

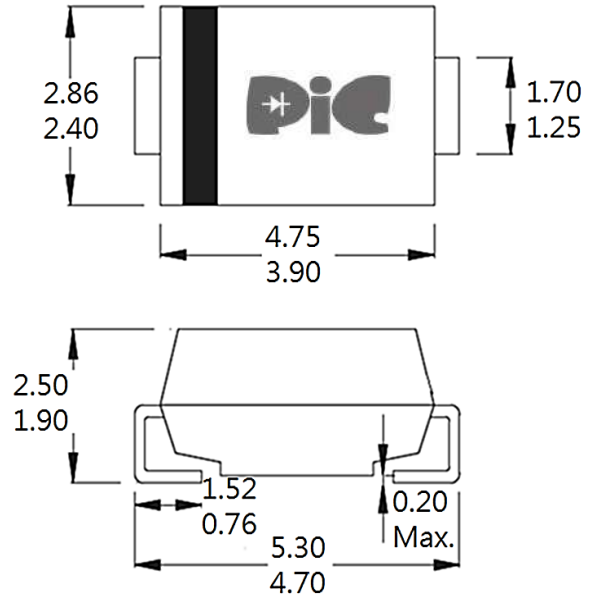
Features

- Glass passivated chip
- 600 W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard

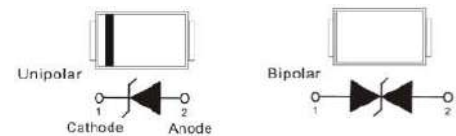
Mechanical Data

- Case: Molded, Plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

SMA/ DO-214AC



Unit: millimeters



Maximum Ratings($T_a = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	UNIT
Peak power dissipation, with a 10/1000us waveform (1) (2)	P_{PPM}	600	W
Peak pulse current, with a 10/1000us waveform (1)	I_{PPM}	See Next Table	A
Power dissipation on infinite heat sink at $T_L = 75^\circ\text{C}$	P_D	3.0	W
Peak forward surge current, 8.3ms single half sine-wave unidirectional only(2)	I_{FSM}	60	A
Maximum instantaneous forward voltage at 25 A for unidirectional only	V_F	3.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 ~ +150	$^\circ\text{C}$

Notes :

(1) Non-repetitive current pulse, per Fig. 3 and derated above $T_A = 25^\circ\text{C}$ per Fig.2.

