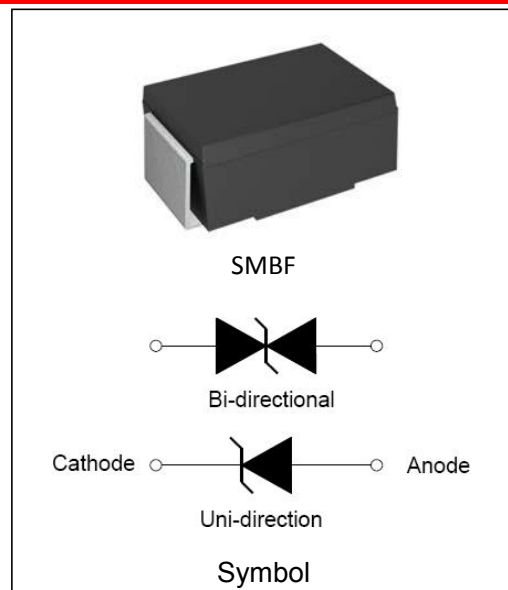


DESCRIPTION:

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.
- ✧ Fast response time: typically less than 1.0ps from 0V to VBR min.
- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact).



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}	1500	W

MARKING



Screen and model

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} ®
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
15BJ5.0A	15BJ5.0CA	5.0	300	6.40	7.00	10	9.2	163.0
15BJ6.0A	15BJ6.0CA	6.0	250	6.67	7.37	10	10.3	145.6
15BJ6.5A	15BJ6.5CA	6.5	150	7.22	7.98	10	11.2	134.0
15BJ7.0A	15BJ7.0CA	7.0	100	7.78	8.60	10	12.0	125.0
15BJ7.5A	15BJ7.5CA	7.5	50	8.33	9.21	1	12.9	116.3
15BJ8.0A	15BJ8.0CA	8.0	30	8.89	9.83	1	13.6	110.3
15BJ8.5A	15BJ8.5CA	8.5	20	9.44	10.40	1	14.4	104.2
15BJ9.0A	15BJ9.0CA	9.0	10	10.00	11.10	1	15.4	97.4
15BJ10A	15BJ10CA	10	5	11.10	12.30	1	17.0	88.2
15BJ11A	15BJ11CA	11	2	12.20	13.50	1	18.2	82.4
15BJ12A	15BJ12CA	12	1	13.30	14.70	1	19.9	75.4
15BJ13A	15BJ13CA	13	1	14.40	15.90	1	21.5	69.8
15BJ14A	15BJ14CA	14	1	15.60	17.20	1	23.2	64.7
15BJ15A	15BJ15CA	15	1	16.70	18.50	1	24.4	61.5
15BJ16A	15BJ16CA	16	1	17.80	19.70	1	26.0	57.7
15BJ17A	15BJ17CA	17	1	18.90	20.90	1	27.6	54.4
15BJ18A	15BJ18CA	18	1	20.00	22.10	1	29.2	51.4
15BJ20A	15BJ20CA	20	1	22.20	24.50	1	32.4	46.3
15BJ22A	15BJ22CA	22	1	24.40	26.90	1	35.5	42.3
15BJ24A	15BJ24CA	24	1	26.70	29.50	1	38.9	38.6
15BJ26A	15BJ26CA	26	1	28.90	31.90	1	42.1	35.6
15BJ28A	15BJ28CA	28	1	31.10	34.40	1	45.4	33.1
15BJ30A	15BJ30CA	30	1	33.30	36.80	1	48.4	31.0
15BJ33A	15BJ33CA	33	1	36.70	40.60	1	53.3	28.2
15BJ36A	15BJ36CA	36	1	40.00	44.20	1	58.1	25.8
15BJ40A	15BJ40CA	40	1	44.40	49.10	1	64.5	23.3
15BJ43A	15BJ43CA	43	1	47.80	52.80	1	69.4	21.6
15BJ45A	15BJ45CA	45	1	50.00	55.30	1	72.7	20.6
15BJ48A	15BJ48CA	48	1	53.30	58.90	1	77.4	19.4
15BJ51A	15BJ51CA	51	1	56.70	62.70	1	82.4	18.2

