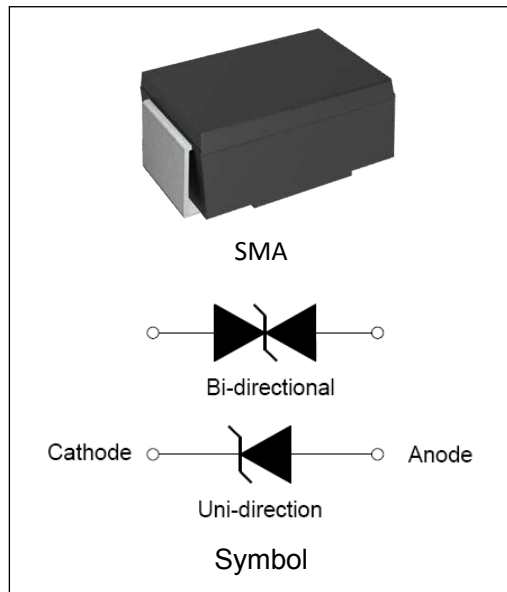


DESCRIPTION:

TVS diodes can be used in a wide range of applications which like consumer electronic products, automotive industries, munitions, telecommunications, aerospace industries, and intelligent control systems.

FEATURES:

- Glass passivated or planar junction
- Excellent clamping capability
- Repetition rate (duty cycle): 0.01%
- Typical I_R less than $1\mu A$ above 10V.
- Low profile package and low inductance
- 600W Peak Pulse power capability at $10 \times 1000\mu s$ waveform.
- Fast response time: typically less than 1.0ps from 0V to V_{BR} min.
- High temperature soldering: $260^\circ C/10s$ at terminals.
- Plastic package has Underwriters Laboratory Flammability 94V-0.
- For surface mounted applications in order to optimize board space
- AEC-Q101 qualified.



ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ C$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-55 to +150	$^\circ C$
Operating junction temperature range	T_j	-55 to +125	$^\circ C$
Steady state power dissipation at $T_L=75^\circ C$	$P_{M(AV)}$	5.0	W
Peak pulse power dissipation on 10/1000 μs waveform	P_{PP}	600	W
Maximum Instantaneous Forward Voltage at 50A for Unidirectional	V_F	5.0	V

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

Part Number		V_R	$I_R@V_R$	$V_{BR}@I_T$		I_T	$V_C@I_{PP}$	$I_{PP}^{①}$
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
6AJ5.0A	6AJ5.0CA	5.0	100	6.40	7.00	10	9.2	65.2
6AJ6.0A	6AJ6.0CA	6.0	100	6.67	7.37	10	10.3	58.3
6AJ6.5A	6AJ6.5CA	6.5	50	7.22	7.98	10	11.2	53.6
6AJ7.0A	6AJ7.0CA	7.0	50	7.78	8.60	10	12.0	50.0
6AJ7.5A	6AJ7.5CA	7.5	50	8.33	9.21	1	12.9	46.5
6AJ8.0A	6AJ8.0CA	8.0	20	8.89	9.83	1	13.6	44.1
6AJ8.5A	6AJ8.5CA	8.5	10	9.44	10.40	1	14.4	41.7
6AJ9.0A	6AJ9.0CA	9.0	5	10.00	11.10	1	15.4	39.0
6AJ10A	6AJ10CA	10.0	2	11.10	12.30	1	17.0	35.3
6AJ11A	6AJ11CA	11.0	1	12.20	13.50	1	18.2	33.0
6AJ12A	6AJ12CA	12.0	1	13.30	14.70	1	19.9	30.2
6AJ13A	6AJ13CA	13.0	1	14.40	15.90	1	21.5	27.9
6AJ14A	6AJ14CA	14.0	1	15.60	17.20	1	23.2	25.9
6AJ15A	6AJ15CA	15.0	1	16.70	18.50	1	24.4	24.6
6AJ16A	6AJ16CA	16.0	1	17.80	19.70	1	26.0	23.1
6AJ17A	6AJ17CA	17.0	1	18.90	20.90	1	27.6	21.8
6AJ18A	6AJ18CA	18.0	1	20.00	22.10	1	29.2	20.6
6AJ20A	6AJ20CA	20.0	1	22.20	24.50	1	32.4	18.6
6AJ22A	6AJ22CA	22.0	1	24.40	26.90	1	35.5	16.9
6AJ24A	6AJ24CA	24.0	1	26.70	29.50	1	38.9	15.4
6AJ26A	6AJ26CA	26.0	1	28.90	31.90	1	42.1	14.3
6AJ28A	6AJ28CA	28.0	1	31.10	34.40	1	45.4	13.2
6AJ30A	6AJ30CA	30.0	1	33.30	36.80	1	48.4	12.4
6AJ33A	6AJ33CA	33.0	1	36.70	40.60	1	53.3	11.3
6AJ36A	6AJ36CA	36.0	1	40.00	44.20	1	58.1	10.4
6AJ40A	6AJ40CA	40.0	1	44.40	49.10	1	64.5	9.3
6AJ43A	6AJ43CA	43.0	1	47.80	52.80	1	69.4	8.7
6AJ45A	6AJ45CA	45.0	1	50.00	55.30	1	72.7	8.3
6AJ48A	6AJ48CA	48.0	1	53.30	58.90	1	77.4	7.8
6AJ51A	6AJ51CA	51.0	1	56.70	62.70	1	82.4	7.3

