GSL6TVS10A thru GSL6TVS180A

Surface Mount Transient Voltage Suppressors
Peak Pulse Power 600W Stand-off Voltage10V to 180V

Features

- Glass passivated junction
- Excellent clamping capability and fast response time
- 600W peak pulse power capability with a 10/1000 uS waveform
- Moisture sensitivity: level 1, per J-STD-020
- Polarity: Uni-directional
- Low profile package with built-in strain relief for surface mounted applications

RoHS COMPLIANT

eSGB (SMAF)

Applications

For use in sensitive electronics protection against voltage transients induced by lightning or inductive load switching. Key applications include protection of I/O interfaces, industrial and LED lighting applications, DC power buses, and other vulnerable circuits used in consumer electronics.

Maximum Ratings and Thermal Characteristics

(T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Power Dissipation With a 10/1000 uS Waveform	P_{PPM}[1, 2]	600	W
Peak Pulse Current With a 10/1000 uS Waveform	I_{PPM}[1]	See Next Table	A
Peak Forward Surge Current, 8.3 mS Single Half Sine-Wave	I_{FSM}[3]	80	A
Typical Thermal Resistance Junction To Lead	$R_{\theta JL}$	20	°C/W
Typical Thermal Resistance Junction To Ambient	$R_{\theta JA}$	100	°C/W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Notes:

1. Non-repetitive current, per Fig.3 and derated above T_A=25 ℃ per Fig.2.
2. Mounted on copper pad area of 0.2x0.2" (5.0x5.0mm) to each terminal.
3. Measured on 8.3 mS single half sine wave or equivalent square for unidirectional device only, Fig.4.

GOOD-ARK SEMICONDUCTOR

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

Part Number (Uni)	Marking	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts) @ I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_C @ I_{PP} (V)	Maximum Peak Pulse Current Ipp (A)	Maximum Reverse Leakage I_R @ V_R (μA)
	Uni		Min	Max				
GSL6TVS10A	L610A	10	11.1	12.3	1	17	35.3	2.5
GSL6TVS11A	L611A	11	12.2	13.5	1	18.2	33	2.5
GSL6TVS12A	L612A	12	13.3	14.7	1	19.9	30.2	2.5
GSL6TVS13A	L613A	13	14.4	15.9	1	21.5	27.9	0.1
GSL6TVS14A	L614A	14	15.6	17.2	1	23.2	25.9	0.1
GSL6TVS15A	L615A	15	16.7	18.5	1	24.4	24.6	0.1
GSL6TVS16A	L616A	16	17.8	19.7	1	26	23.1	0.1
GSL6TVS17A	L617A	17	18.9	20.9	1	27.6	21.7	0.1
GSL6TVS18A	L618A	18	20	22.1	1	29.2	20.5	0.1
GSL6TVS20A	L620A	20	22.2	24.5	1	32.4	18.5	0.1
GSL6TVS22A	L622A	22	24.4	26.9	1	35.5	16.9	0.1
GSL6TVS24A	L624A	24	26.7	29.5	1	38.9	15.4	0.1
GSL6TVS26A	L626A	26	28.9	31.9	1	42.1	14.3	0.1
GSL6TVS28A	L628A	28	31.1	34.4	1	45.4	13.2	0.1
GSL6TVS30A	L630A	30	33.3	36.8	1	48.4	12.4	0.1
GSL6TVS33A	L633A	33	36.7	40.6	1	53.3	11.3	0.1
GSL6TVS36A	L636A	36	40	44.4	1	58.1	10.3	0.1
GSL6TVS40A	L640A	40	44.4	49.1	1	64.5	9.3	0.1
GSL6TVS43A	L643A	43	47.8	52.8	1	69.4	8.6	0.1
GSL6TVS45A	L645A	45	50	55.3	1	72.7	8.3	0.1
GSL6TVS48A	L648A	48	53.3	58.9	1	77.4	7.8	0.1
GSL6TVS51A	L651A	51	56.7	62.7	1	82.4	7.3	0.1
GSL6TVS54A	L654A	54	60	66.3	1	87.1	6.9	0.1
GSL6TVS58A	L658A	58	64.4	71.2	1	93	6.4	0.1
GSL6TVS60A	L660A	60	66.7	73.7	1	96	6.2	0.1
GSL6TVS64A	L664A	64	71.1	78.6	1	103	5.8	0.1
GSL6TVS70A	L670A	70	77.8	96	1	113	5.3	0.1
GSL6TVS75A	L675A	75	83.3	92.1	1	121	5	0.1
GSL6TVS78A	L678A	78	86.7	95.8	1	126	4.8	0.1
GSL6TVS85A	L685A	85	94.4	104	1	137	4.4	0.1
GSL6TVS90A	L690A	90	100	111	1	146	4.1	0.1
GSL6TVS100A	L6100A	100	111	123	1	162	3.7	0.1
GSL6TVS110A	L6110A	110	122	135	1	177	3.4	0.1
GSL6TVS120A	L6120A	120	133	147	1	193	3.1	0.1
GSL6TVS130A	L6130A	130	144	159	1	209	2.9	0.1
GSL6TVS150A	L6150A	150	167	185	1	243	2.5	0.1
GSL6TVS160A	L6160A	160	178	197	1	259	2.3	0.1
GSL6TVS170A	L6170A	170	189	209	1	275	2.2	0.1
GSL6TVS180A	L6180A	180	209	222	1	292	2.1	0.1

