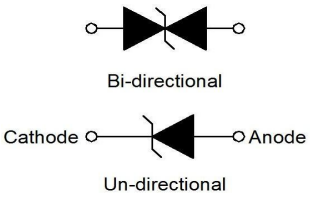
600W Transient Voltage Suppressor

Parameter	Value	Unit
P_{PP}	600	W
V_{RWM}	5~75	V
T_j	-55 to +125	°C



SMA / DO-214AC

Features

- For surface mounted applications
- Excellent clamping capability
- 600W peak pulse power capability with a 10/1000μs waveform
- Low profile package and low inductance
- Typical I_R less than 1uA above 10V
- Fast response time: typically less than 1.0ps from 0V to V_{BR} min

Applications

- Computer System
- Domestic Appliance
- Video Input

Maximum Rated Values (at T_j = 25°C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 10/1000μs waveform	P_{PP}	600	W
Steady state power dissipation at T_L=75℃	$P_{M(AV)}$	5.0	W
Operating junction temperature range	T_j	-55 to +125	°C
Storage temperature range	T_{stg}	-55 to +150	°C

Electrical Characteristics (at Tj = 25°C unless otherwise specified)

Part Number		VR	IR@VR	VBR@IT		IT	VC@IPP	IPP①
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
6SMAJ5.0A	6SMAJ5.0CA	5.0	800	6.40	7.00	10	9.2	65.22
6SMAJ6.0A	6SMAJ6.0CA	6.0	800	6.67	7.37	10	10.3	58.26
6SMAJ6.5A	6SMAJ6.5CA	6.5	500	7.22	7.98	10	11.2	53.58
6SMAJ7.0A	6SMAJ7.0CA	7.0	200	7.78	8.60	10	12.0	50.00
6SMAJ7.5A	6SMAJ7.5CA	7.5	100	8.33	9.21	1	12.9	46.52
6SMAJ8.0A	6SMAJ8.0CA	8.0	50	8.89	9.83	1	13.6	44.12
6SMAJ8.5A	6SMAJ8.5CA	8.5	20	9.44	10.40	1	14.4	41.7
6SMAJ9.0A	6SMAJ9.0CA	9.0	10	10.00	11.10	1	15.4	38.98
6SMAJ10A	6SMAJ10CA	10.0	5	11.10	12.30	1	17.0	35.30
6SMAJ11A	6SMAJ11CA	11.0	1	12.20	13.50	1	18.2	32.97
6SMAJ12A	6SMAJ12CA	12.0	1	13.30	14.70	1	19.9	30.2

6SMAJ13A	6SMAJ13CA	13.0	1	14.40	15.90	1	21.5	27.91
6SMAJ14A	6SMAJ14CA	14.0	1	15.60	17.20	1	23.2	25.87
6SMAJ15A	6SMAJ15CA	15.0	1	16.70	18.50	1	24.4	24.60
6SMAJ16A	6SMAJ16CA	16.0	1	17.80	19.70	1	26.0	23.08
6SMAJ17A	6SMAJ17CA	17.0	1	18.90	20.90	1	27.6	21.74
6SMAJ18A	6SMAJ18CA	18.0	1	20.00	22.10	1	29.2	20.55
6SMAJ20A	6SMAJ20CA	20.0	1	22.20	24.50	1	32.4	18.52
6SMAJ22A	6SMAJ22CA	22.0	1	24.40	26.90	1	35.5	16.91
6SMAJ24A	6SMAJ24CA	24.0	1	26.70	29.50	1	38.9	15.43
6SMAJ26A	6SMAJ26CA	26.0	1	28.90	31.90	1	42.1	14.26
6SMAJ28A	6SMAJ28CA	28.0	1	31.10	34.40	1	45.4	13.22
6SMAJ30A	6SMAJ30CA	30.0	1	33.30	36.80	1	48.4	12.40
6SMAJ33A	6SMAJ33CA	33.0	1	36.70	40.60	1	53.3	11.26
6SMAJ36A	6SMAJ36CA	36.0	1	40.00	44.20	1	58.1	10.33
6SMAJ40A	6SMAJ40CA	40.0	1	44.40	49.10	1	64.5	9.31
6SMAJ43A	6SMAJ43CA	43.0	1	47.80	52.80	1	69.4	8.65
6SMAJ45A	6SMAJ45CA	45.0	1	50.00	55.30	1	72.7	8.26
6SMAJ48A	6SMAJ48CA	48.0	1	53.30	58.90	1	77.4	7.78
6SMAJ51A	6SMAJ51CA	51.0	1	56.70	62.70	1	82.4	7.29
6SMAJ54A	6SMAJ54CA	54.0	1	60.00	66.30	1	87.1	6.89
6SMAJ58A	6SMAJ58CA	58.0	1	64.40	71.20	1	93.6	6.42
6SMAJ60A	6SMAJ60CA	60.0	1	66.70	73.70	1	96.8	6.20
6SMAJ64A	6SMAJ64CA	64.0	1	71.10	78.60	1	103.0	5.83
6SMAJ70A	6SMAJ70CA	70.0	1	77.80	86.00	1	113.0	5.31
6SMAJ75A	6SMAJ75CA	75.0	1	83.30	92.10	1	121.0	4.96