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, continued)

Part Number		V_R	$I_R@V_R$	$V_{BR}@I_T$		I_T	$V_C@I_{PP}$	$I_{PP}^{①}$
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
6AJ54A	6AJ54CA	54.0	1	60.00	66.30	1	87.1	6.9
6AJ58A	6AJ58CA	58.0	1	64.40	71.20	1	93.6	6.4
6AJ60A	6AJ60CA	60.0	1	66.70	73.70	1	96.8	6.2
6AJ64A	6AJ64CA	64.0	1	71.10	78.60	1	103.0	5.8
6AJ70A	6AJ70CA	70.0	1	77.80	86.00	1	113.0	5.3
6AJ75A	6AJ75CA	75.0	1	83.30	92.10	1	121.0	5.0
6AJ78A	6AJ78CA	78.0	1	86.70	95.80	1	126.0	4.8
6AJ85A	6AJ85CA	85.0	1	94.40	104.0	1	137.0	4.4
6AJ90A	6AJ90CA	90.0	1	100.0	111.0	1	146.0	4.1
6AJ100A	6AJ100CA	100.0	1	100.0	111.0	1	162.0	3.7
6AJ110A	6AJ110CA	110.0	1	111.0	123.0	1	177.0	3.4
6AJ120A	6AJ120CA	120.0	1	122.0	135.0	1	193.0	3.1
6AJ130A	6AJ130CA	130.0	1	133.0	147.0	1	209.0	2.9
6AJ150A	6AJ150CA	150.0	1	144.0	159.0	1	243.0	2.5
6AJ160A	6AJ160CA	160.0	1	167.0	185.0	1	259.0	2.3
6AJ170A	6AJ170CA	170.0	1	178.0	197.0	1	275.0	2.2
6AJ180A	6AJ180CA	180.0	1	189.0	209.0	1	292.0	2.1
6AJ200A	6AJ200CA	200.0	1	201.0	222.0	1	324.0	1.9

① Surge waveform: 10/1000 μs

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

ORDERING INFORMATION:

6AJ	xx	C	A
600W SMA Series	V_R Voltage	C: Bi-directional	5% V_{BR} Voltage tolerance

RATINGS AND V-I CHARACTERISTICS CURVES ($T_A=25^\circ\text{C}$, unless otherwise noted)

FIG.1:V- I curve characteristics (Uni-directional)