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



SMA6J5.0A THRU SMA6J440A

Surface Mount Transient Voltage Suppressors Reverse

Voltage:5.0 to 440V

Peak Pulse Power:600W

Part Number		Marking Code		Breakdown Voltage V_{BR} @ I_T			Max. Reverse Leakage I_R @ V_{RWM} (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Max. Reverse Surge Current $I_{PP}^{(4)}$ (A)	Max. Clamp Voltage V_C @ I_{PP} (V)
		UNI	BI	Min (V)	Max (V)	$I_T^{(3)}$ (mA)				
SMA6J5.0A	SMA6J5.0CA	KE	AE	6.40	7.00	10	800	5.0	65.3	9.2
SMA6J6.0A	SMA6J6.0CA	KG	AG	6.67	7.37	10	800	6.0	58.3	10.3
SMA6J6.5A	SMA6J6.5CA	KK	AK	7.22	7.98	10	500	6.5	53.6	11.2
SMA6J7.0A	SMA6J7.0CA	KM	AM	7.78	8.60	10	200	7.0	50.0	12.0
SMA6J7.5A	SMA6J7.5CA	KP	AP	8.33	9.21	1	100	7.5	46.6	12.9
SMA6J8.0A	SMA6J8.0CA	KR	AR	8.89	9.83	1	50	8.0	44.2	13.6
SMA6J8.5A	SMA6J8.5CA	KT	AT	9.44	10.40	1	20	8.5	41.7	14.4
SMA6J9.0A	SMA6J9.0CA	KV	AV	10.0	11.1	1	10	9.0	39.0	15.4
SMA6J10A	SMA6J10CA	KX	AX	11.1	12.3	1	5	10.0	35.3	17.0
SMA6J11A	SMA6J11CA	KZ	AZ	12.2	13.5	1	5	11.0	33.0	18.2
SMA6J12A	SMA6J12CA	LE	BE	13.3	14.7	1	5	12.0	30.2	19.9
SMA6J13A	SMA6J13CA	LG	BG	14.4	15.9	1	1	13.0	28.0	21.5
SMA6J14A	SMA6J14CA	LK	BK	15.6	17.2	1	1	14.0	25.9	23.2
SMA6J15A	SMA6J15CA	LM	BM	16.7	18.5	1	1	15.0	24.6	24.4
SMA6J16A	SMA6J16CA	LP	BP	17.8	19.7	1	1	16.0	23.1	26.0
SMA6J17A	SMA6J17CA	LR	BR	18.9	20.9	1	1	17.0	21.8	27.6
SMA6J18A	SMA6J18CA	LT	BT	20.0	22.1	1	1	18.0	20.6	29.2
SMA6J20A	SMA6J20CA	LV	BV	22.2	24.5	1	1	20.0	18.6	32.4
SMA6J22A	SMA6J22CA	LX	BX	24.4	26.9	1	1	22.0	16.9	35.5
SMA6J24A	SMA6J24CA	LZ	BZ	26.7	29.5	1	1	24.0	15.5	38.9
SMA6J26A	SMA6J26CA	ME	CE	28.9	31.9	1	1	26.0	14.3	42.1
SMA6J28A	SMA6J28CA	MG	CG	31.1	34.4	1	1	28.0	13.3	45.4
SMA6J30A	SMA6J30CA	MK	CK	33.3	36.8	1	1	30.0	12.4	48.4
SMA6J33A	SMA6J33CA	MM	CM	36.7	40.6	1	1	33.0	11.3	53.3
SMA6J36A	SMA6J36CA	MP	CP	40.0	44.2	1	1	36.0	10.4	58.1
SMA6J40A	SMA6J40CA	MR	CR	44.4	49.1	1	1	40.0	9.3	64.5
SMA6J43A	SMA6J43CA	MT	CT	47.8	52.8	1	1	43.0	8.7	69.4
SMA6J45A	SMA6J45CA	MV	CV	50.0	55.3	1	1	45.0	8.3	72.7
SMA6J48A	SMA6J48CA	MX	CX	53.3	58.9	1	1	48.0	7.8	77.4
SMA6J51A	SMA6J51CA	MZ	CZ	56.7	62.7	1	1	51.0	7.3	82.4
SMA6J54A	SMA6J54CA	NE	DE	60.0	66.3	1	1	54.0	6.9	87.1
SMA6J58A	SMA6J58CA	NG	DG	64.4	71.2	1	1	58.0	6.5	93.6
SMA6J60A	SMA6J60CA	NK	DK	66.7	73.7	1	1	60.0	6.2	96.8
SMA6J64A	SMA6J64CA	NM	DM	71.1	78.6	1	1	64.0	5.9	103.0
SMA6J70A	SMA6J70CA	NP	DP	77.8	86.0	1	1	70.0	5.3	113.0
SMA6J75A	SMA6J75CA	NR	DR	83.3	92.1	1	1	75.0	5.0	121.0
SMA6J78A	SMA6J78CA	NT	DT	86.70	95.8	1	1	78.0	4.8	126.0
SMA6J85A	SMA6J85CA	NV	DV	94.40	104.0	1	1	85.0	4.4	137.0
SMA6J90A	SMA6J90CA	NX	DX	100.0	111.0	1	1	90.0	4.1	146.0
SMA6J100A	SMA6J100CA	NZ	DZ	111.0	123.0	1	1	100.0	3.7	162.0
SMA6J110A	SMA6J110CA	PE	EE	122.0	135.0	1	1	110.0	3.4	177.0



