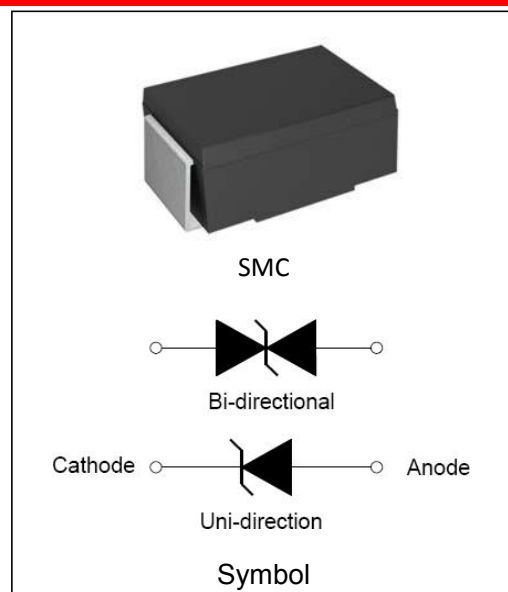


DESCRIPTION:

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.
- ✧ Lower clamping voltage.
- ✧ High temperature soldering: 260°C/10s at terminals.
- ✧ Plastic package has Underwriters Laboratory Flammability 94V-0.
- ✧ Surface mount DO-214AB.
- ✧ Fast response time: typically less than 1.0ps from 0V to VBR min.
- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact).
- ✧ AEC-Q101 qualified
- ✧ ISO16750-2 P5A 12V system (87V/2Ω/150ms 10c)
- ✧ ISO16750-2 P5A 24V system (123V/8Ω/150ms 10c)



ABSOLUTE MAXIMUM RATINGS (TA=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T _{stg}	-55 to +150	°C
Operating junction temperature range	T _j	-55 to +150	°C
Peak pulse power dissipation on 10/1000μs waveform	P _{PP}	5000	W

MARKING



According to the physical

ELECTRICAL CHARACTERISTICS (TA=25°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
5.0SMDJ11A	5.0SMDJ11CA	11	800	12.20	13.50	10	18.2	275.0
5.0SMDJ12A	5.0SMDJ12CA	12	800	13.30	14.70	10	19.9	252.0
5.0SMDJ13A	5.0SMDJ13CA	13	500	14.40	15.90	10	21.5	233.0
5.0SMDJ14A	5.0SMDJ14CA	14	200	15.60	17.20	10	23.2	216.0
5.0SMDJ15A	5.0SMDJ15CA	15	100	16.70	18.50	1	24.4	205.0
5.0SMDJ16A	5.0SMDJ16CA	16	50	17.80	19.70	1	26.0	193.0
5.0SMDJ17A	5.0SMDJ17CA	17	20	18.90	20.90	1	27.6	181.0
5.0SMDJ18A	5.0SMDJ18CA	18	10	20.00	22.10	1	29.2	172.0
5.0SMDJ20A	5.0SMDJ20CA	20	5	22.20	24.50	1	32.4	155.0
5.0SMDJ22A	5.0SMDJ22CA	22	5	24.40	26.90	1	35.5	141.0
5.0SMDJ24A	5.0SMDJ24CA	24	5	26.70	29.50	1	38.9	129.0
5.0SMDJ26A	5.0SMDJ26CA	26	5	28.90	31.90	1	42.1	119.0
5.0SMDJ28A	5.0SMDJ28CA	28	5	31.10	34.40	1	45.4	110.0
5.0SMDJ30A	5.0SMDJ30CA	30	5	33.30	36.80	1	48.4	103.0
5.0SMDJ33A	5.0SMDJ33CA	33	5	36.70	40.60	1	53.3	93.9
5.0SMDJ36A	5.0SMDJ36CA	36	5	40.00	44.20	1	58.1	86.1
5.0SMDJ40A	5.0SMDJ40CA	40	5	44.40	49.10	1	64.5	77.6
5.0SMDJ43A	5.0SMDJ43CA	43	5	47.80	52.80	1	69.4	72.1
5.0SMDJ45A	5.0SMDJ45CA	45	5	50.00	55.30	1	72.7	68.8
5.0SMDJ48A	5.0SMDJ48CA	48	5	53.30	58.90	1	77.4	64.7
5.0SMDJ51A	5.0SMDJ51CA	51	5	56.70	62.70	1	82.4	60.7
5.0SMDJ54A	5.0SMDJ54CA	54	5	60.00	66.30	1	87.1	57.5
5.0SMDJ58A	5.0SMDJ58CA	58	5	64.40	71.20	1	93.6	53.5
5.0SMDJ60A	5.0SMDJ60CA	60	5	66.70	73.70	1	96.8	51.7
5.0SMDJ64A	5.0SMDJ64CA	64	5	71.10	78.60	1	103.0	48.6
5.0SMDJ70A	5.0SMDJ70CA	70	5	77.80	86.00	1	113.0	44.3
5.0SMDJ75A	5.0SMDJ75CA	75	5	83.30	92.10	1	121.0	41.4
5.0SMDJ78A	5.0SMDJ78CA	78	5	86.70	95.80	1	126.0	39.7
5.0SMDJ85A	5.0SMDJ85CA	85	5	94.40	104.0	1	137.0	36.5
5.0SMDJ90A	5.0SMDJ90CA	90	5	100.0	111.0	1	146.0	34.3

