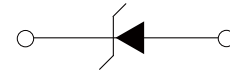


FEATURES

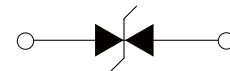
- | Low profile package
- | Ideal for automated placement
- | 600 Watt peak pulse power capability with a 10/1000µs waveform
- | For surface mounted applicatons to optimize board space
- | Excellent clamping capability
- | Very fast response time
- | Low incremental surge resistance
- | Meet AEC-Q101 Requirements



DO-214AC(SMA)



Uni-directionnal



Bi-directionnal

APPLICATIONS

- | Power supply protection
- | Automotive application
- | Industrial application
- | Power management

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000us waveform (Note1, Note2).	P_{PPM}	600	Watts
Steady State Power Dissipation at $T_L=75^{\circ}\text{C}$, Lead lengths.375" (9.5mm) (Note2)	P_D	3.3	Watts

Notes : 1.Non-repetitive current pulse, $T_A=25^{\circ}\text{C}$.

2.Mounted on 5.0mm x 5.0mm (0.03mm thick) Copper Pads to each terminal.

THERMAL CONSIDERATIONS

Parameter	Symbol	Value	Unit
Operating Junction Temperature	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}\text{C}$
Junction to Ambient on printed circuit	$R_{\theta JA}$	120	$^{\circ}\text{C}/\text{W}$

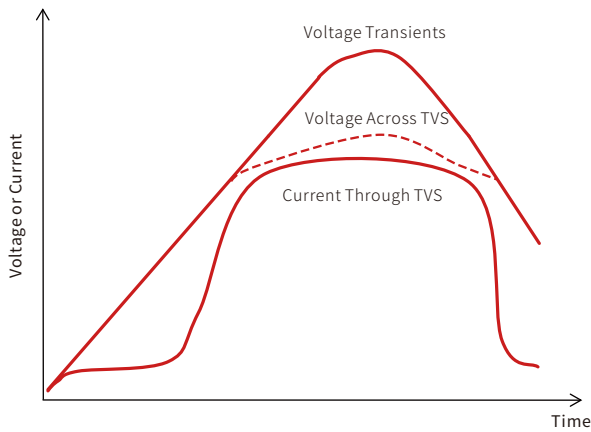
ELECTRICAL CHARACTERISTICS (T_A=25°C)

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage Min.@I _T	Breakdown Voltage Max.@I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
Uni-Polar	Bi-Polar	Uni	Bi	V _{RWM} (V)	V _{BR} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
TPSMA6J5.0A	TPSMA6J5.0CA	6KEA	6AEA	5.0	6.40	7.00	10	9.2	65.3	800
TPSMA6J6.0A	TPSMA6J6.0CA	6KGA	6AGA	6.0	6.67	7.37	10	10.3	58.3	800
TPSMA6J6.5A	TPSMA6J6.5CA	6KKA	6AKA	6.5	7.22	7.98	10	11.2	53.6	500
TPSMA6J7.0A	TPSMA6J7.0CA	6KMA	6AMA	7.0	7.78	8.60	10	12.0	50.0	200
TPSMA6J7.5A	TPSMA6J7.5CA	6KPA	6APA	7.5	8.33	9.21	1	12.9	46.6	100
TPSMA6J8.0A	TPSMA6J8.0CA	6KRA	6ARA	8.0	8.89	9.83	1	13.6	44.2	50
TPSMA6J8.5A	TPSMA6J8.5CA	6KTA	6ATA	8.5	9.44	10.4	1	14.4	41.7	20
TPSMA6J9.0A	TPSMA6J9.0CA	6KVA	6AVA	9.0	10.0	11.1	1	15.4	39.0	10
TPSMA6J10A	TPSMA6J10CA	6KXA	6AXA	10.0	11.1	12.3	1	17.0	35.3	5
TPSMA6J11A	TPSMA6J11CA	6KZA	6AZA	11.0	12.2	13.5	1	18.2	33.0	1
TPSMA6J12A	TPSMA6J12CA	6LEA	6BEA	12.0	13.3	14.7	1	19.9	30.2	1
TPSMA6J13A	TPSMA6J13CA	6LGA	6BGA	13.0	14.4	15.9	1	21.5	28.0	1
TPSMA6J14A	TPSMA6J14CA	6LKA	6BKA	14.0	15.6	17.2	1	23.2	25.9	1
TPSMA6J15A	TPSMA6J15CA	6LMA	6BMA	15.0	16.7	18.5	1	24.4	24.6	1
TPSMA6J16A	TPSMA6J16CA	6LPA	6BPA	16.0	17.8	19.7	1	26.0	23.1	1
TPSMA6J17A	TPSMA6J17CA	6LRA	6BRA	17.0	18.9	20.9	1	27.6	21.8	1
TPSMA6J18A	TPSMA6J18CA	6LTA	6BTA	18.0	20.0	22.1	1	29.2	20.6	1
TPSMA6J20A	TPSMA6J20CA	6LVA	6BVA	20.0	22.2	24.5	1	32.4	18.6	1
TPSMA6J22A	TPSMA6J22CA	6LXA	6BXA	22.0	24.4	26.9	1	35.5	16.9	1
TPSMA6J24A	TPSMA6J24CA	6LZA	6BZA	24.0	26.7	29.5	1	38.9	15.5	1
TPSMA6J26A	TPSMA6J26CA	6MEA	6CEA	26.0	28.9	31.9	1	42.1	14.3	1
TPSMA6J28A	TPSMA6J28CA	6MGA	6CGA	28.0	31.1	34.4	1	45.4	13.3	1
TPSMA6J30A	TPSMA6J30CA	6MKA	6CKA	30.0	33.3	36.8	1	48.4	12.4	1
TPSMA6J33A	TPSMA6J33CA	6MMA	6CMA	33.0	36.7	40.6	1	53.3	11.3	1
TPSMA6J36A	TPSMA6J36CA	6MPA	6CPA	36.0	40.0	44.2	1	58.1	10.4	1
TPSMA6J40A	TPSMA6J40CA	6MRA	6CRA	40.0	44.4	49.1	1	64.5	9.3	1
TPSMA6J43A	TPSMA6J43CA	6MTA	6CTA	43.0	47.8	52.8	1	69.4	8.7	1
TPSMA6J45A	TPSMA6J45CA	6MVA	6CVA	45.0	50.0	55.3	1	72.7	8.3	1
TPSMA6J48A	TPSMA6J48CA	6MXA	6CXA	48.0	53.3	58.9	1	77.4	7.8	1
TPSMA6J51A	TPSMA6J51CA	6MZA	6CZA	51.0	56.7	62.7	1	82.4	7.3	1
TPSMA6J54A	TPSMA6J54CA	6NEA	6DEA	54.0	60.0	66.3	1	87.1	6.9	1
TPSMA6J58A	TPSMA6J58CA	6NGA	6DGA	58.0	64.4	71.2	1	93.6	6.5	1

