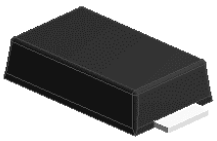
600W,5 - 180V Transient Voltage Suppressors

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
- AEC-Q101 qualified

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
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	℃

Thermal-Mechanical Specifications (T_A=25℃ unless otherwise noted)			
Parameter	**Symbol**	**Typ**	**Unit**
Thermal Resistance, Junction to Ambient	R_{thJA}	85	°C /W
Thermal Resistance, Junction to Case	R_{thJC}	15	°C /W
Thermal Resistance, Junction to Lead	R_{thJL}	18	°C /W

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

Part Number		Marking		Breakdown Voltage VBR (V)		Test Current I_T (mA)	Stand off Voltage V_{WM} (V)	Maximum reverse leakage at VWM I_D (μA)	Maximum Peak Pulse Current I_{ppM} (A)	Maximum Clamping Voltage at I_{PPM} V_C(V)
				Min	Max					
AL6TVS5.0AS	AL6TVS5.0CAS	AKES	AAES	6.40	7.07	10	5.0	800	65.2	9.2
AL6TVS6.0AS	AL6TVS6.0CAS	AKGS	AAGS	6.67	7.37	10	6.0	800	58.3	10.3
AL6TVS6.5AS	AL6TVS6.5CAS	AKKS	AAKS	7.22	7.98	10	6.5	500	53.6	11.2
AL6TVS7.0AS	AL6TVS7.0CAS	AKMS	AAMS	7.78	8.60	10	7.0	200	50.0	12.0
AL6TVS7.5AS	AL6TVS7.5CAS	AKPS	AAPS	8.33	9.21	1.0	7.5	100	46.5	12.9
AL6TVS8.0AS	AL6TVS8.0CAS	AKRS	AARS	8.89	9.83	1.0	8.0	50	44.1	13.6
AL6TVS8.5AS	AL6TVS8.5CAS	AKTS	AATS	9.44	10.4	1.0	8.5	20	41.7	14.4
AL6TVS9.0AS	AL6TVS9.0CAS	AKVS	AAVS	10.0	11.1	1.0	9.0	10.0	39.0	15.4
AL6TVS10AS	AL6TVS10CAS	AKXS	AAXS	11.1	12.3	1.0	10.0	5.0	35.3	17.0
AL6TVS11AS	AL6TVS11CAS	AKZS	AAZS	12.2	13.5	1.0	11.0	5.0	33.0	18.2
AL6TVS12AS	AL6TVS12CAS	ALES	ABES	13.3	14.7	1.0	12.0	5.0	30.2	19.9
AL6TVS13AS	AL6TVS13CAS	ALGS	ABGS	14.4	15.9	1.0	13	1.0	27.9	21.5
AL6TVS14AS	AL6TVS14CAS	ALKS	ABKS	15.6	17.2	1.0	14	1.0	25.9	23.2
AL6TVS15AS	AL6TVS15CAS	ALMS	ABMS	16.7	18.5	1.0	15	1.0	24.6	24.4
AL6TVS16AS	AL6TVS16CAS	ALPS	ABPS	17.8	19.7	1.0	16	1.0	23.1	26.0
AL6TVS17AS	AL6TVS17CAS	ALRS	ABRS	18.9	20.9	1.0	17	1.0	21.7	27.6
AL6TVS18AS	AL6TVS18CAS	ALTS	ABTS	20.0	22.1	1.0	18	1.0	20.5	29.2
AL6TVS20AS	AL6TVS20CAS	ALVS	ABVS	22.2	24.5	1.0	20	1.0	18.5	32.4
AL6TVS22AS	AL6TVS22CAS	ALXS	ABXS	24.4	26.9	1.0	22	1.0	16.9	35.5
AL6TVS24AS	AL6TVS24CAS	ALZS	ABZS	26.7	29.5	1.0	24	1.0	15.4	38.9
AL6TVS26AS	AL6TVS26CAS	AMES	ACES	28.9	31.9	1.0	26	1.0	14.3	42.1
AL6TVS28AS	AL6TVS28CAS	AMGS	ACGS	31.1	34.4	1.0	28	1.0	13.2	45.4
AL6TVS30AS	AL6TVS30CAS	AMKS	ACKS	33.3	36.8	1.0	30	1.0	12.4	48.4
AL6TVS33AS	AL6TVS33CAS	AMMS	ACMS	36.7	40.6	1.0	33	1.0	11.3	53.3
AL6TVS36AS	AL6TVS36CAS	AMPS	ACPS	40.0	44.4	1.0	36	1.0	10.3	58.1
AL6TVS40AS	AL6TVS40CAS	AMRS	ACRS	44.4	49.1	1.0	40	1.0	9.3	64.5
AL6TVS43AS	AL6TVS43CAS	AMTS	ACTS	47.8	52.8	1.0	43	1.0	8.6	69.4
AL6TVS45AS	AL6TVS45CAS	AMVS	ACVS	50.0	55.3	1.0	45	1.0	8.3	72.7
AL6TVS48AS	AL6TVS48CAS	AMXS	ACXS	53.3	58.9	1.0	48	1.0	7.8	77.4
AL6TVS51AS	AL6TVS51CAS	AMZS	ACZS	56.7	62.7	1.0	51	1.0	7.3	82.4
AL6TVS54AS	AL6TVS54CAS	ANES	ADES	60.0	66.3	1.0	54	1.0	6.9	87.1
AL6TVS58AS	AL6TVS58CAS	ANGS	ADGS	64.4	71.2	1.0	58	1.0	6.4	93.6
AL6TVS60AS	AL6TVS60CAS	ANKS	ADKS	66.7	73.7	1.0	60	1.0	6.2	96.8
AL6TVS64AS	AL6TVS64CAS	ANMS	ADMS	71.1	78.6	1.0	64	1.0	5.8	103

