

FrelTec GmbH

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Surface Mount Transient Voltage Suppressors SMAF

2/3/2022

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SMAF

Transient Voltage Suppressors

SPECIFICATION

63B	L2TVS_____	SMAF	L10
Type	Type	Package	Packing
63B: Transient Voltage Suppressors	L2TVS_____	SMAF	L10: tape and Reel(embossed tape) for 10000 pc (13'reel)

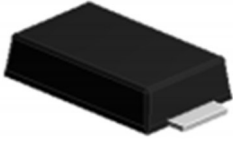
All products according to RoHS (2015/863/EU)



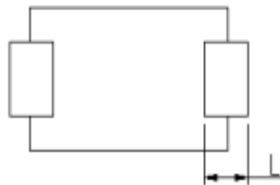
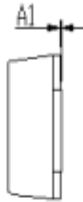
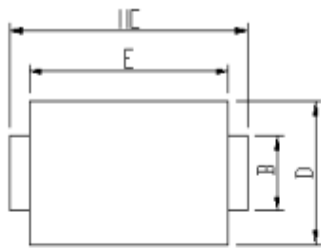
SMAF

FrelTec Transient Voltage Suppressors L2TVA10,0A thru L2TVS190AA

PACKAGE OUTLINE

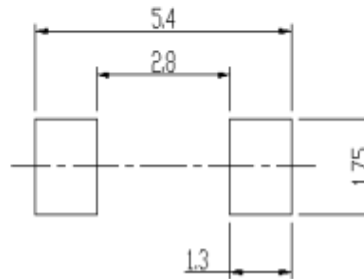


eSGB (SMAF)



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	0.9	1.08	0.035	0.043
A1	0	0.1	0.000	0.004
B	1.25	1.45	0.049	0.057
C	0.1	0.25	0.004	0.010
D	2.6	2.8	0.102	0.110
E	4.1	4.3	0.161	0.169
L	0.7	1.1	0.028	0.043
HE	4.8	5.2	0.189	0.205

Soldering footprint



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Transient Voltage Suppressors

MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Value	Unit
Peak pulse power dissipation with a 10/1000us waveform	$P_{PPM}^{1)}$	Minimum 200	W
Peak pulse current with a 10/1000us waveform	$I_{PPM}^{1)}$	See Next Table	A
Power dissipation on infinite heatsink $T_A=25^\circ\text{C}$	$P_{M(AV)}^{2)}$	0,5	W
Peak forward surge current 8.3ms single half sine-wave uni-directional only	I_{FSM}	30,0	A
Maximum instantaneous forward voltage at 25A	V_F	3,5	V
Typical thermal resistance, junction to ambient air	R_{thja}	80	$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above $T_A = 25^\circ\text{C}$ per Fig.4

2. Power dissipation mounted on recommended pad layout

3. Thermal resistance from junction to ambient, mounted on PCB with 0,8 x 0,8mm copper pads

Electrical CharacteristicsRating at 25°C ambient temperature unless otherwise specified, $V_F=3,5V$ at $I_F=50A$ (uni-directional only)

Part name	Reverse Stand-off Voltage	Breakdown voltage		Test current	Max Reverse Leakage Current	Max. Clamping Voltage	Peak Pulse Current
	VRWM	VBR @ IT		IT	IR @ VRWM	Vc @ IPP	IPP
	V	Min	Max	mA	uA	V	A
L2TVS10A	10	11,1	12,3	1	5	17	11,8
L2TVS11A	11	12,2	13,5	1	5	18,2	11
L2TVS12A	12	13,3	14,7	1	5	19,9	10,1
L2TVS13A	13	14,4	15,9	1	5	21,5	9,3
L2TVS14A	14	15,6	17,2	1	5	23,2	8,62
L2TVS15A	15	16,7	18,5	1	5	24,4	8,2
L2TVS16A	16	17,8	19,7	1	5	26	7,69
L2TVS17A	17	18,9	20,9	1	5	27,6	7,25
L2TVS18A	18	20	22,1	1	5	29,2	6,85
L2TVS20A	20	22,2	24,5	1	5	32,4	6,17
L2TVS22A	22	24,4	26,9	1	5	35,5	5,63
L2TVS24A	24	26,7	29,5	1	5	38,9	5,14
L2TVS26A	26	28,9	31,9	1	5	42,1	4,75
L2TVS28A	28	31,1	34,4	1	5	45,4	4,41
L2TVS30A	30	33,3	36,8	1	5	48,4	4,13
L2TVS33A	33	36,7	40,6	1	5	53,3	3,75
L2TVS36A	36	40	44,2	1	5	58,1	3,44
L2TVS40A	40	44,4	49,1	1	5	64,5	3,1
L2TVS43A	43	47,8	52,8	1	5	69,4	2,88
L2TVS45A	45	50	55,3	1	5	72,7	2,75
L2TVS48A	48	53,3	58,9	1	5	77,4	2,58
L2TVS51A	51	56,7	62,7	1	5	82,4	2,43
L2TVS54A	54	60	66,3	1	5	87,1	2,3
L2TVS58A	58	64,4	71,2	1	5	93,6	2,14
L2TVS60A	60	66,7	73,7	1	5	96,8	2,07
L2TVS64A	64	71,1	78,6	1	5	103	1,94
L2TVS70A	70	77,8	86	1	5	113	1,77
L2TVS75A	75	83,3	92,1	1	5	121	1,65
L2TVS78A	78	86,7	95,8	1	5	126	1,59
L2TVS80A	80	88,8	97,6	1	5	129	1,55
L2TVS85A	85	94,4	104	1	5	137	1,46
L2TVS90A	90	100	111	1	5	146	1,37
L2TVS100A	100	111	123	1	5	162	1,23
L2TVS110A	110	122	135	1	5	177	1,13
L2TVS120A	120	133	147	1	5	193	1,04
L2TVS130A	130	144	159	1	5	209	0,96
L2TVS140A	140	155	171	1	5	224	0,89
L2TVS150A	150	167	185	1	5	243	0,82
L2TVS160A	160	178	197	1	5	259	0,77
L2TVS170A	170	189	209	1	5	275	0,73
L2TVS180A	180	201	222	1	5	292	0,69
L2TVS190A	190	211	232	1	5	324	0,62