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Ratings and Characteristics Curves

(T_A = 25°C unless otherwise noted)

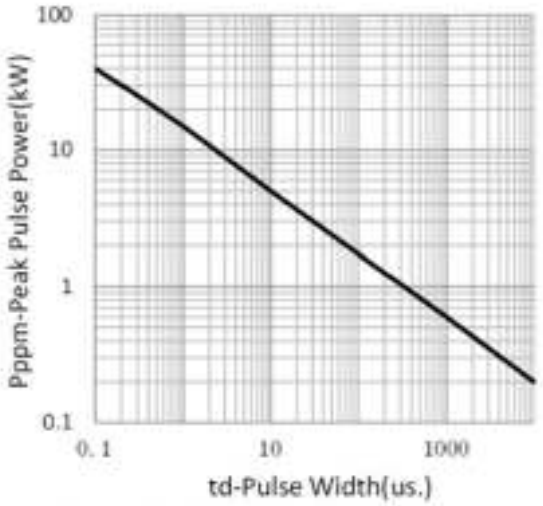

Figure 1. Peak Pulse Power Derating Curve

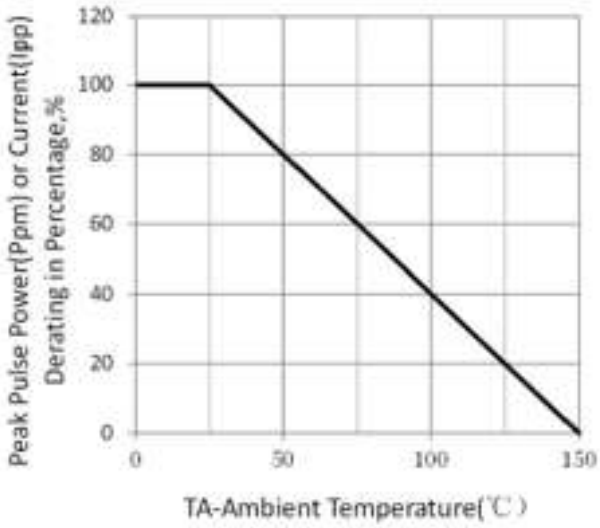

Figure 2. Pulse Power vs ambient temperature

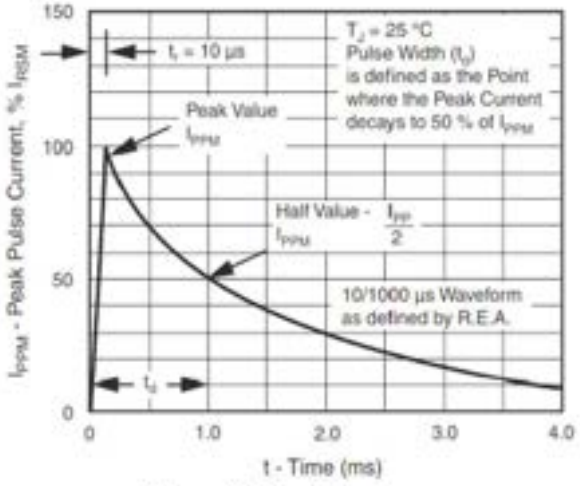

Figure 3. Pulse Waveform

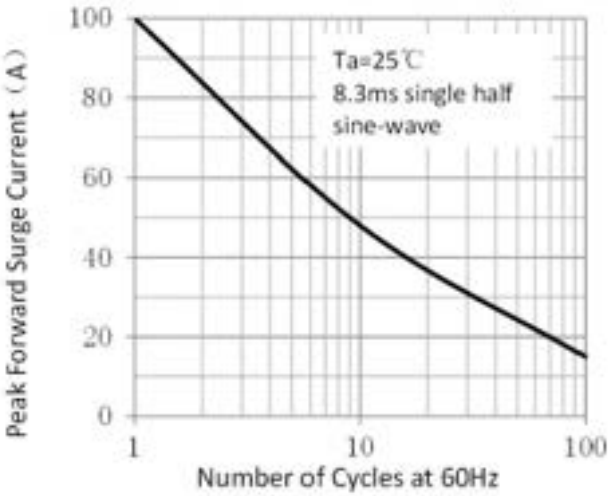