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} ®
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
15BJ54A	15BJ54CA	54	1	60.00	66.30	1	87.1	17.2
15BJ58A	15BJ58CA	58	1	64.40	71.20	1	93.6	16.1
15BJ60A	15BJ60CA	60	1	66.70	73.70	1	96.8	15.5
15BJ64A	15BJ64CA	64	1	71.10	78.60	1	103.0	14.6
15BJ70A	15BJ70CA	70	1	77.80	86.00	1	113.0	13.3
15BJ75A	15BJ75CA	75	1	83.30	92.10	1	121.0	12.4
15BJ78A	15BJ78CA	78	1	86.70	95.80	1	126.0	11.9
15BJ85A	15BJ85CA	85	1	94.40	104.0	1	137.0	11.0
15BJ90A	15BJ90CA	90	1	100.0	111.0	1	146.0	10.3
15BJ100A	15BJ100CA	100	1	111.0	123.0	1	162.0	9.3
15BJ110A	15BJ110CA	110	1	122.0	135.0	1	177.0	8.5
15BJ120A	15BJ120CA	120	1	133.0	147.0	1	193.0	7.8
15BJ130A	15BJ130CA	130	1	144.0	159.0	1	209.0	7.2
15BJ150A	15BJ150CA	150	1	167.0	185.0	1	243.0	6.2
15BJ160A	15BJ160CA	160	1	178.0	197.0	1	259.0	5.8
15BJ170A	15BJ170CA	170	1	189.0	209.0	1	275.0	5.5
15BJ180A	15BJ180CA	180	1	201.0	222.0	1	292.0	5.2
15BJ190A	15BJ190CA	190	1	211.0	234.0	1	307.0	4.9
15BJ200A	15BJ200CA	200	1	224.0	247.0	1	324.0	4.7
15BJ210A	15BJ210CA	210	1	233.0	258.0	1	337.0	4.5
15BJ220A	15BJ220CA	220	1	246.0	272.0	1	356.0	4.2
15BJ250A	15BJ250CA	250	1	279.0	309.0	1	405.0	3.7
15BJ300A	15BJ300CA	300	1	335.0	371.0	1	486.0	3.1
15BJ350A	15BJ350CA	350	1	391.0	432.0	1	567.0	2.6
15BJ400A	15BJ400CA	400	1	447.0	494.0	1	648.0	2.3
15BJ440A	15BJ440CA	440	1	492.0	543.0	1	713.0	2.1

① Surge waveform: 10/1000μs

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

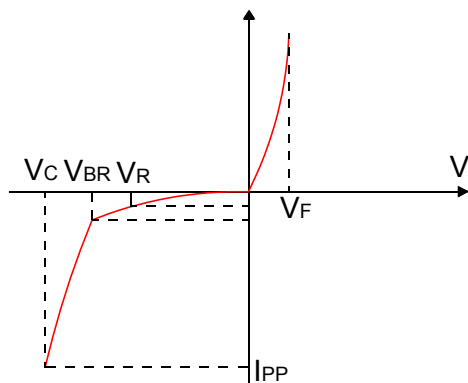
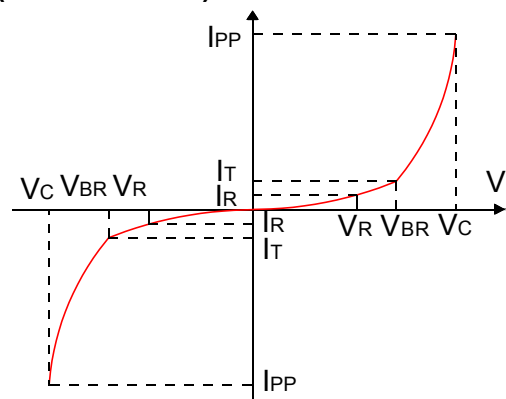
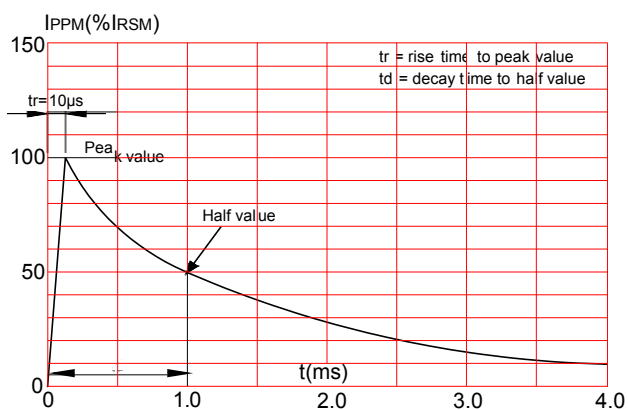
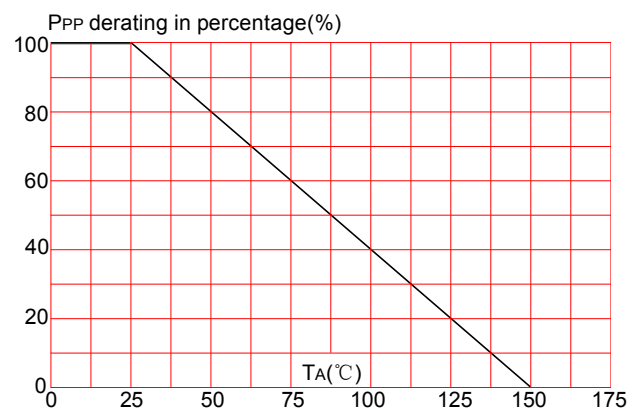
V_{BR}: Breakdown Voltage