ELECTRICAL CHARACTERISTICS (TA=25°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
5.0SMDJ100A	5.0SMDJ100CA	100	5	111.0	123.0	1	162.0	30.9
5.0SMDJ110A	5.0SMDJ110CA	110	5	122.0	135.0	1	177.0	28.3
5.0SMDJ120A	5.0SMDJ120CA	120	5	133.0	147.0	1	193.0	26.0
5.0SMDJ130A	5.0SMDJ130CA	130	5	144.0	159.0	1	209.0	24.0
5.0SMDJ150A	5.0SMDJ150CA	150	5	167.0	185.0	1	243.0	20.6
5.0SMDJ160A	5.0SMDJ160CA	160	5	178.0	197.0	1	259.0	19.3
5.0SMDJ170A	5.0SMDJ170CA	170	5	189.0	209.0	1	275.0	18.2

① Surge waveform: 10/1000μs

VR : Stand-off Voltage -- Maximum voltage that can be applied

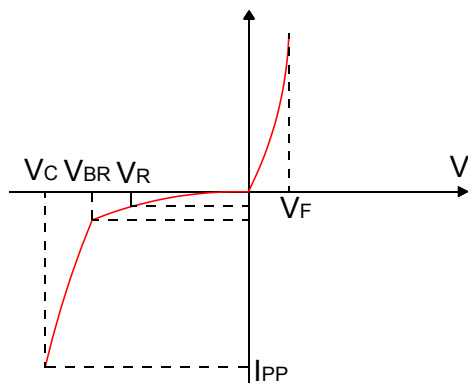
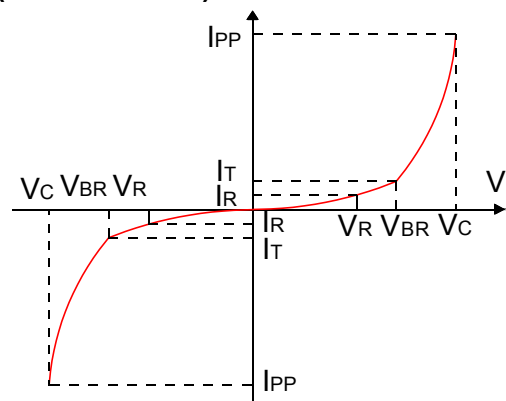
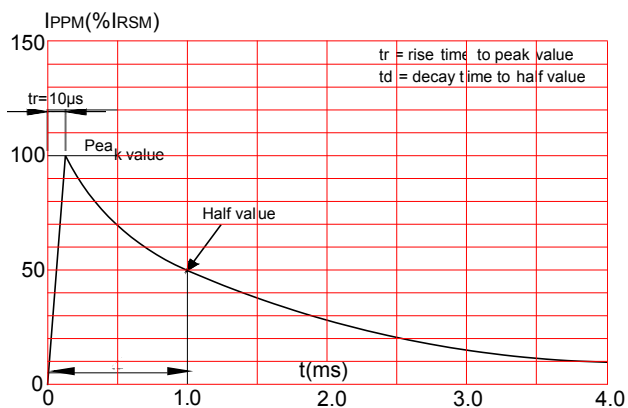
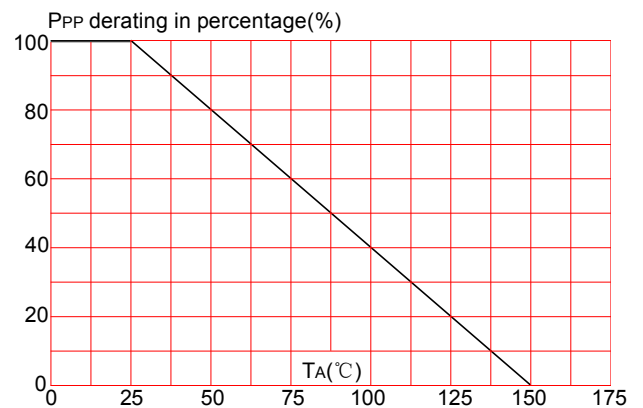
VBR: Breakdown Voltage

VC: Clamping Voltage -- Peak voltage measured across the suppressor at a specified Ipp

