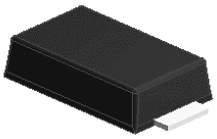
600W,10 - 180V Transient Voltage Suppressors

Features

- Very fast response time
- Glass passivated junction
- Moisture sensitivity: level 1, per J-STD-020
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21 definition
- 600 W peak pulse power capability with a 10/1000 μs waveform

RoHS
COMPLIANT



eSGB (DO-221AC)

Applications

- SMPS
- Adapters
- Monitor

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)			
Parameter	**Symbol**	**Ratings**	**Unit**
Peak power dissipation with a 10/1000us waveform	P_{PPM}	600	W
Peak pulse current with a 10/1000us waveform	I_{PPM}	See Next Table	A
Power dissipation, on infinite heat sink at T_L=75℃	P_D	4	W
Peak forward surge current, 8.3ms single half-sine wave	I_{FSM}	80	A
Typical Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	85	℃/W
Typical Thermal Resistance , Junction to Case	$R_{\theta JC}$	15	℃/W
Typical Thermal Resistance , Junction to Lead	$R_{\theta JL}$	18	℃/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	℃

Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number	Marking	Breakdown Voltage VBR (Volts)		Test Current I_T (mA)	Stand off Voltage V_{WM} (Volts)	Maximum reverse leakage at VWM I_D (μA)	Maximum Peak Pulse Current I_{ppM} (A)	Maximum Clamping Voltage at I_{PPM} V_C(Volts)
		Min	Max					
L6TVS10A	L610A	11.1	12.3	1.0	10	5.0	35.3	17.0
L6TVS11A	L611A	12.2	13.5	1.0	11	5.0	33.0	18.2
L6TVS12A	L612A	13.3	14.7	1.0	12	5.0	30.2	19.9
L6TVS13A	L613A	14.4	15.9	1.0	13	1.0	27.9	21.5
L6TVS14A	L614A	15.6	17.2	1.0	14	1.0	25.9	23.2
L6TVS15A	L615A	16.7	18.5	1.0	15	1.0	24.6	24.4
L6TVS16A	L616A	17.8	19.7	1.0	16	1.0	23.1	26.0
L6TVS17A	L617A	18.9	20.9	1.0	17	1.0	21.7	27.6
L6TVS18A	L618A	20.0	22.1	1.0	18	1.0	20.5	29.2
L6TVS20A	L620A	22.2	24.5	1.0	20	1.0	18.5	32.4
L6TVS22A	L622A	24.4	26.9	1.0	22	1.0	16.9	35.5
L6TVS24A	L624A	26.7	29.5	1.0	24	1.0	15.4	38.9
L6TVS26A	L626A	28.9	31.9	1.0	26	1.0	14.3	42.1
L6TVS28A	L628A	31.1	34.4	1.0	28	1.0	13.2	45.4
L6TVS30A	L630A	33.3	36.8	1.0	30	1.0	12.4	48.4
L6TVS33A	L633A	36.7	40.6	1.0	33	1.0	11.3	53.3
L6TVS36A	L636A	40.0	44.4	1.0	36	1.0	10.3	58.1
L6TVS40A	L640A	44.4	49.1	1.0	40	1.0	9.3	64.5
L6TVS43A	L643A	47.8	52.8	1.0	43	1.0	8.6	69.4
L6TVS45A	L645A	50.0	55.3	1.0	45	1.0	8.3	72.7
L6TVS48A	L648A	53.3	58.9	1.0	48	1.0	7.8	77.4
L6TVS51A	L651A	56.7	62.7	1.0	51	1.0	7.3	82.4
L6TVS54A	L654A	60.0	66.3	1.0	54	1.0	6.9	87.1
L6TVS58A	L658A	64.4	71.2	1.0	58	1.0	6.4	93.6
L6TVS60A	L660A	66.7	73.7	1.0	60	1.0	6.2	96.8
L6TVS64A	L664A	71.1	78.6	1.0	64	1.0	5.8	103
L6TVS70A	L670A	77.8	86.0	1.0	70	1.0	5.3	113
L6TVS75A	L675A	83.3	92.1	1.0	75	1.0	5.0	121
L6TVS78A	L678A	86.7	95.8	1.0	78	1.0	4.8	126
L6TVS85A	L685A	94.4	104	1.0	85	1.0	4.4	137
L6TVS90A	L690A	100	111	1.0	90	1.0	4.1	146
L6TVS100A	L6100A	111	123	1.0	100	1.0	3.7	162
L6TVS110A	L6110A	122	135	1.0	110	1.0	3.4	177
L6TVS120A	L6120A	133	147	1.0	120	1.0	3.1	193

Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number	Marking	Breakdown Voltage VBR (Volts)		Test Current I_T (mA)	Stand off Voltage V_{WM} (Volts)	Maximum reverse leakage at VWM I_D (μA)	Maximum Peak Pulse Current I_{ppM} (A)	Maximum Clamping Voltage at I_{PPM} V_C(Volts)
		Min	Max					
L6TVS130A	L6130A	144	159	1.0	130	1.0	2.9	209
L6TVS150A	L6150A	167	185	1.0	150	1.0	2.5	243
L6TVS160A	L6160A	178	197	1.0	160	1.0	2.3	259
L6TVS170A	L6170A	189	209	1.0	170	1.0	2.2	275
L6TVS180A	L6180A	201	222	1.0	180	1.0	2.1	292

Note：

1. The thermal resistance from junction to ambient, case or lead, mounted on P.C.B with 5×5mm copper pads

Ratings and Characteristics Curves

(T_A = 25℃ unless otherwise noted)

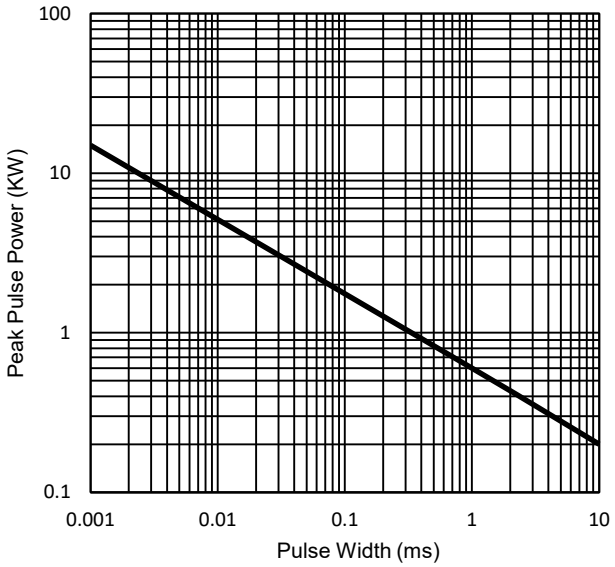