SMA6J5.0A THRU SMA6J440A

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Peak Pulse Power:600W

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		UNI	BI	Min (V)	Max (V)	$I_T^{(3)}$ (mA)				
SMA6J120A	SMA6J120CA	PG	EG	133.0	147.0	1	1	120.0	3.1	193.0
SMA6J130A	SMA6J130CA	PK	EK	144.0	159.0	1	1	130.0	2.9	209.0
SMA6J150A	SMA6J150CA	PM	EM	167.0	185.0	1	1	150.0	2.5	243.0
SMA6J160A	SMA6J160CA	PP	EP	178.0	197.0	1	1	160.0	2.3	259.0
SMA6J170A	SMA6J170CA	PR	ER	189.0	209.0	1	1	170.0	2.2	275.0
SMA6J180A	SMA6J180CA	PT	ET	201.0	222.0	1	1	180.0	2.1	292.0
SMA6J190A	SMA6J190CA	PA	EC	209.0	243.0	1	1	190.0	2.0	308.0
SMA6J200A	SMA6J200CA	PV	EV	224.0	247.0	1	1	200.0	1.9	324.0
SMA6J210A	SMA6J210CA	PB	ED	231.0	268.0	1	1	210.0	1.8	340.0
SMA6J220A	SMA6J220CA	PX	EX	246.0	272.0	1	1	220.0	1.7	356.0
SMA6J250A	/	PZ	/	279.0	309.0	1	1	250.0	1.5	405.0
SMA6J300A	/	QE	/	335.0	371.0	1	1	300.0	1.3	486.0
SMA6J350A	/	QG	/	391.0	432.0	1	1	350.0	1.1	567.0
SMA6J400A	/	QK	/	447.0	494.0	1	1	400.0	0.9	648.0
SMA6J440A	/	QM	/	492.0	543.0	1	1	440.0	0.9	713.0

Notes :

- (3) Pulse test: $t_p \leq 50ms$.
- (4) Surge current waveform per Fig. 3 and derated per Fig.2