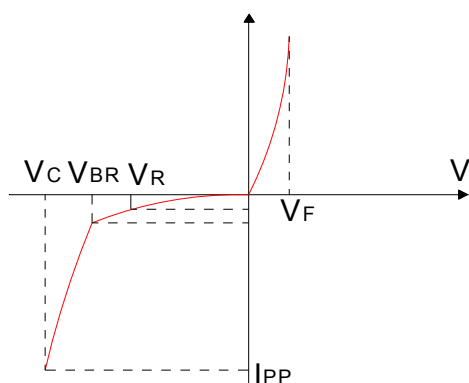


FIG.2:V- I curve characteristics (Bi-directional)

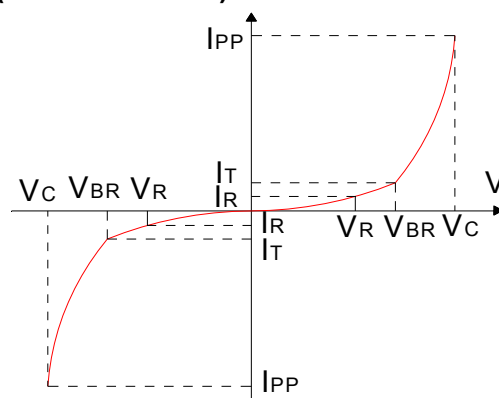


FIG.3: Pulse waveform

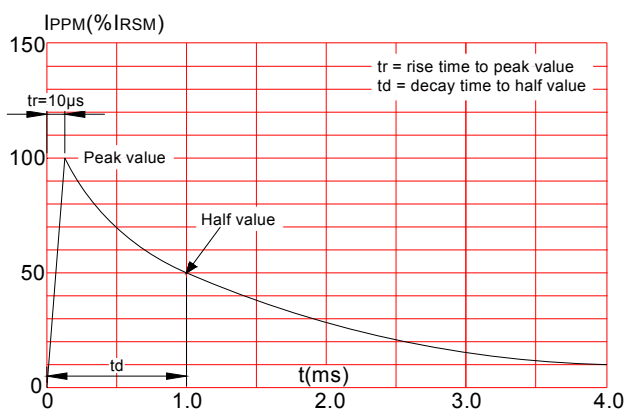
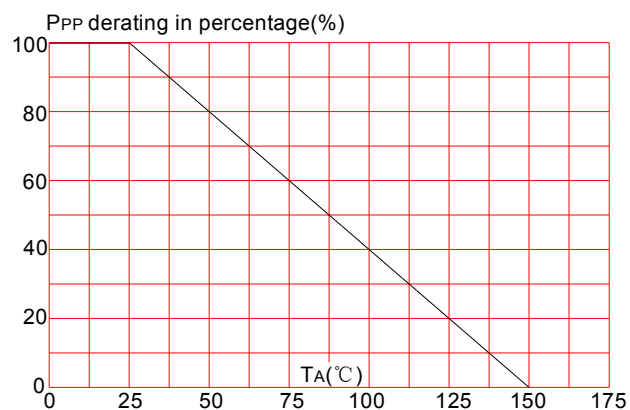
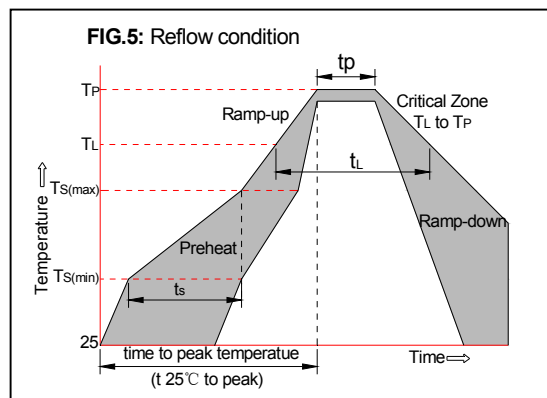