Fig.1 –Peak Pulse Power Derating Curve

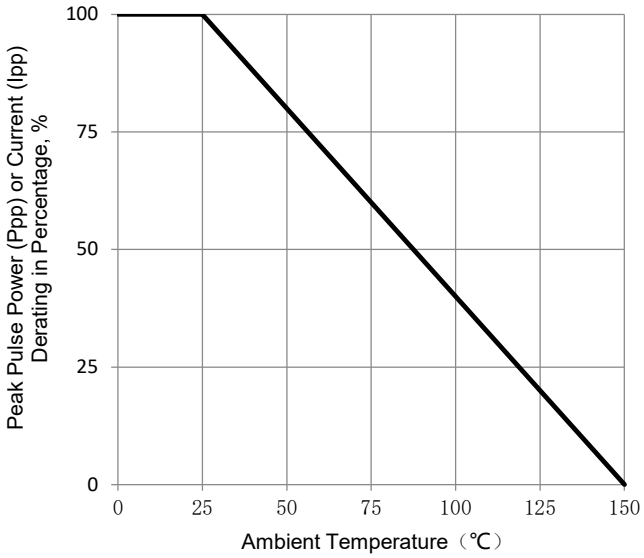


Fig.2 – Pulse Power vs Ambient Temperature

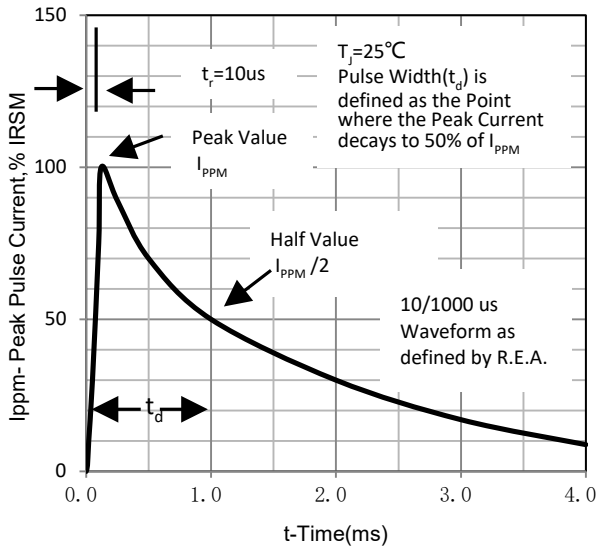


Fig.3 – Pulse Waveform

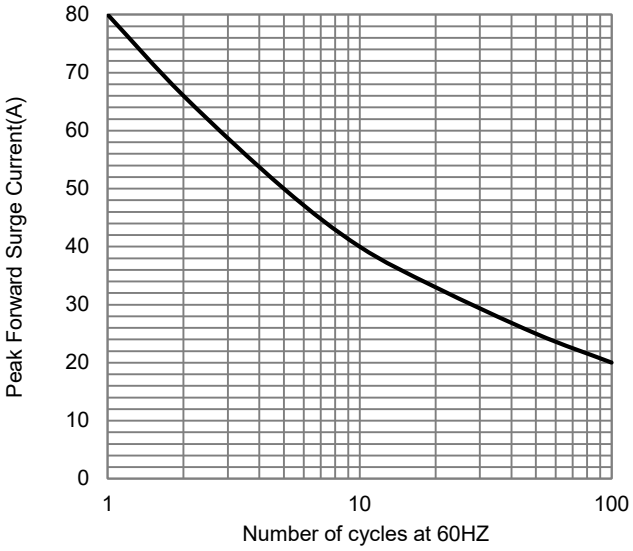
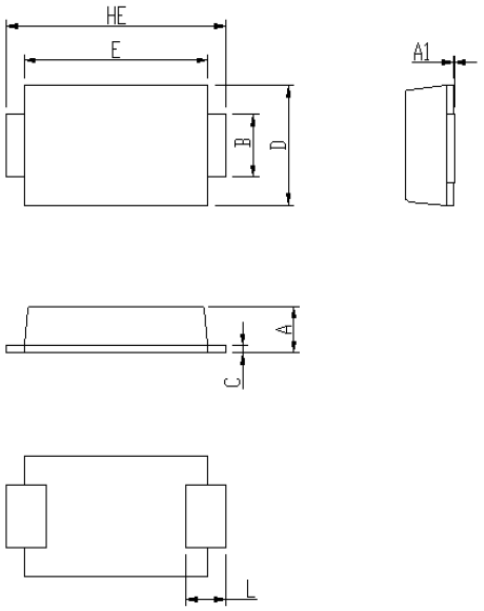


Fig.4 – Maximum Non-Repetitive Surge Current

Package Outline Dimensions

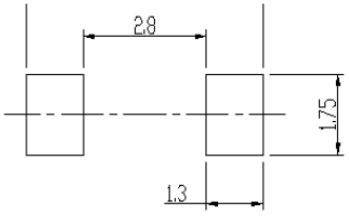
in inches (millimeters)

eSGB (DO-221AC)



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	0.92	1.08	0.036	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



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.15	Released Datasheet
Rev.B	2023.10.13	Modify document format
Rev.C	2023.12.29	Modify package name

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