

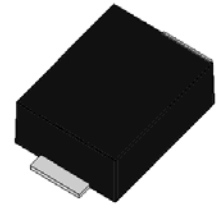


## 15BJ58CA-B Transient Voltage Suppressor

Rev.B-1

### DESCRIPTION:

15BJ58CA-B is designed for DC 48V, POE supply equipment, It is used to replace the SMDJ series TVS, also can be solved the POE normal solution which use TSPD.



SMBF



Bi-directional  
Symbol

### FEATURES:

- ✧ Low profile package.
- ✧ None negative resistance.
- ✧ Excellent clamping capability.
- ✧ Glass passivated junction.
- ✧ High temperature reflow soldering: 260°C/40s at terminals.
- ✧ Plastic package has underwriters laboratory flammability 94V-0.
- ✧ Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C.
- ✧ Terminal: solder plated, solderable per J-STD-002.
- ✧ For surface mounted applications in order to optimize board space.

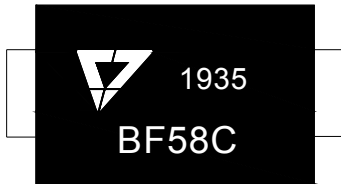
### SURGE LEVEL

- ✧ 10/700µs 40ohm 4KV
- ✧ 1.2/50µs-8/20µs 2ohm 1KV

### ABSOLUTE MAXIMUM RATINGS<sub>(T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)</sub>

Parameter	Symbol	Value	Unit
Storage and operating junction temperature range	T <sub>STG</sub> /T <sub>J</sub>	-55 to +150	°C
Peak pulse power dissipation at 10/1000µs waveform	P <sub>PP</sub>	3000	W
Steady state power dissipation at T <sub>L</sub> =75°C	P <sub>M(AV)</sub>	5.0	W
Peak pulse voltage at 10/700µs@40Ω waveform	V <sub>PP</sub>	4000	V
Peak pulse voltage at 1.2/50µs-8/20µs@2Ω waveform	V <sub>PP</sub>	1000	V

MARKING



BF58C: Device Marking Code  
1935: the 35th week, 2019

ELECTRICAL CHARACTERISTICS(T<sub>A</sub>=25°C)

Part Number	Marking	V <sub>R</sub>	I <sub>R</sub> @ V <sub>R</sub>	V <sub>BR</sub> @I <sub>T</sub>		I <sub>T</sub>	V <sub>C</sub> @ 10/700μs	V <sub>C</sub> @1.2/50μs- 8/20μs	V <sub>C</sub> @ I <sub>PP</sub> <sup>①</sup>	I <sub>PP</sub> <sup>①</sup>
				4KV/40Ω	1KV/2Ω		min(V)	max(V)		
Bi-polar	Bi-polar	V	μA	min(V)	max(V)	mA	max(V)	max(V)	max(V)	A
15BJ58CA-B	BF58C	58	1	64.4	71.2	1	100	105	90	32

① Surge waveform: 10/1000μs

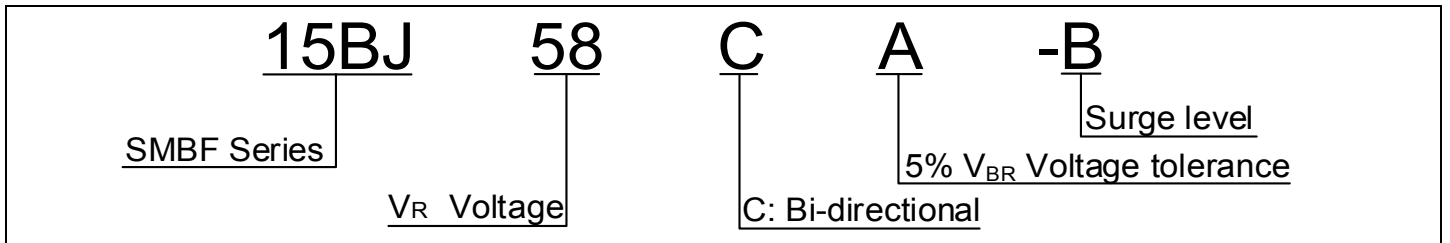
V<sub>R</sub>: Stand-off voltage -- Maximum voltage that can be applied

V<sub>BR</sub>: Breakdown voltage

V<sub>C</sub>: Clamping voltage -- Peak voltage measured across the suppressor at a specified surge value

I<sub>R</sub>: Reverse leakage current

ORDERING INFORMATION



RATINGS AND V-I CHARACTERISTICS CURVES (T<sub>A</sub>=25°C, unless otherwise noted)