Typical Characteristics

Fig. 1 Peak Pulse Power Rating Curve

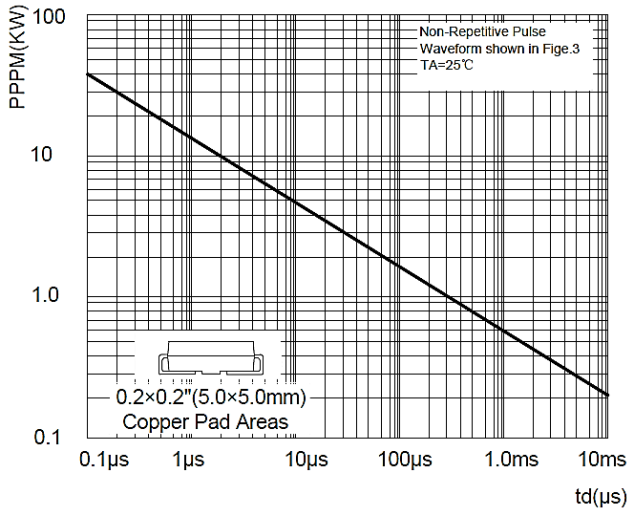


Fig. 2 Pulse Power or Current vs. Initial Junction Temperature

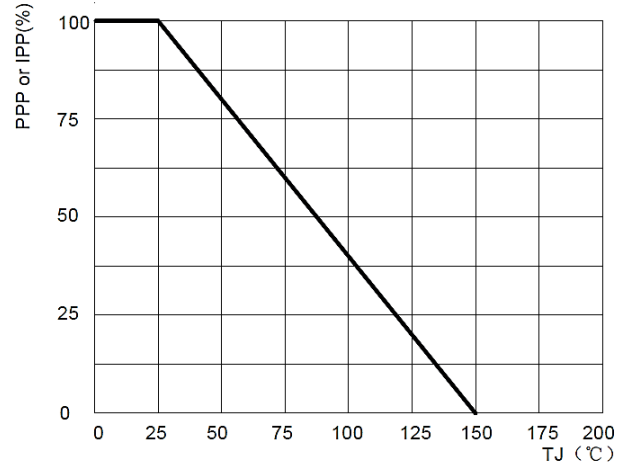


Fig. 3 Pulse waveform

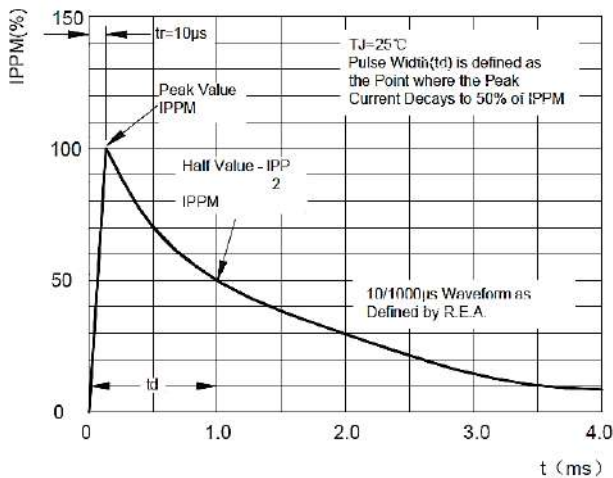


Fig. 4 Maximum Non-Repetitive Surge Current

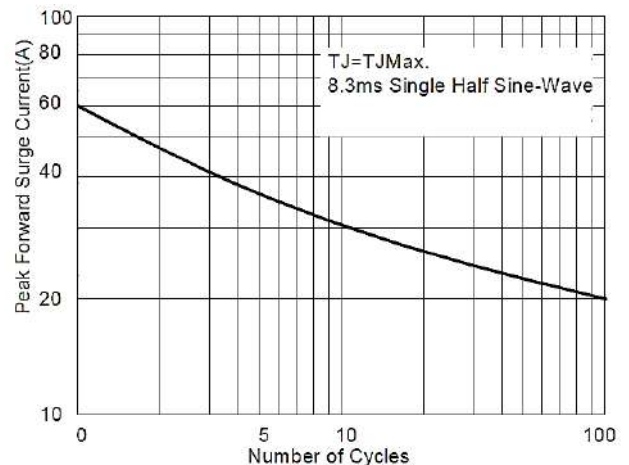
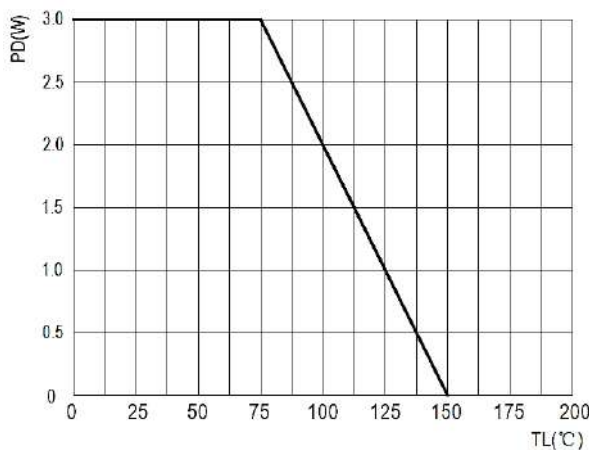
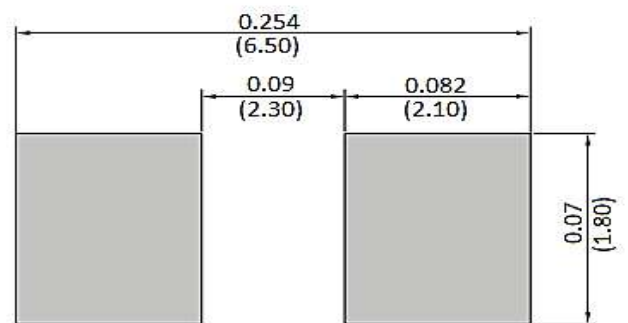


