT	8.5	10	9.44	10.40	1	14.4	41.7
SMA6J9.0A	SMA6J9.0CA	KV	AV	9.0	5	10.00	11.10	1	15.4	39.0
SMA6J10A	SMA6J10CA	KX	AX	10.0	2	11.10	12.30	1	17.0	35.3
SMA6J11A	SMA6J11CA	KZ	AZ	11.0	1	12.20	13.50	1	18.2	33.0
SMA6J12A	SMA6J12CA	LE	BE	12.0	1	13.30	14.70	1	19.9	30.2
SMA6J13A	SMA6J13CA	LG	BG	13.0	1	14.40	15.90	1	21.5	27.9
SMA6J14A	SMA6J14CA	LK	BK	14.0	1	15.60	17.20	1	23.2	25.9
SMA6J15A	SMA6J15CA	LM	BM	15.0	1	16.70	18.50	1	24.4	24.6
SMA6J16A	SMA6J16CA	LP	BP	16.0	1	17.80	19.70	1	26.0	23.1
SMA6J17A	SMA6J17CA	LR	BR	17.0	1	18.90	20.90	1	27.6	21.8
SMA6J18A	SMA6J18CA	LT	BT	18.0	1	20.00	22.10	1	29.2	20.6
SMA6J20A	SMA6J20CA	LV	BV	20.0	1	22.20	24.50	1	32.4	18.6
SMA6J22A	SMA6J22CA	LX	BX	22.0	1	24.40	26.90	1	35.5	16.9
SMA6J24A	SMA6J24CA	LZ	BZ	24.0	1	26.70	29.50	1	38.9	15.4
SMA6J26A	SMA6J26CA	ME	CE	26.0	1	28.90	31.90	1	42.1	14.3
SMA6J28A	SMA6J28CA	MG	CG	28.0	1	31.10	34.40	1	45.4	13.2
SMA6J30A	SMA6J30CA	MK	CK	30.0	1	33.30	36.80	1	48.4	12.4
SMA6J33A	SMA6J33CA	MM	CM	33.0	1	36.70	40.60	1	53.3	11.3
SMA6J36A	SMA6J36CA	MP	CP	36.0	1	40.00	44.20	1	58.1	10.4
SMA6J40A	SMA6J40CA	MR	CR	40.0	1	44.40	49.10	1	64.5	9.3
SMA6J43A	SMA6J43CA	MT	CT	43.0	1	47.80	52.80	1	69.4	8.7
SMA6J45A	SMA6J45CA	MV	CV	45.0	1	50.00	55.30	1	72.7	8.3
SMA6J48A	SMA6J48CA	MX	CX	48.0	1	53.30	58.90	1	77.4	7.8
SMA6J51A	SMA6J51CA	MZ	CZ	51.0	1	56.70	62.70	1	82.4	7.3

RATINGS AND CHARACTERISTIC CURV SMA6J5.0(C)A THRU SMA6J440(C)A

ELECTRICAL CHARACTERISTICS (T_A=25°C, continued)

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
SMA6J54A	SMA6J54CA	NE	DE	54.0	1	60.00	66.30	1	87.1	6.9
SMA6J58A	SMA6J58CA	NG	DG	58.0	1	64.40	71.20	1	93.6	6.4
SMA6J60A	SMA6J60CA	NK	DK	60.0	1	66.70	73.70	1	96.8	6.2
SMA6J64A	SMA6J64CA	NM	DM	64.0	1	71.10	78.60	1	103.0	5.8
SMA6J70A	SMA6J70CA	NP	DP	70.0	1	77.80	86.00	1	113.0	5.3
SMA6J75A	SMA6J75CA	NR	DR	75.0	1	83.30	92.10	1	121.0	5.0
SMA6J78A	SMA6J78CA	NT	DT	78.0	1	86.70	95.80	1	126.0	4.8
SMA6J85A	SMA6J85CA	NV	DV	85.0	1	94.40	104.0	1	137.0	4.4
SMA6J90A	SMA6J90CA	NX	DX	90.0	1	100.0	111.0	1	146.0	4.1
SMA6J100A	SMA6J100CA	NZ	DZ	100.0	1	111.0	123.0	1	162.0	3.7
SMA6J110A	SMA6J110CA	PE	EE	110.0	1	122.0	135.0	1	177.0	3.4
SMA6J120A	SMA6J120CA	PG	EG	120.0	1	133.0	147.0	1	193.0	3.1
SMA6J130A	SMA6J130CA	PK	EK	130.0	1	144.0	159.0	1	209.0	2.9
SMA6J150A	SMA6J150CA	PM	EM	150.0	1	167.0	185.0	1	243.0	2.5
SMA6J160A	SMA6J160CA	PP	EP	160.0	1	178.0	197.0	1	259.0	2.3
SMA6J170A	SMA6J170CA	PR	ER	170.0	1	189.0	209.0	1	275.0	2.2
SMA6J180A	SMA6J180CA	PT	ET	180.0	1	200.0	220.0	1	292.0	2.1
SMA6J200A	SMA6J200CA	PW	EW	200.0	1	224.0	247.0	1	324.0	1.9
SMA6J220A	SMA6J220CA	PX	EX	220.0	1	246.0	272.0	1	356.0	1.7
SMA6J250A	SMA6J250CA	PZ	EZ	250.0	1	279.0	309.0	1	405.0	1.5
SMA6J300A	SMA6J300CA	QE	FE	300.0	1	335.0	371.0	1	486.0	1.2
SMA6J350A	SMA6J350CA	QG	FG	350.0	1	391.0	432.0	1	567.0	1.1
SMA6J400A	SMA6J400CA	QK	FK	400.0	1	447.0	494.0	1	648.0	0.9
SMA6J440A	SMA6J440CA	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

RATINGS AND CHARACTERISTIC CURV SMA6J5.0(C)A THRU SMA6J440(C)A

Rating and characteristic curves

