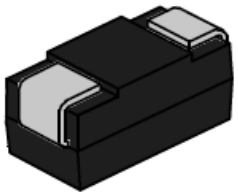
SMBJ58CANS Transient Voltage Suppressor

Rev.1.1

DESCRIPTION:

SMBJ58CANS 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.



SMB

Bi-directional

Symbol

FEATURES:

- ✧ Low profile package.
- ✧ None negative resistance.
- ✧ Excellent clamping capability.
- ✧ Glass passivated junction.
- ✧ High temperature reflow soldering: 260℃/40s at terminals.
- ✧ Plastic package has underwriters laboratory flammability 94V-0.
- ✧ Meets MSL level 1, per J-STD-020, LF maximum peak of 260℃.
- ✧ Terminal: solder plated, solderable per J-STD-002.
- ✧ For surface mounted applications in order to optimize board space.
- ✧ UL 497B item recognized. (File No.: E480698).
- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact).

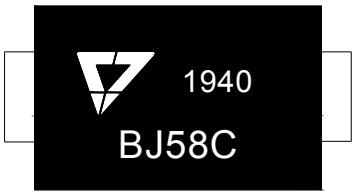
SURGE LEVEL

- ✧ 10/700μs 40ohm 3KV
- ✧ 1.2/50μs-8/20μs 2ohm 600V

ABSOLUTE MAXIMUM RATINGS(T_A=25℃, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage and operating junction temperature range	T_{STG}/T_J	-55 to +150	℃
Peak pulse power dissipation at 10/1000μs waveform	P_{PP}	1500	W
Steady state power dissipation at T_L=75℃	$P_{M(AV)}$	5.0	W
Peak pulse voltage at 10/700μs@40Ω waveform	V_{PP}	3000	V
Peak pulse voltage at 1.2/50μs-8/20μs@2Ω waveform	V_{PP}	600	V

MARKING



BJ58C: Device Marking Code
1940: the 40th week, 2019

ELECTRICAL CHARACTERISTICS(T_A=25℃)

Part Number	V_R	I_R@V_R	V_{BR}@I_T		I_T	V_C@10/700μs 3KV/40Ω	V_C@1.2/50μs-8/20μs 600V/2Ω	V_C@ 10/1000μs 18A
Bi-polar	V	max(μA)	min(V)	max(V)	mA	max(V)	max(V)	max(V)
SMBJ58CANS	58	1	64.4	71.2	1	95	100	85

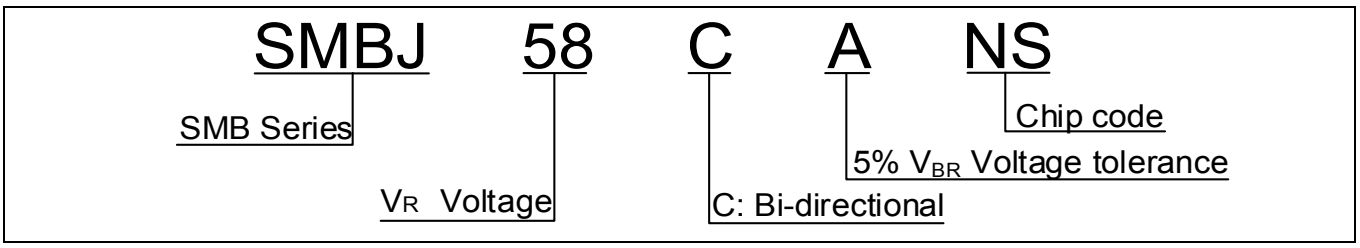
V_R: Stand-off voltage -- Maximum voltage that can be applied

V_{BR}: Breakdown voltage

V_C: Clamping voltage -- Peak voltage measured across the suppressor at a specified surge value

I_R: Reverse leakage current

ORDERING INFORMATION



RATINGS AND V-I CHARACTERISTICS CURVES (T_A=25℃, unless otherwise noted)