V_C: Clamping Voltage -- Peak voltage measured across the suppressor at a specified I_{pp}

I_R: Reverse Leakage Current

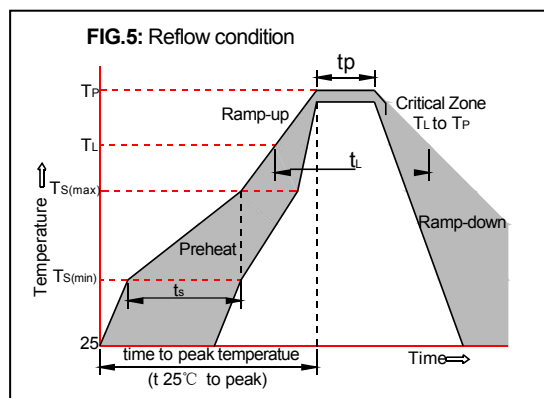
ORDERING INFORMATION

15BJ	XX	C	A
1500W SMBF Series	V_R Voltage	C: Bi-directional	5% V_{BR} Voltage tolerance

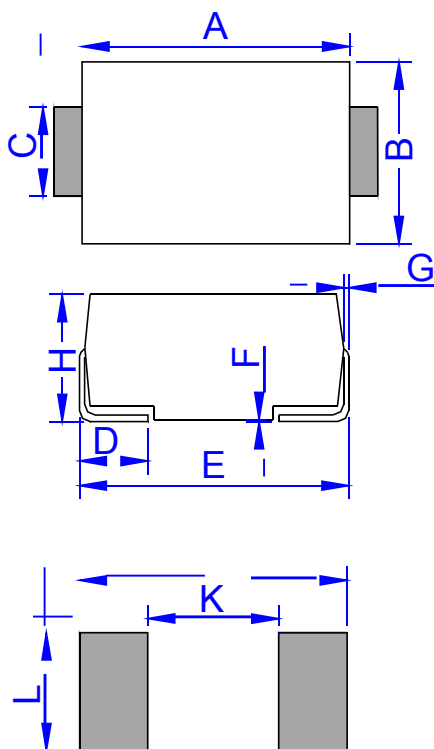
RATINGS AND V - I CHARACTERISTICS CURVES ($T_A=25^\circ\text{C}$)
FIG.1:V- I curve characteristics (Uni-directional)

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

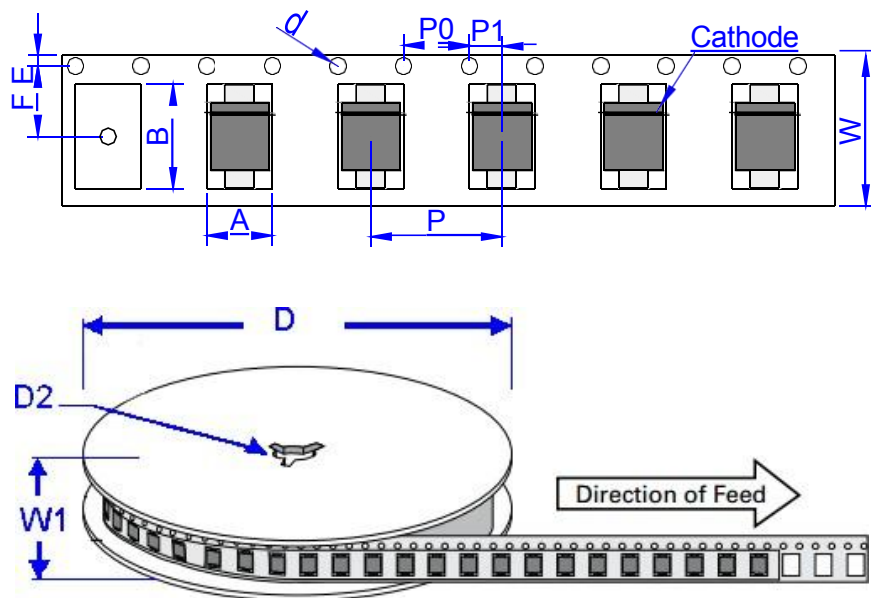


PACKAGE MECHANICAL DATA



SMBF

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.90	4.50	0.154	0.177
B	4.65	5.15	0.183	0.203
C	1.85	2.15	0.073	0.085
D	0.60		0.024	
E	5.60	6.00	0.220	0.236
F	2.05	2.35	0.081	0.093
G	0.12	0.28	0.005	0.011
J	2.00		0.079	
K		3.20		0.126
L	2.30		0.091	

TAPE AND REEL SPECIFICATION - SMBF


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

PART No.	PACKAGE	QUANTITY	TAPE & REEL
SMCJxxCA/A	SMBF	3,000	13inch