Note: 1. $V_{(BR)}$ measured after L_T applied for 300us square wave pulse or equivalent

2. Surge current waveform per Fig.3 and derated per Fig.2

3. All terms and symbols are consistent with ANSI/IEE C62,35

4. For bi-directional types have V_{WM} of 10 Volts and less, the I_D limit is doubled

2/3/2022

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SMAF RATINGS AND CHARACTERISTIC CURVES

Transient Voltage Suppressors

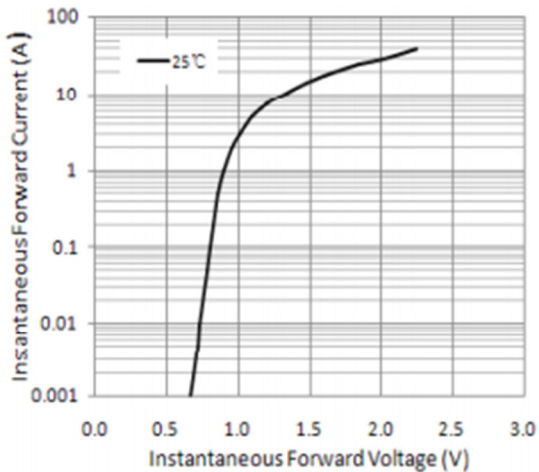


Figure 1. Typical Instantaneous Forward Characteristics

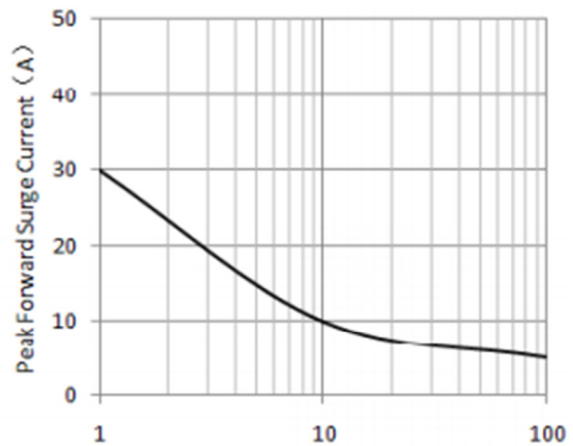


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

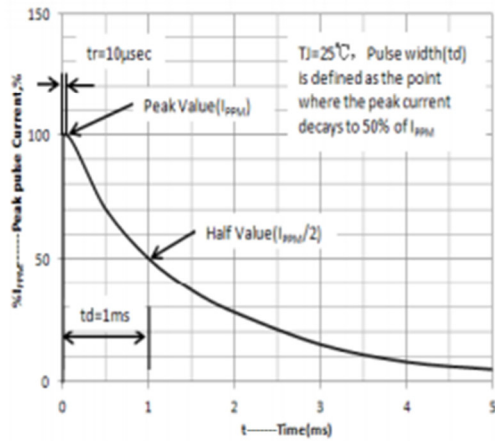


Figure 3. Pulse Waveform

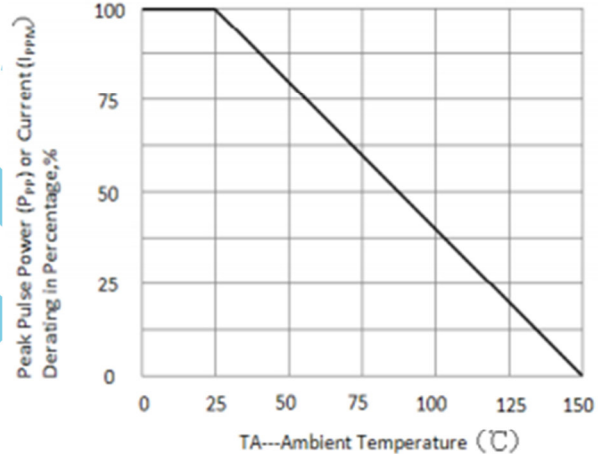