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

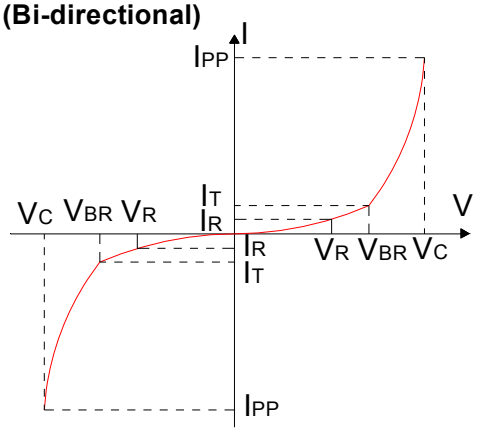


FIG.2: Pulse waveform

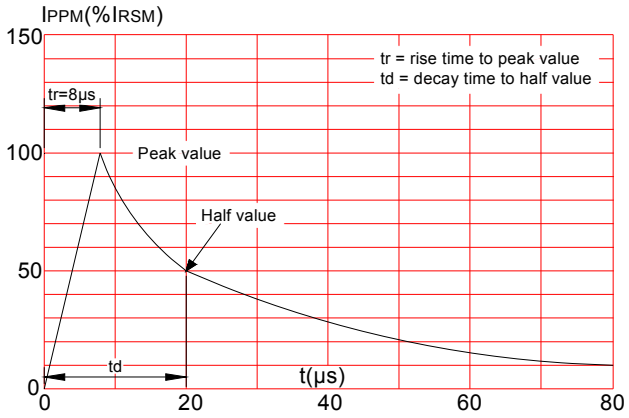


FIG.3: Pulse waveform

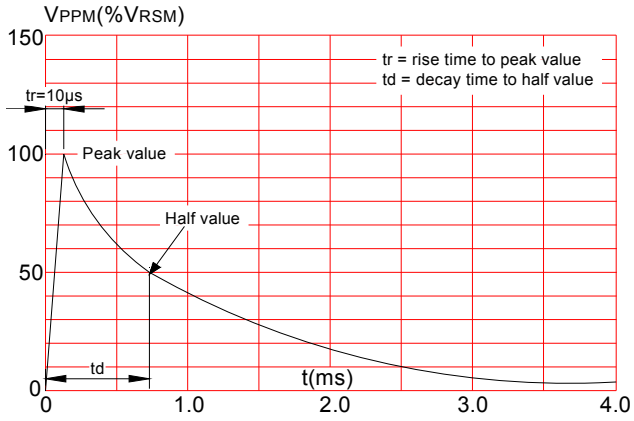


FIG.4: Pulse waveform

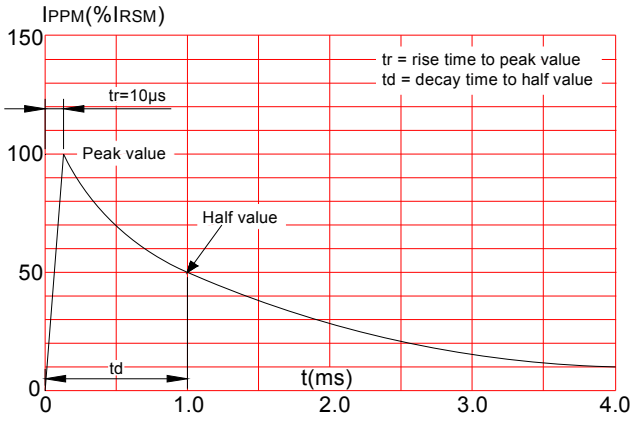


FIG.5: Pulse waveform

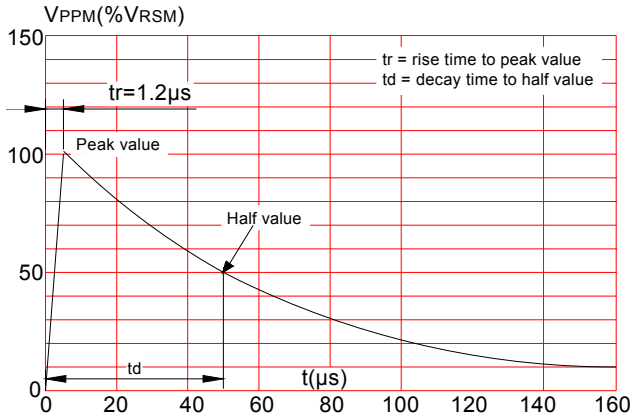
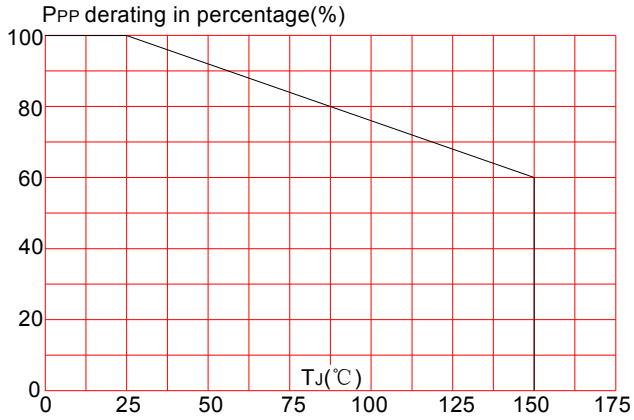
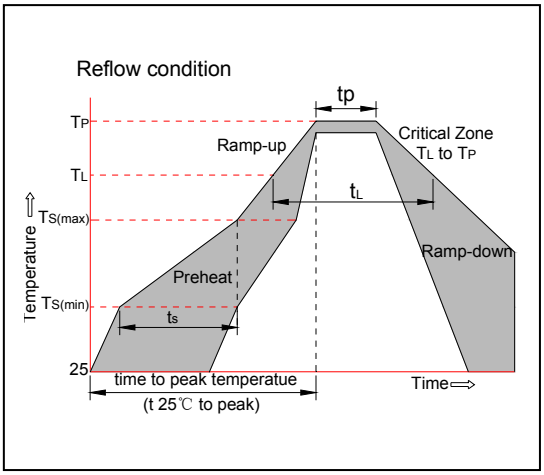