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

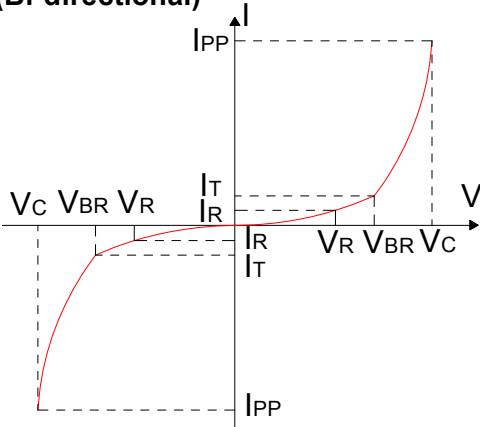


FIG.2: Pulse waveform

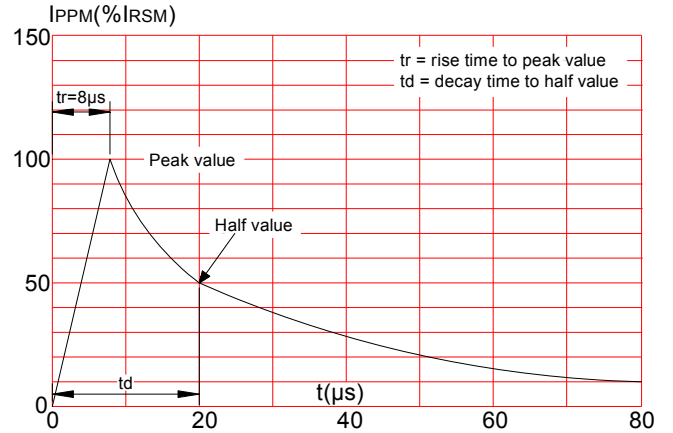


FIG.3: Pulse waveform

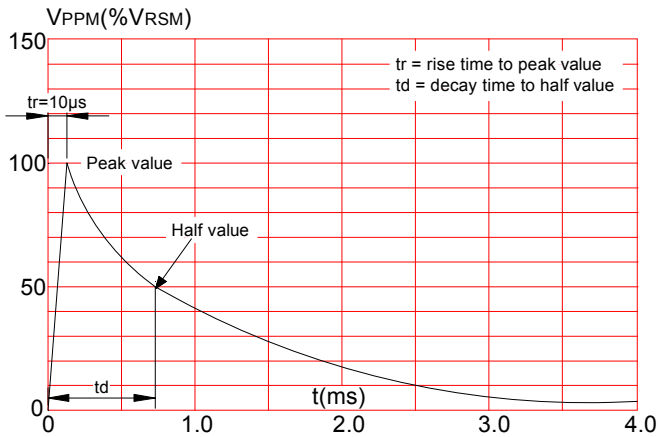


FIG.4: Pulse waveform

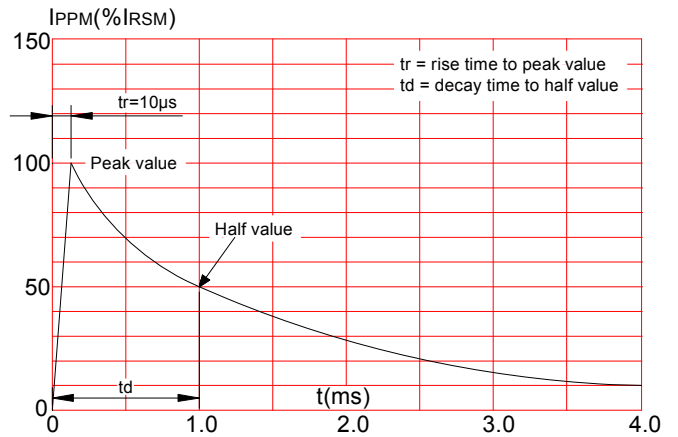


FIG.5: Pulse waveform

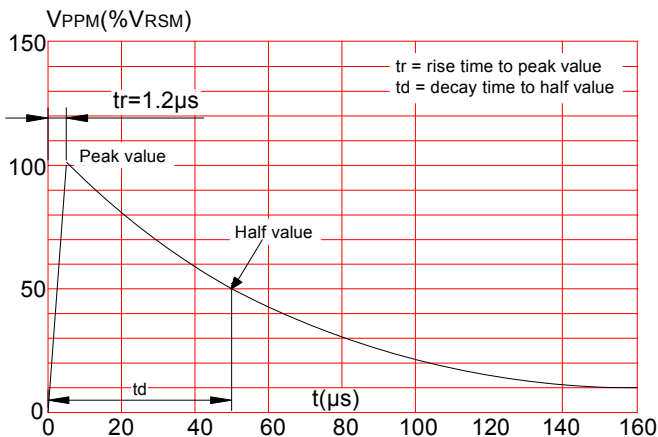
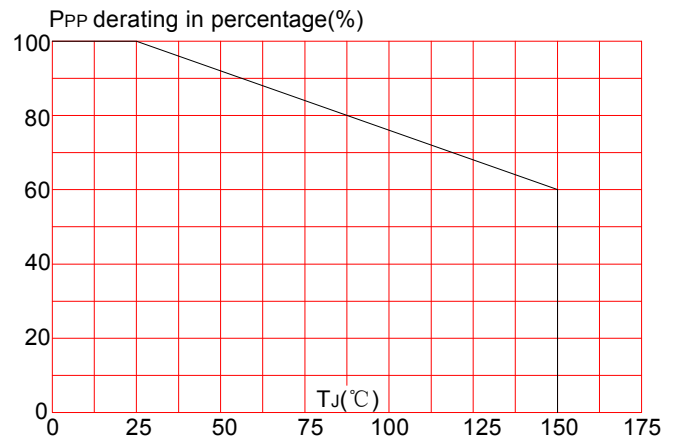
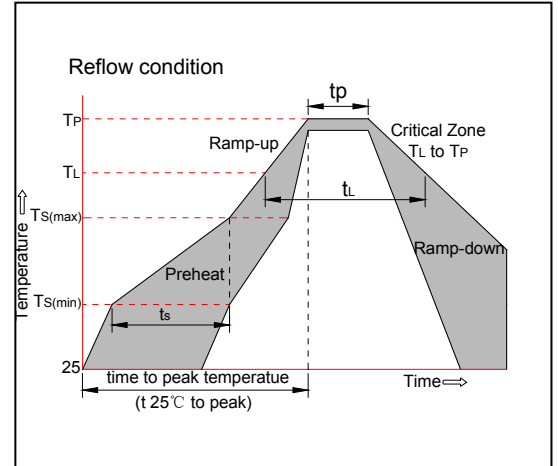


FIG.6: Pulse derating curve(10/1000μs)

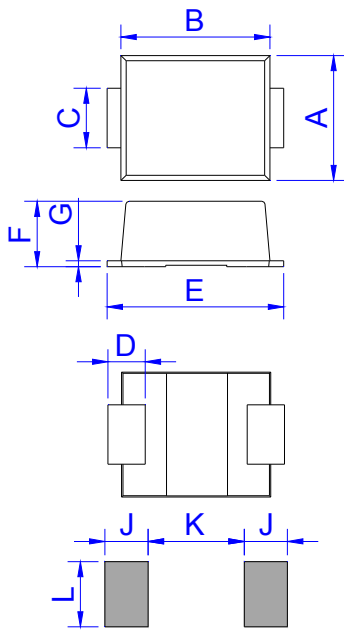


**SOLDERING PARAMETERS**

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp ( $T_L$ )to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ )(Liquidus)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_p$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_p$ )		8 min. Max