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

Part Number		Marking		Breakdown Voltage VBR (V)		Test Current I_T (mA)	Stand off Voltage V_{WM} (V)	Maximum reverse leakage at VWM I_D (μA)	Maximum Peak Pulse Current I_{ppM} (A)	Maximum Clamping Voltage at I_{PPM} V_C(V)
				Min	Max					
AL6TVS70AS	AL6TVS70CAS	ANPS	ADPS	77.8	86.0	1.0	70	1.0	5.3	113
AL6TVS75AS	AL6TVS75CAS	ANRS	ADRS	83.3	92.1	1.0	75	1.0	5.0	121
AL6TVS78AS	AL6TVS78CAS	ANTS	ADTS	86.7	95.8	1.0	78	1.0	4.8	126
AL6TVS85AS	AL6TVS85CAS	ANVS	ADVS	94.4	104	1.0	85	1.0	4.4	137
AL6TVS90AS	AL6TVS90CAS	ANXS	ADXS	100	111	1.0	90	1.0	4.1	146
AL6TVS100AS	--	ANZS	--	111	123	1.0	100	1.0	3.7	162
AL6TVS110AS	--	AOES	--	122	135	1.0	110	1.0	3.4	177
AL6TVS120AS	--	AOGS	--	133	147	1.0	120	1.0	3.1	193
AL6TVS130AS	--	AOKS	--	144	159	1.0	130	1.0	2.9	209
AL6TVS150AS	--	AOMS	--	167	185	1.0	150	1.0	2.5	243
AL6TVS160AS	--	AOPS	--	178	197	1.0	160	1.0	2.3	259
AL6TVS170AS	--	AORS	--	189	209	1.0	170	1.0	2.2	275
AL6TVS180AS	--	AOTS	--	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 (TA = 25℃ unless otherwise noted)