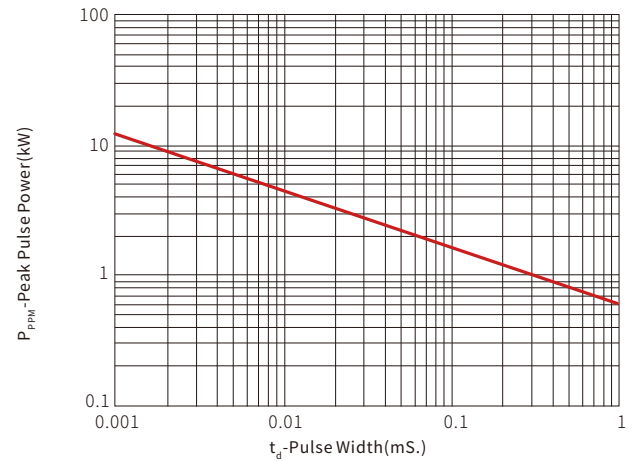
Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage Min.@I _T	Breakdown Voltage Max.@I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
Uni-Polar	Bi-Polar	Uni	Bi	V _{RWM} (V)	V _{BR} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
TPSMA6J60A	TPSMA6J60CA	6NKA	6DKA	60.0	66.7	73.7	1	96.8	6.2	1
TPSMA6J64A	TPSMA6J64CA	6NMA	6DMA	64.0	71.1	78.6	1	103.0	5.9	1
TPSMA6J70A	TPSMA6J70CA	6NPA	6DPA	70.0	77.8	86.0	1	113.0	5.3	1
TPSMA6J75A	TPSMA6J75CA	6NRA	6DRA	75.0	83.3	92.1	1	121.0	5.0	1
TPSMA6J78A	TPSMA6J78CA	6NTA	6DTA	78.0	86.7	95.8	1	126.0	4.8	1
TPSMA6J85A	TPSMA6J85CA	6NVA	6DVA	85.0	94.4	104.0	1	137.0	4.4	1
TPSMA6J90A	TPSMA6J90CA	6NXA	6DXA	90.0	100.0	111.0	1	146.0	4.1	1
TPSMA6J100A	TPSMA6J100CA	6NZA	6DZA	100.0	111.0	123.0	1	162.0	3.7	1
TPSMA6J110A	TPSMA6J110CA	6PEA	6EEA	110.0	122.0	135.0	1	177.0	3.4	1
TPSMA6J120A	TPSMA6J120CA	6PGA	6EGA	120.0	133.0	147.0	1	193.0	3.1	1
TPSMA6J130A	TPSMA6J130CA	6PKA	6EKA	130.0	144.0	159.0	1	209.0	2.9	1
TPSMA6J150A	TPSMA6J150CA	6PMA	6EMA	150.0	167.0	185.0	1	243.0	2.5	1
TPSMA6J160A	TPSMA6J160CA	6PPA	6EPA	160.0	178.0	197.0	1	259.0	2.3	1
TPSMA6J170A	TPSMA6J170CA	6PRA	6ERA	170.0	189.0	209.0	1	275.0	2.2	1
TPSMA6J180A	TPSMA6J180CA	6PTA	6ETA	180.0	201.0	222.0	1	292.0	2.1	1
TPSMA6J190A	TPSMA6J190CA	6PAA	6ECA	190.0	209.0	243.0	1	308.0	2.0	1
TPSMA6J200A	TPSMA6J200CA	6PVA	6EVA	200.0	224.0	247.0	1	324.0	1.9	1
TPSMA6J210A	TPSMA6J210CA	6PBA	6EDA	210.0	231.0	269.0	1	340.0	1.8	1
TPSMA6J220A	TPSMA6J220CA	6PXA	6EXA	220.0	246.0	272.0	1	356.0	1.7	1
TPSMA6J250A	TPSMA6J250CA	6PZA	6EZA	250.0	279.0	309.0	1	405.0	1.5	1
TPSMA6J300A	TPSMA6J300CA	6QEA	6FEA	300.0	335.0	371.0	1	486.0	1.3	1
TPSMA6J350A	TPSMA6J350CA	6QGA	6FGA	350.0	391.0	432.0	1	567.0	1.1	1
TPSMA6J400A	TPSMA6J400CA	6QKA	6FKA	400.0	447.0	494.0	1	648.0	0.9	1
TPSMA6J440A	TPSMA6J440CA	6QMA	6FMA	440.0	492.0	543.0	1	713.0	0.8	1