IR: Reverse Leakage Current

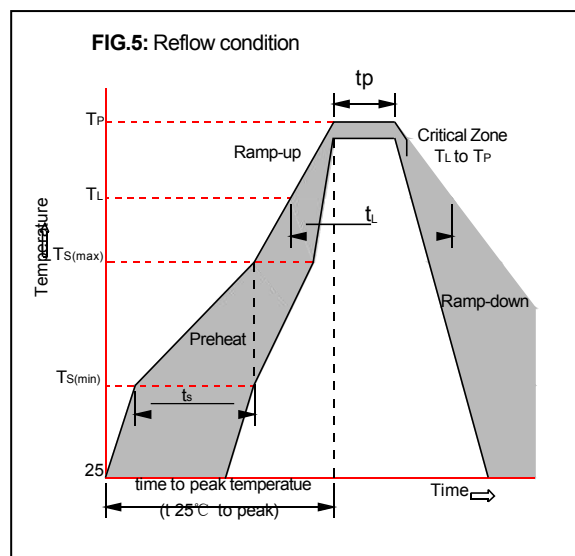
ORDERING INFORMATION

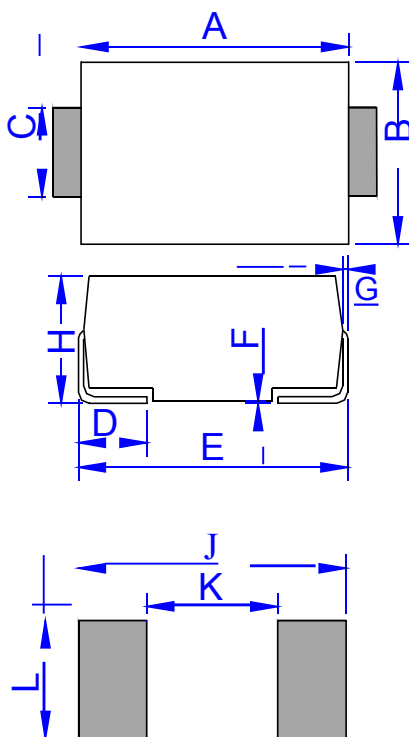
5.0SMDJ	xx	C	A
5000W SMC Series			5% V_{BR} Voltage tolerance
V_{BR} Voltage		C: Bi-directional	

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

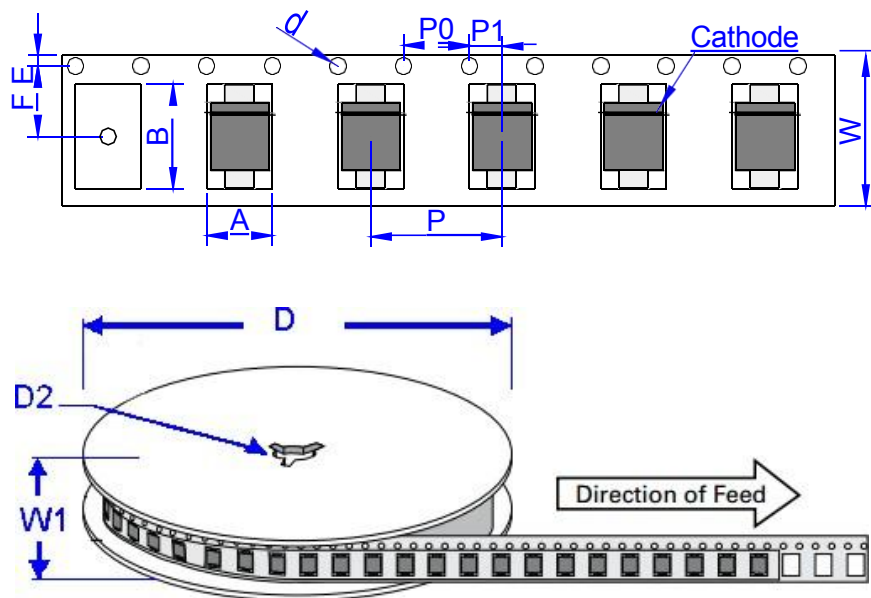


PACKAGE MECHANICAL DATA


DO-214AB (SMC)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	6.60	7.11	0.260	0.280
B	5.59	6.20	0.220	0.244
C	2.75	3.20	0.108	0.126
D	0.76	1.52	0.030	0.060
E	7.74	8.13	0.305	0.320
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.15	2.62	0.085	0.103
J	8.12		0.320	
K		4.69		0.185
L	3.07		0.121	

PART No.	PACKAGE	QUANTITY	TAPE & REEL
5.0SMDJxxCA/A	SMC(DO214AB)	3,000	13inch

TAPE AND REEL SPECIFICATION - SMC


Ref.	Dimensions	
	Millimeters	Inches
A	3.76 ± 0.2	0.144 ± 0.012
B	5.69 ± 0.2	0.244 ± 0.012
d	1.5 ± 0.25	0.059 ± 0.004
D	330.0	13.0
D2	13 ± 1	0.512 ± 0.039
E	1.75 ± 0.2	0.059 ± 0.008
F	5.5 ± 0.1	0.222 ± 0.008
P	8.0 ± 0.2	0.315 ± 0.008
P0	4.0 ± 0.2	0.157 ± 0.008
P1	2.0 ± 0.2	0.079 ± 0.008
W	12.0 ± 0.3	0.472 ± 0.008
W1	16.8 ± 2.0	0.661 ± 0.079

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