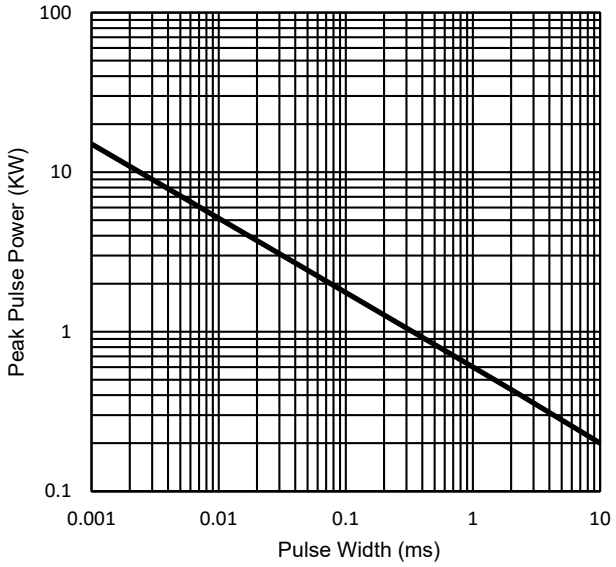


Fig.1 –Peak Pulse Power Derating Curve

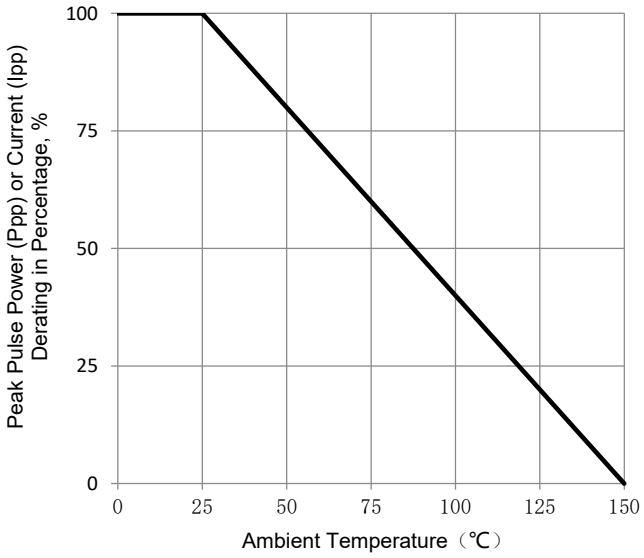


Fig.2 – Pulse Power vs Ambient Temperature

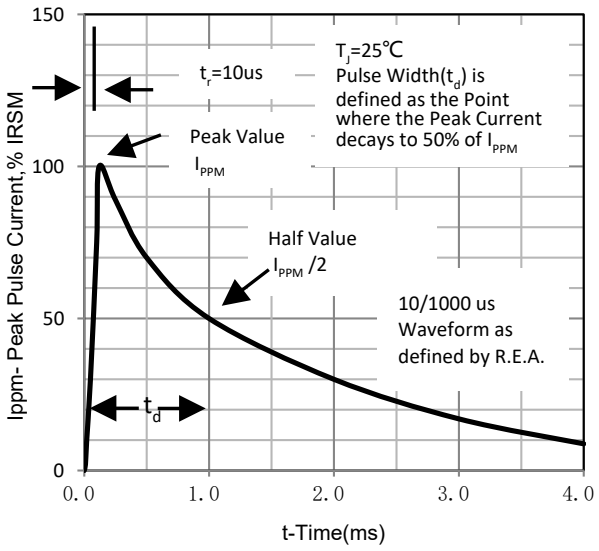


Fig.3 – Pulse Waveform

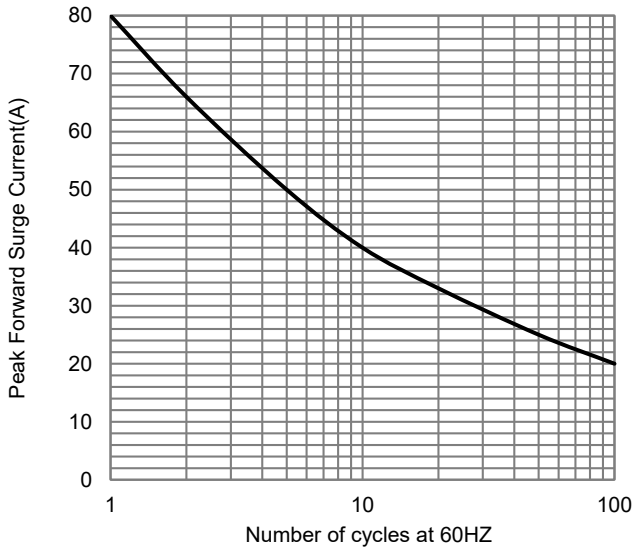
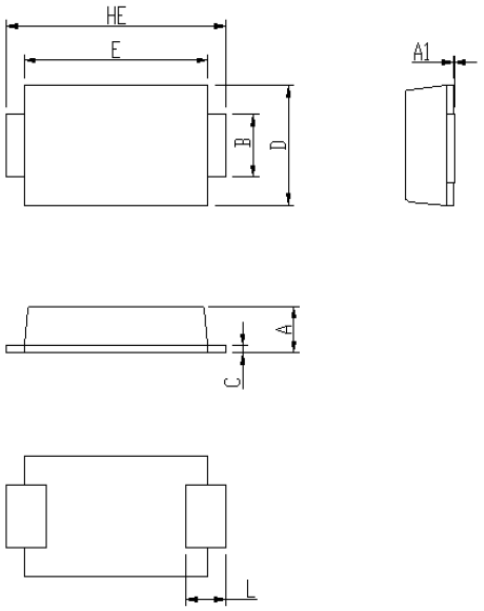


Fig.4 – Maximum Non-Repetitive Surge Current

Package Outline Dimensions

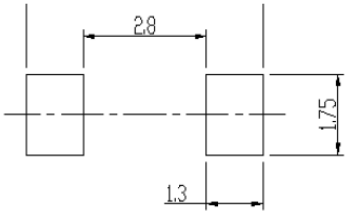
in inches (millimeters)

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



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