CHARACTERISTIC CURVES

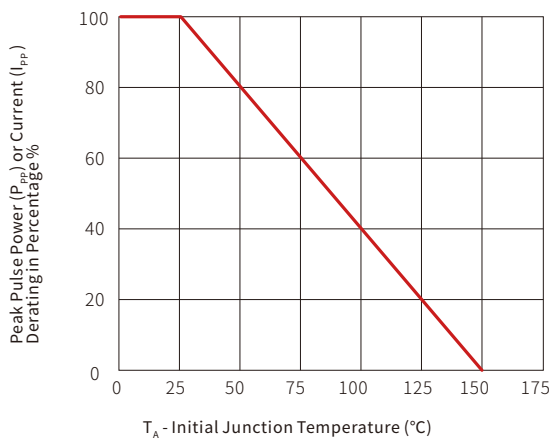
TVS Transients Clamping Waveform



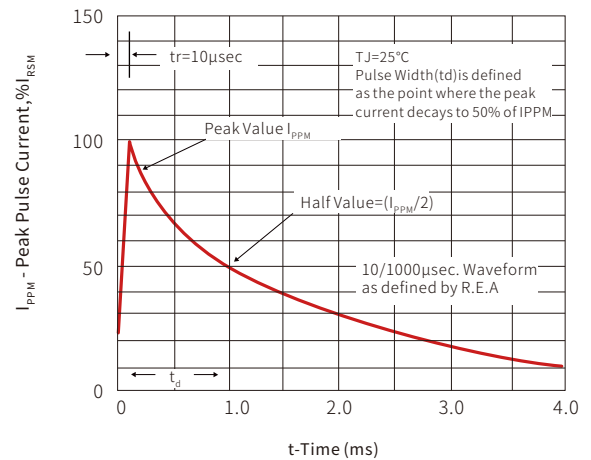
Peak Pulse Power Rating Curve

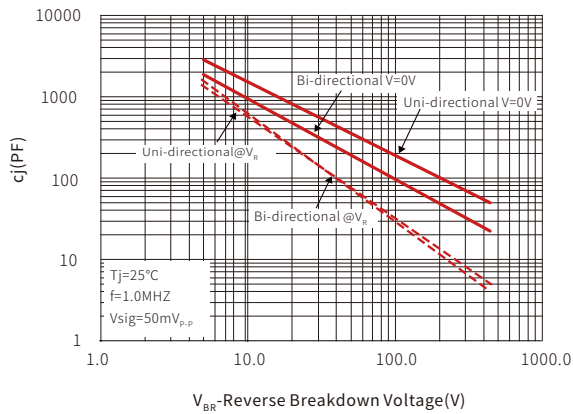
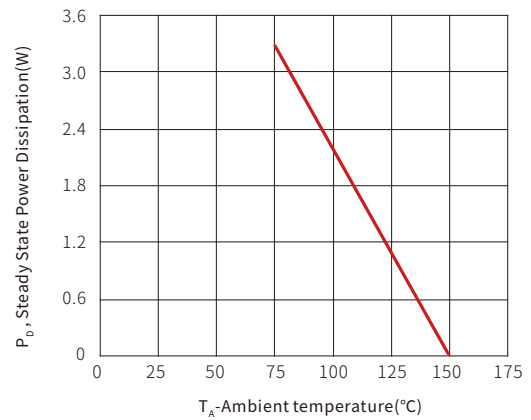


Pulse Derating Curve



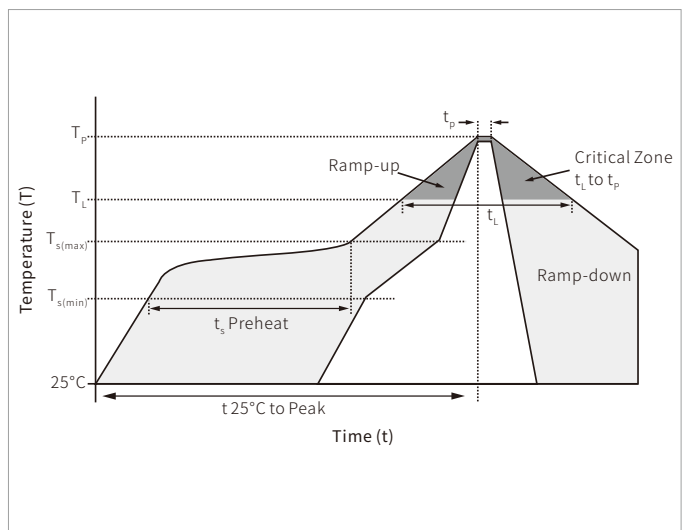
Pulse Waveform



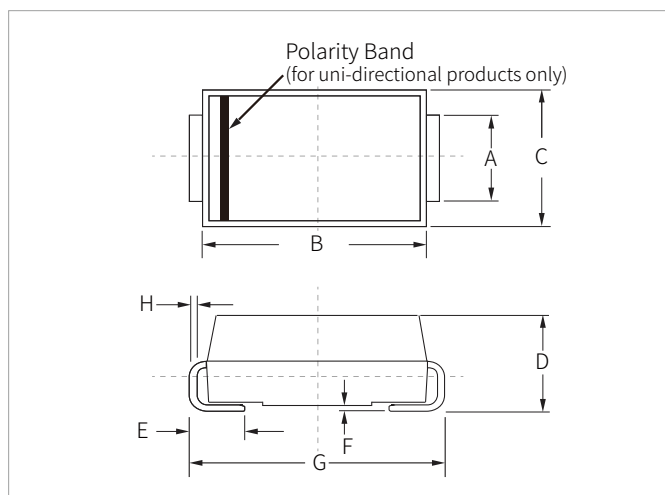
Typical Junction Capacitance

Steady State Power Dissipation Derating Curve


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

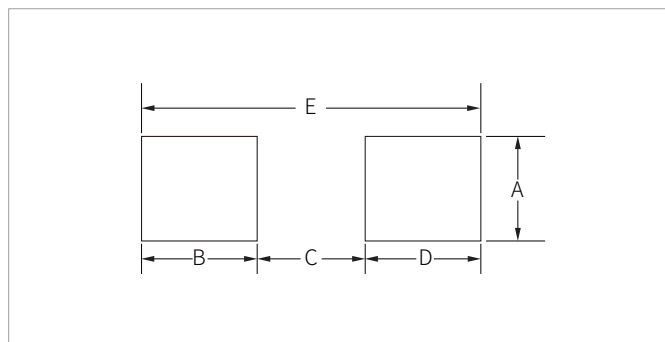


DO-214AC(SMA) PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.20	1.60	0.047	0.063
B	4.20	4.60	0.165	0.181
C	2.40	2.80	0.094	0.110
D	2.00	2.40	0.079	0.094
E	0.76	1.52	0.030	0.060
F	0.02	0.20	0.001	0.008
G	4.85	5.25	0.191	0.207
H	0.15	0.30	0.006	0.012

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.63	-	0.064	-
B	1.45	-	0.057	-
C	-	2.80	-	0.090
D	1.45	-	0.057	-
E	5.28REF		0.208REF	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
TPSMA6Jxx(C)A	DO-214AC(SMA)	5000PCS	13"

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