Ratings And V-I Characteristics Curves (at T_j=25ºC, unless otherwise noted)

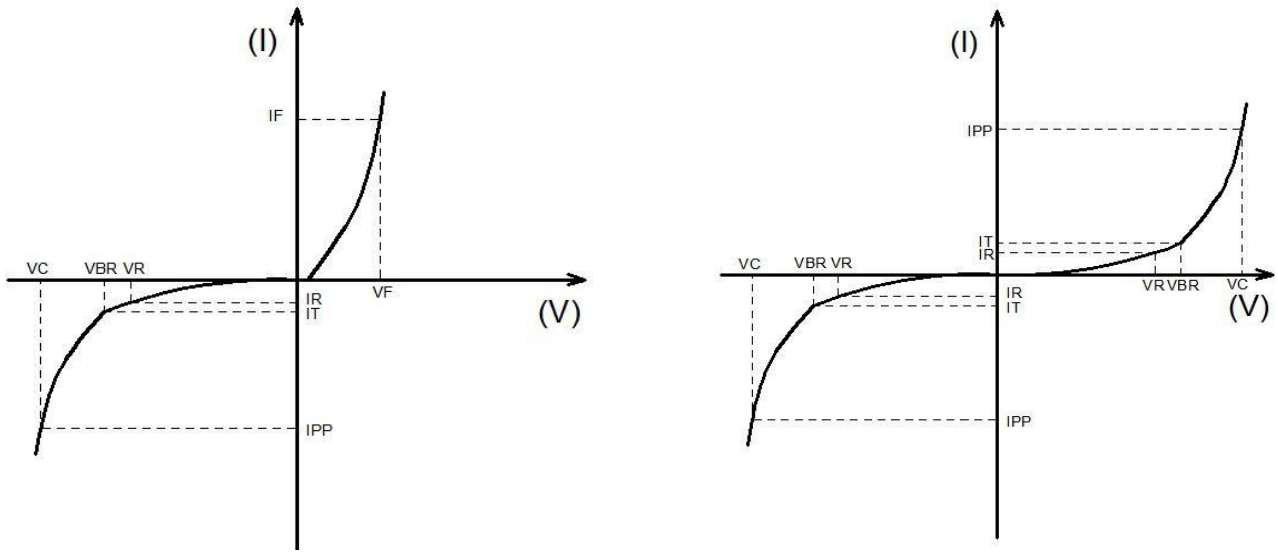


FIG1：V-I cure characteristics

Symbol	Parameter
I_F	Mean Forward Current
V_F	Maximum Forward Voltage @I_F
V_R	Peak Reverse Working Voltage
T_R	Reverse Leakage Current @ V_R
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}