Figure 4. Peak Pulse Power Derating Curve

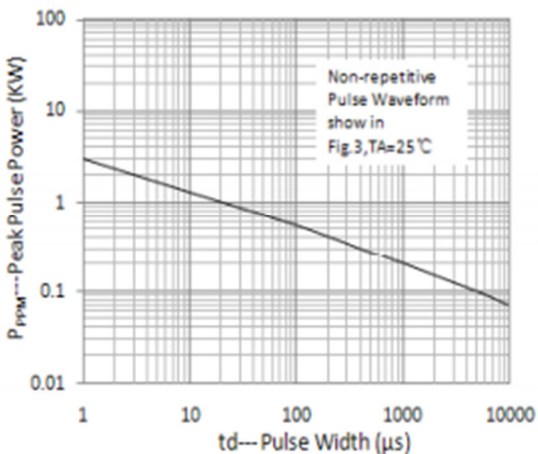


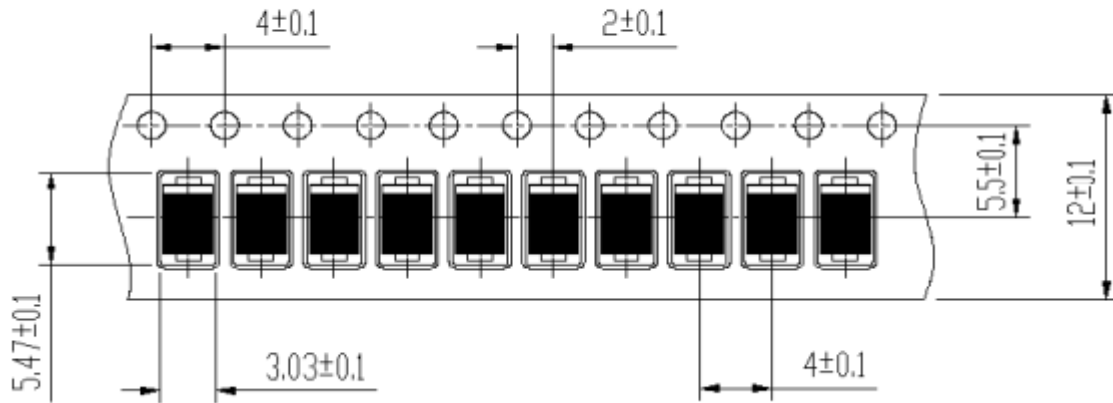
Figure 5. Peak Pulse Power Derating Curve

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Transient Voltage Suppressors

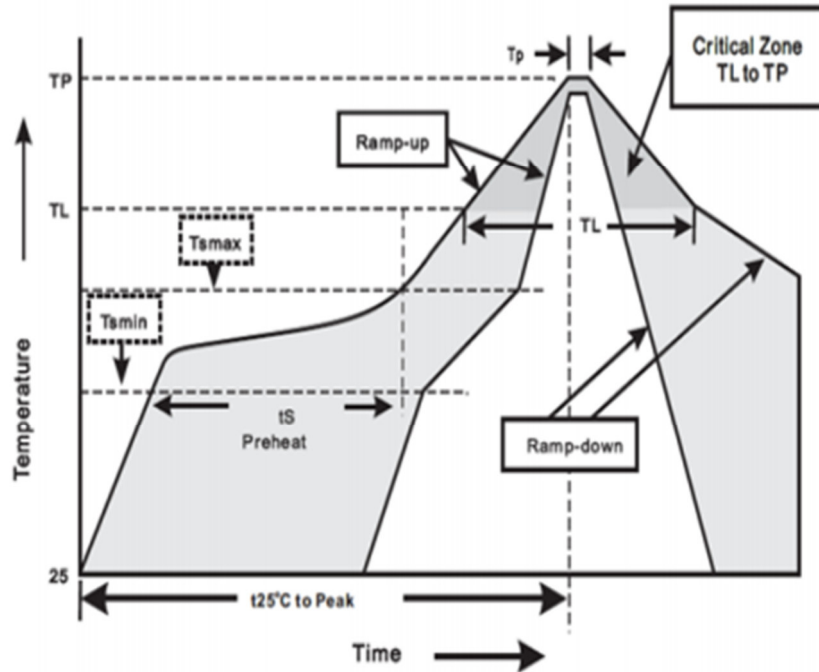
Tape and reel in specification

Tape & Reel Specification



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Soldering Parameters



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Stock period

The performance of these products, including the solderability, is guaranteed for 12 month, provided that they remain packed as they were when delivered and stored at a temperature of 20-30°C and a relative humidity 20-60%RH

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