FIG.4: Pulse derating curve

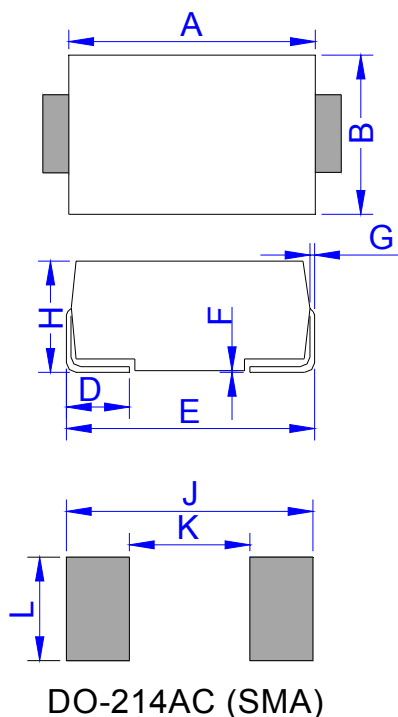


SOLDERING PARAMETERS

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

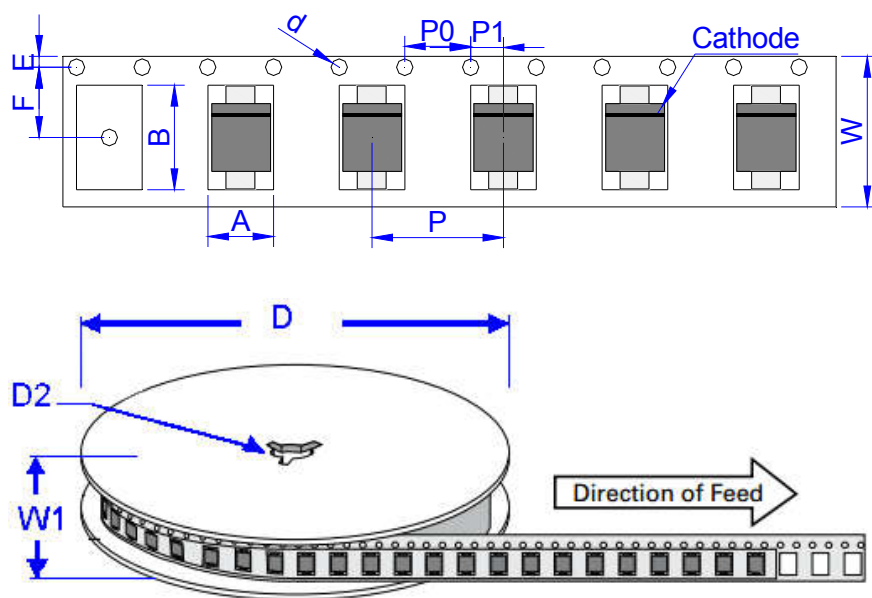


PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.65	0.167	0.183
B	2.50	2.90	0.098	0.114
C	1.35	1.65	0.053	0.065
D	0.76	1.52	0.030	0.060
E	4.93	5.28	0.194	0.208
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	1.98	2.41	0.078	0.095
J	6.50		0.256	
K		2.30		0.090
L	1.70		0.067	

TAPE AND REEL SPECIFICATION-SMA



Ref.	Dimensions	
	Millimeters	Inches
A	2.79 ± 0.3	0.110 ± 0.012
B	5.33 ± 0.3	0.210 ± 0.012
d	1.5 ± 0.1	0.059 ± 0.004
D	330.0	13.0
D2	13 ± 1	0.512 ± 0.039
E	1.5 ± 0.2	0.059 ± 0.008
F	5.65 ± 0.2	0.222 ± 0.008
P	4.0 ± 0.2	0.157 ± 0.008
P0	4.0 ± 0.2	0.157 ± 0.008
P1	2.0 ± 0.2	0.079 ± 0.008
W	12.0 ± 0.2	0.472 ± 0.008
W1	16.8 ± 2.0	0.661 ± 0.079

OUTLINE	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)
TAPING	5,000	80,000	330