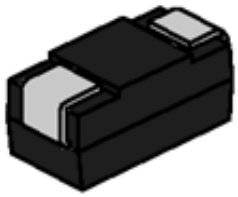
JT58SBC Transient Voltage Suppressor

Rev.4.3

DESCRIPTION:

JT58SBC is designed for DC 48V, POE supply equipment,
It is used to replace the SMDJ series TVS, also can be solve the POE normal solution which use TSPD.



SMB

Bi-directional
Symbol

FEATURES:

- ✧ Low profile package.
- ✧ 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 1449 item recognized. (File No.: E494389).
- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact).

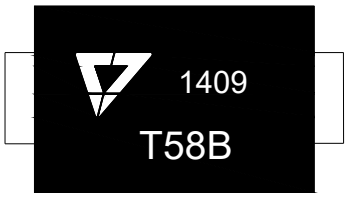
SURGE LEVEL:

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

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

Parameter	Symbol	Value	Unit
Storage operating junction temperature range	T_{STG}/T_J	-55 to +150	℃
Steady state power dissipation at T_L=75℃	$P_{M(AV)}$	5.0	W
Peak pulse power (t_P=10/1000μs)	P_{PP}	2000	W
Peak surge voltage at 10/700μs waveform	V_{PP}	4000	V
Peak pulse current at 8/20μs waveform	I_{PP}	500	A
Peak pulse current at 10/1000μs waveform	I_{PP}	24.0	A

MARKING



T58B: Device Marking Code
1409: In ninth week, 2014

ELECTRICAL CHARACTERISTICS (T_A=25℃)

Part Number	V_R	I_R@V_R	V_{BR}@I_T		I_T	V_C①	V_H②	V_C②	V_C③
Bi-polar	V	max(μA)	min(V)	max(V)	mA	max(V)	typ(V)	max(V)	max(V)
JT58SBC	58	1	60	72	1	85	45	85	85

①Surge waveform: 10/700μs@40Ω V_{PP}: 4000V

②Surge waveform: 1.2/50-8/20μs@2Ω I_{PP}: 500A

③Surge waveform: 10/1000μs

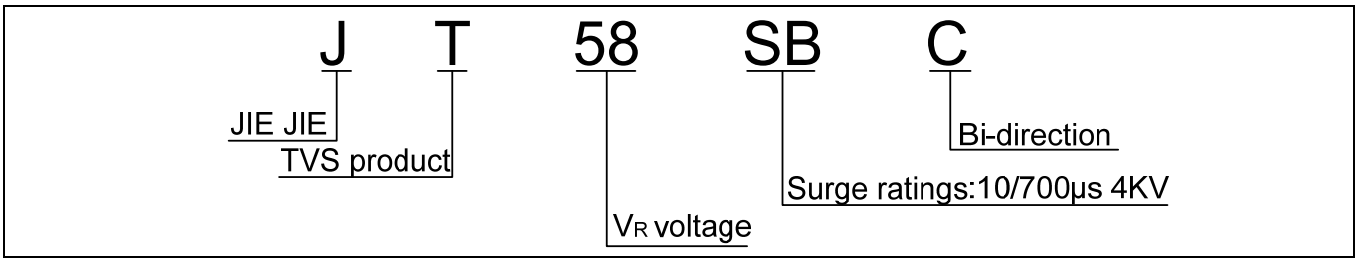
V_R: Stand-off voltage -- Maximum voltage that can be applied

V_{BR}: Breakdown voltage

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

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 with negative resistance)