Figure 4.Maximum Non-Repetitive Peak Forward Surge Current

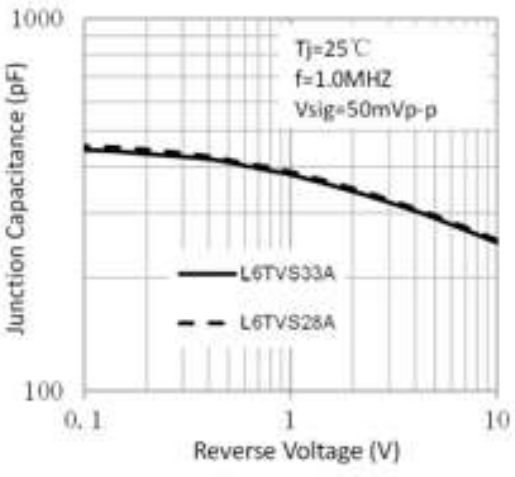

Figure 5. Typical Junction Capacitance

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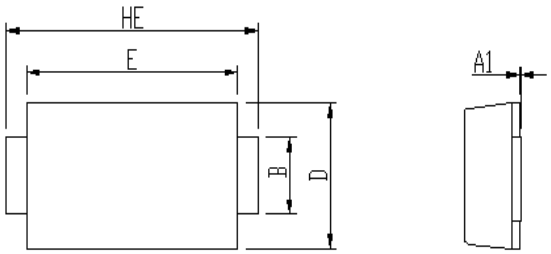
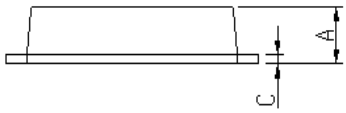
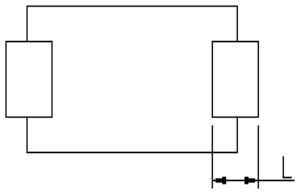
Package Outline Dimensions (in millimeters) eSGB (SMAF)







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