Fig. 5 Steady State Power Dissipation

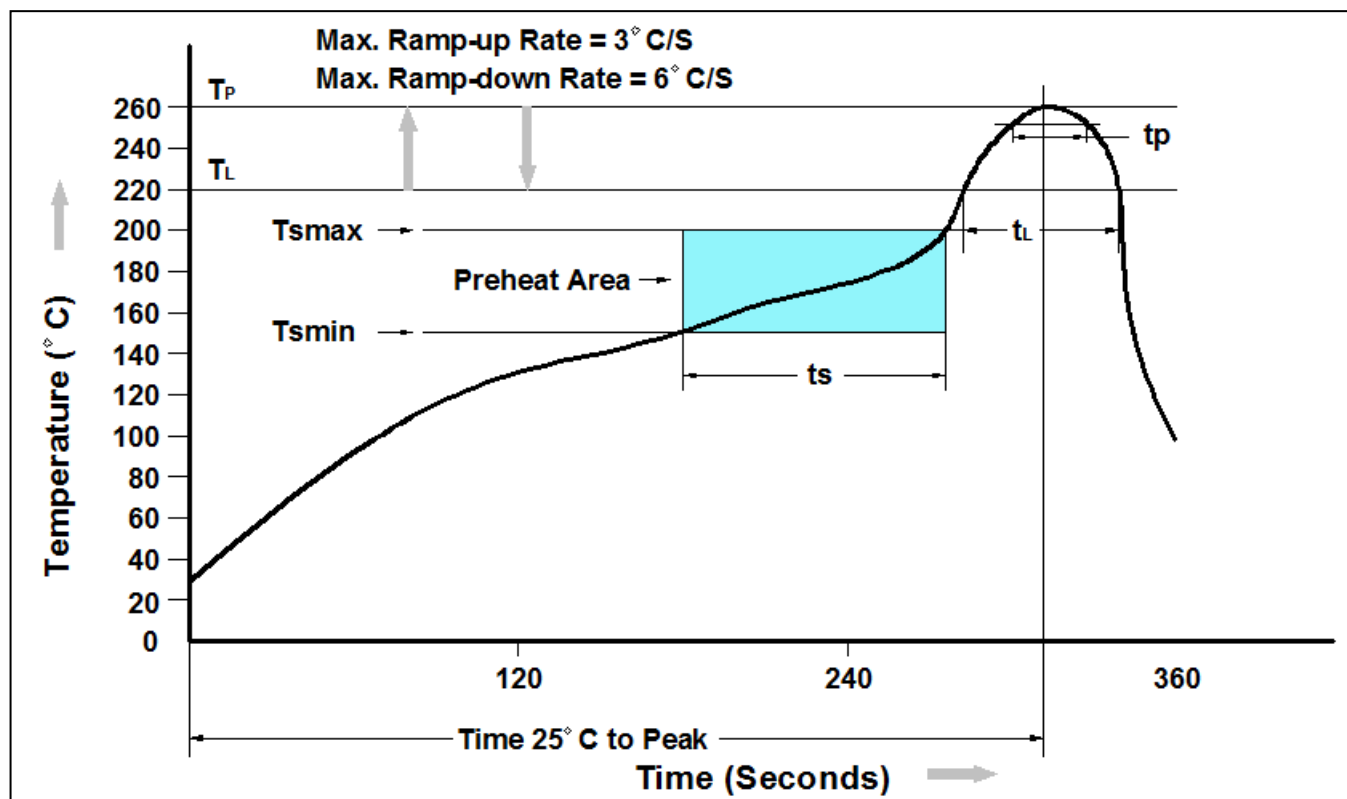


Suggested Pad Layout



Unit: inch (mm)

Recommend IR Reflow Soldering Thermal Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (Tssmin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (Tssmin to Tsmax)	60-120 seconds
Average Ramp-up Rate (tL to tP)	3°C/second max.
Liquidous Temperature (TL)	217°C
Time (tL) Maintained Above (TL)	60 – 150 seconds
Peak Temperature	260°C +0°C / -5°C
Time (tP) within 5°C of actual Peak Temperature	30 seconds
Ramp-down Rate (TP to TL)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.

Ordering Information

Part Number	Description	Quantity
SMA6J5.0A~SMA6J440A	SMA / TR	5000 pcs



SMA6J5.0A THRU SMA6J440A

Surface Mount Transient Voltage Suppressors Reverse

Voltage:5.0 to 440V

Peak Pulse Power:600W

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