FIG.6: Pulse derating curve(10/1000μs)

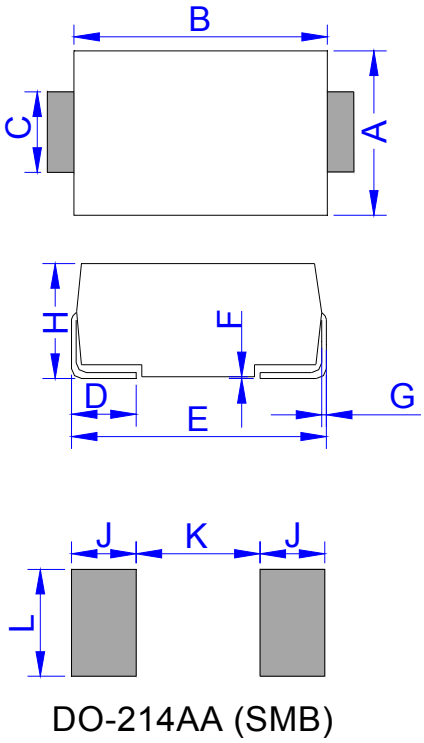


SOLDERING PARAMETERS

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



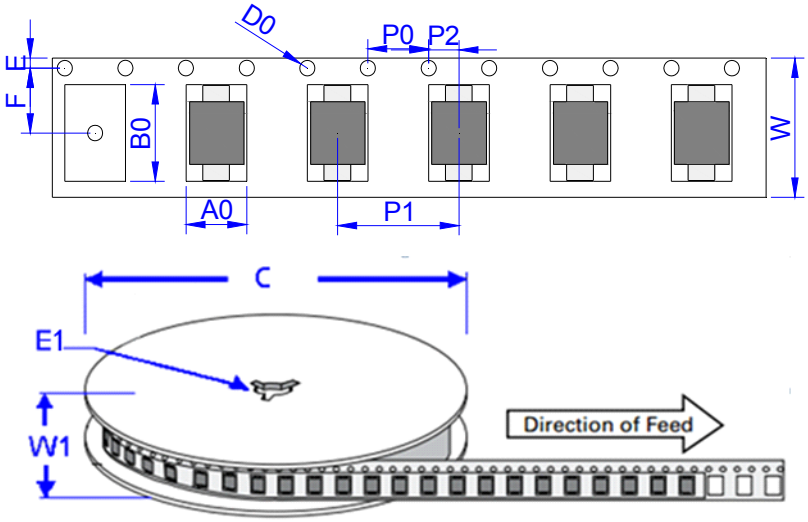
PACKAGE MECHANICAL DATA



DO-214AA (SMB)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.94	0.130	0.155
B	4.30	4.80	0.169	0.189
C	1.90	2.20	0.075	0.087
D	0.95	1.52	0.037	0.060
E	5.20	5.60	0.205	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.10	2.40	0.083	0.094
J	2.20		0.087	
K		2.60		0.102
L	2.30		0.091	

TAPE AND REEL SPECIFICATION-SMB



Ref.	Dimensions	
	Millimeters	Inches
A0	3.76 ± 0.3	0.148 ± 0.012
B0	5.69± 0.3	0.224 ± 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	0.3145 ± 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
SMBJ58CANS	0.098	3,000	48,000	13 inch reel pack

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