Do not exceed		+260°C



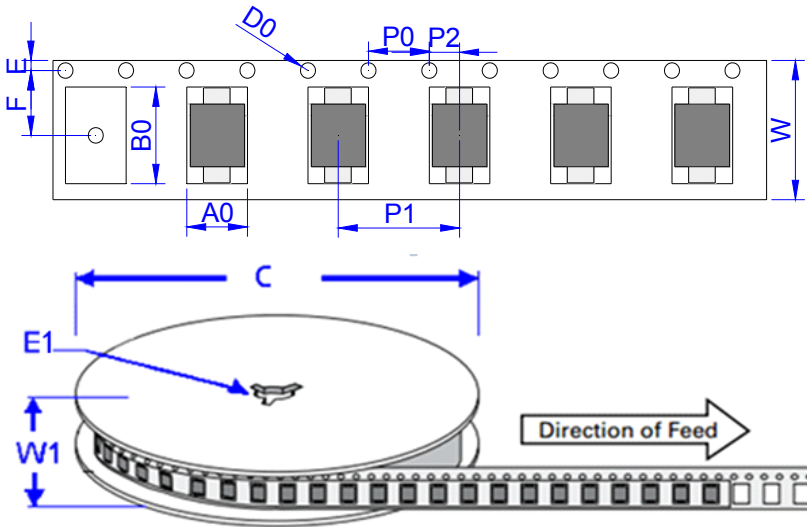
**PACKAGE MECHANICAL DATA**



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
A0	4.50±0.3	0.177 ± 0.012
B0	6.10±0.3	0.240 ± 0.012
C	330.0	13.0
D0	1.55±0.1	0.061 ± 0.004
E	1.75±0.2	0.069 ± 0.008
E1	13.3±0.3	0.524± 0.012
F	5.5±0.2	0.217 ± 0.008
P0	4.00±0.2	0.157 ± 0.008
P1	8.00±0.2	0.315 ± 0.008
P2	2.00±0.2	0.079 ± 0.008
W	12.0±0.2	0.472 ± 0.008
W1	15.7±2.0	0.618 ± 0.079

PART No.	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
15BJ58CA-B	0.13	3,000	48,000	13 inch reel pack

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