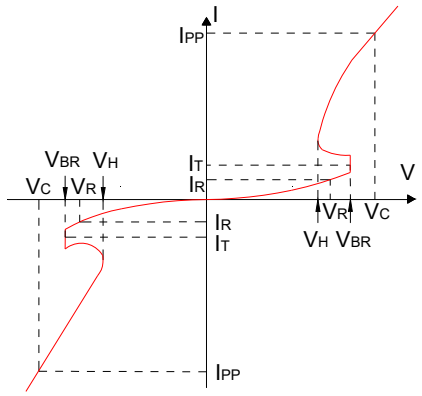


FIG.2: Pulse waveform

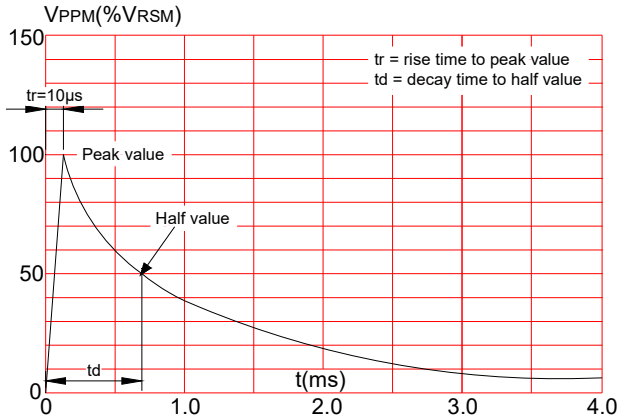


FIG.3: Pulse waveform

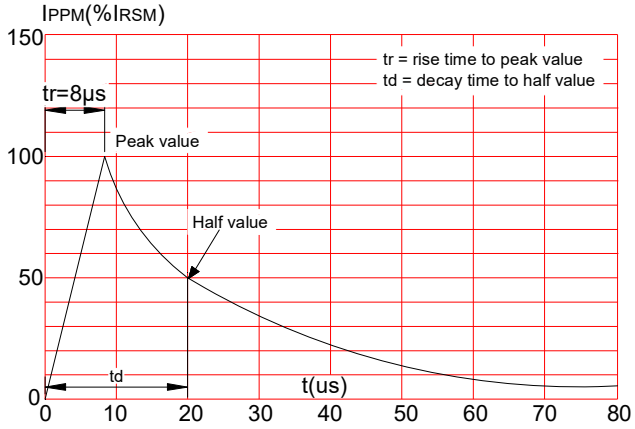


FIG.4: Pulse waveform

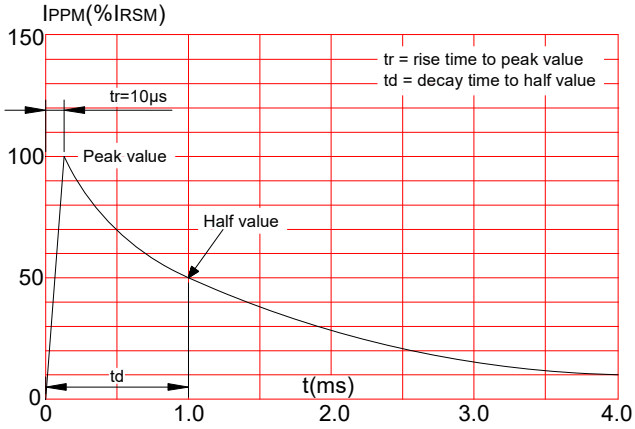
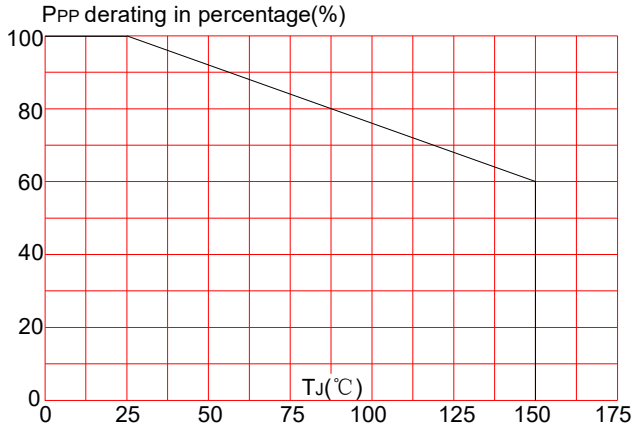
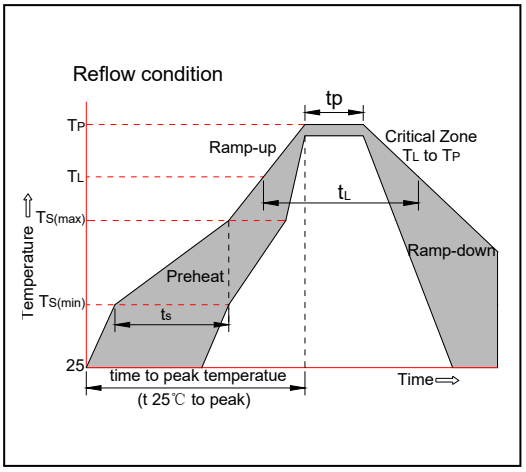


FIG.5: Pulse derating curve(10/1000μs)

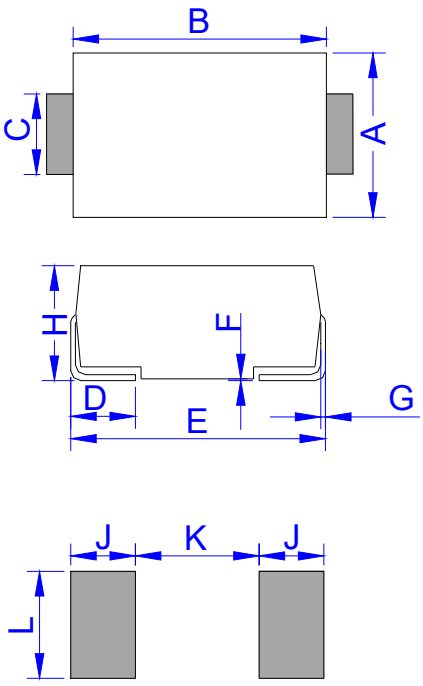


SOLDERING PARAMETERS

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℃



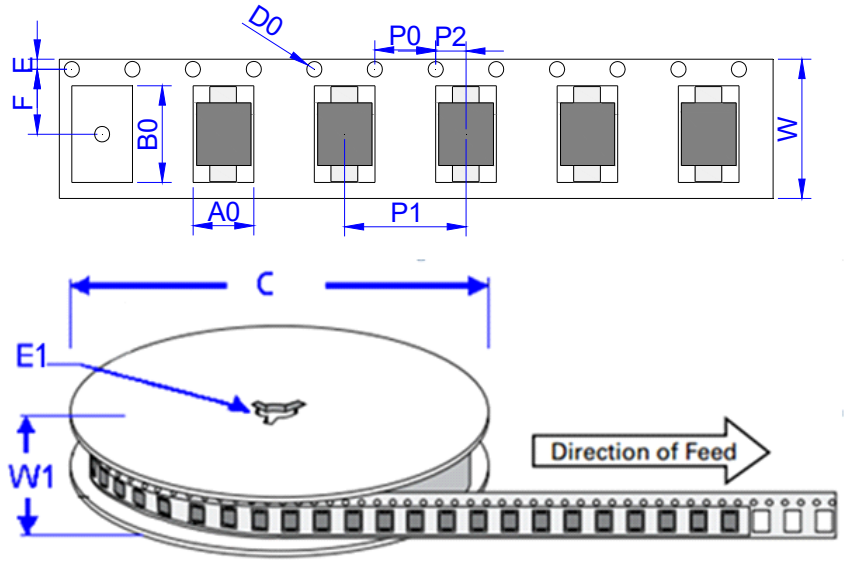
PACKAGE MECHANICAL DATA



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
JT58SBC	0.106	3,000	48,000	13 inch reel pack

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