Typical Characteristics

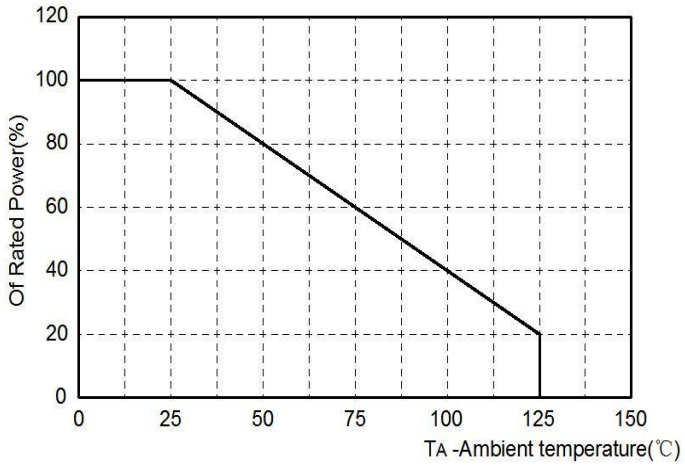


FIG2：Pulse Derating Curve

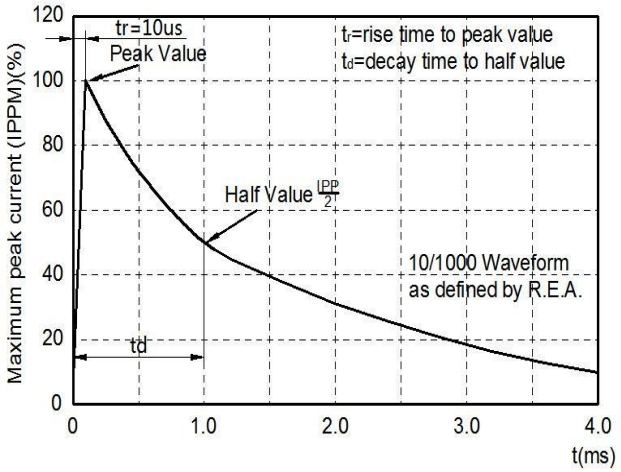


FIG3：Pulse Waveform

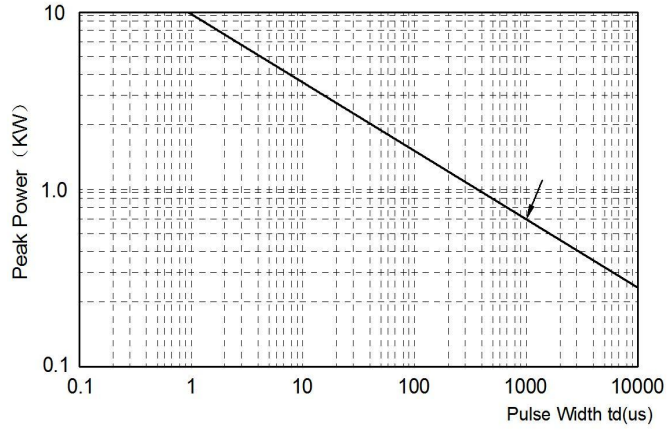


FIG4：Peak Pulse Power Rating Curve

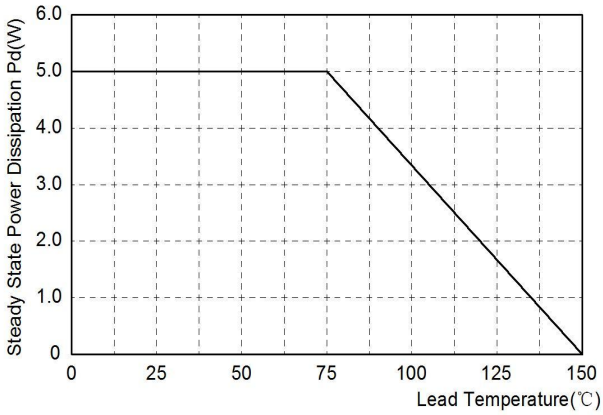
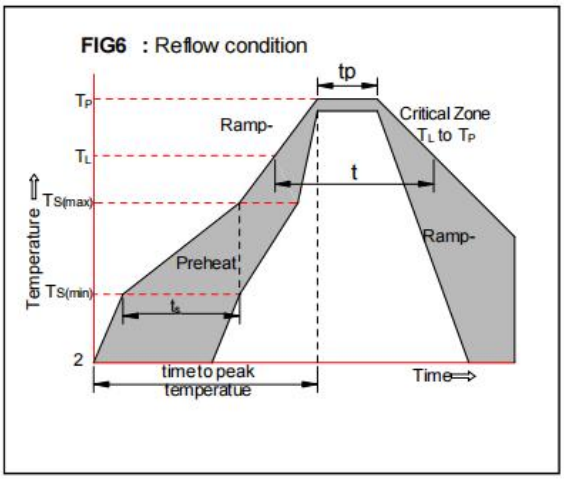


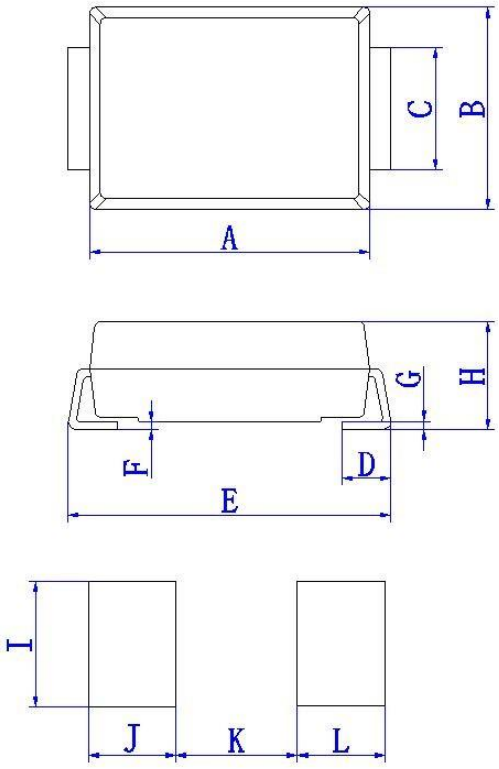
FIG5：Steady State Power Dissipation

Soldering parameters

Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	Temperature Min ($T_{s(min)}$)	+150℃
	Temperature Max($T_{s(max)}$)	+200℃
	Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	Temperature(T_L)(Liquid us)	+217℃
	Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃



Package Outlines SMA / DO-214AC



Ref.(mm)	Millimeters	
	Min.	Max.
A	3.99	4.5
B	2.5	2.9
C	1.2	1.7
D	0.76	1.52
E	4.93	5.28
F	0	0.203
G	0.15	0.25
H	1.98	2.41
I	1.50	1.70
J	1.40	1.60
K	2.30	2.50

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