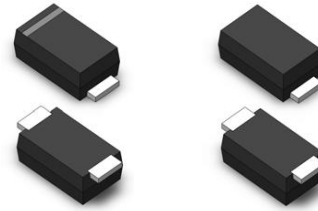


1.Description

AED series, 200W transient voltage suppressor (TVS) in SOD-123F package, designed to protect electronic circuit which induced by lightning surge or other transient voltage situation.



2.Features

- IEC61000-4-2 ESD 30KV Air,30KV contact compliance
- SOD-123F surface mount package
- Protects one I/O line
- Peak power dissipation of 1000W under 8/20 waveform
- Low leakage current
- Working voltage: 5V~220V
- Solid-state silicon avalanche technology
- Lead Free/RoHS compliant
- Solder reflow temperature: Pure Tin-Sn,260-270°C

3.Mechanical Data

- Personal digital assistants (PDA)
- Cellular handsets & Accessories
- Portable devices
- Portable instrumentation
- Handhelds and notebooks
- Digital cameras

4.Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified

Rating	Symbol	Value	Units
Peak pulse power dissipation at 10/1000us waveform	P_{PPM}	Minimum 200	W
Peak pulse current of at 10/1000us waveform	I_{PPM}	See Table	A
Steady state power dissipation at $T_A=50^{\circ}\text{C}$	$P_{M(AV)}$	1.0	W
Peak pulse power at 8/20us waveform	P_{PPM}	1000	W
ESD voltage (Contact discharge)	V_{ESD}	± 30	KV
ESD voltage (Air discharge)		± 30	
Operating junction and Storage Temperature Range	T_J, T_{STG}	-65 to 150	$^{\circ}\text{C}$

Notes: Non-repetitive current pulse, per Fig.2 and derated above $T_A=25^{\circ}\text{C}$ per Fig.4.

5. Electrical Characteristics (TA=25°C)

Part Number	Part Number	Marking		Reverse Stand off Voltage V _R	Breakdown Voltage V _{BR} (Volts) @ I _T		Test Current I _T	Maximum Clamping Voltage V _C @ I _{pp}	Maximum Peak Pulse Current I _{pp}	Maximum Reverse Leakage I _R @ V _R	ROHS2.0
Uni	Bi	Uni	Bi	(Volts)	MIN	MAX	(mA)	(V)	(A)	(μA)	
AED5.0AA0	AED5.0CAA0	AE	WE	5	6.4	7	10	9.2	21.7	200	y
AED6.0AA0	AED6.0CAA0	AG	WG	6	6.67	7.37	10	10.3	19.4	200	y
AED6.5AA0	AED6.5CAA0	AK	WK	6.5	7.22	7.98	10	11.2	17.9	150	y
AED7.0AA0	AED7.0CAA0	AM	WM	7	7.78	8.6	10	12	16.7	75	y
AED7.5AA0	AED7.5CAA0	AP	WP	7.5	8.33	9.21	1	12.9	15.5	50	y
AED8.0AA0	AED8.0CAA0	AR	WR	8	8.89	9.83	1	13.6	14.7	25	y
AED8.5AA0	AED8.5CAA0	AT	WT	8.5	9.44	10.4	1	14.4	13.9	20	y
AED9.0AA0	AED9.0CAA0	AV	WV	9	10	11.1	1	15.4	13	10	y
AED10AA0	AED10CAA0	AX	WX	10	11.1	12.3	1	17	11.8	5	y
AED11AA0	AED11CAA0	AZ	WZ	11	12.2	13.5	1	18.2	11	1	y
AED12AA0	AED12CAA0	BE	XE	12	13.3	14.7	1	19.9	10.1	1	y
AED13AA0	AED13CAA0	BG	XG	13	14.4	15.9	1	21.5	9.3	1	y
AED14AA0	AED14CAA0	BK	XK	14	15.6	17.2	1	23.2	8.62	1	y
AED15AA0	AED15CAA0	BM	XM	15	16.7	18.5	1	24.4	8.2	1	y
AED16AA0	AED16CAA0	BP	XP	16	17.8	19.7	1	26	7.69	1	y
AED17AA0	AED17CAA0	BR	XR	17	18.9	20.9	1	27.6	7.25	1	y
AED18AA0	AED18CAA0	BT	XT	18	20	22.1	1	29.2	6.85	1	y
AED20AA0	AED20CAA0	BV	XV	20	22.2	24.5	1	32.4	6.17	1	y
AED22AA0	AED22CAA0	BX	XX	22	24.4	26.9	1	35.5	5.63	1	y
AED24AA0	AED24CAA0	BZ	XZ	24	26.7	29.5	1	38.9	5.14	1	y
AED26AA0	AED26CAA0	CE	YE	26	28.9	31.9	1	42.1	4.75	1	y
AED28AA0	AED28CAA0	CG	YG	28	31.1	34.4	1	45.4	4.41	1	y
AED30AA0	AED30CAA0	CK	YK	30	33.3	36.8	1	48.4	4.13	1	y
AED33AA0	AED33CAA0	CM	YM	33	36.7	40.6	1	53.3	3.75	1	y
AED36AA0	AED36CAA0	CP	YP	36	40	44.2	1	58.1	3.44	1	y
AED40AA0	AED40CAA0	CR	YR	40	44.4	49.1	1	64.5	3.1	1	y
AED43AA0	AED43CAA0	CT	YT	43	47.8	52.8	1	69.4	2.88	1	y
AED45AA0	AED45CAA0	CV	YV	45	50	55.3	1	72.7	2.75	1	y
AED48AA0	AED48CAA0	CX	YX	48	53.3	58.9	1	77.4	2.58	1	y
AED51AA0	AED51CAA0	CZ	YZ	51	56.7	62.7	1	82.4	2.43	1	y

Part Number	Part Number	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 I_{PP} (A)	Maximum Reverse Leakage I_R @ V_R (μA)	ROHS2.0
Uni	Bi	Uni	Bi		MIN	MAX					
AED54AA0	AED54CAA0	RE	ZE	54	60	66.3	1	87.1	2.3	1	y
AED58AA0	AED58CAA0	RG	ZG	58	64.4	71.2	1	93.6	2.14	1	y
AED60AA0	AED60CAA0	RK	ZK	60	66.7	73.7	1	96.8	2.07	1	y
AED64AA0	AED64CAA0	RM	ZM	64	71.1	78.6	1	103	1.94	1	y
AED70AA0	AED70CAA0	RP	ZP	70	77.8	86	1	113	1.77	1	y
AED75AA0	AED75CAA0	RR	ZR	75	83.3	92.1	1	121	1.65	1	y
AED78AA0	AED78CAA0	RT	ZT	78	86.7	95.8	1	126	1.59	1	y
AED85AA0	AED85CAA0	RV	ZV	85	94.4	104	1	137	1.46	1	y
AED90AA0	AED90CAA0	RX	ZX	90	100	111	1	146	1.37	1	y
AED100AA0	AED100CAA0	RZ	ZZ	100	111	123	1	162	1.23	1	y
AED110AA0	AED110CAA0	SE	VE	110	122	135	1	177	1.13	1	y
AED120AA0	AED120CAA0	SG	VG	120	133	147	1	193	1.04	1	y
AED130AA0	AED130CAA0	SK	VK	130	144	159	1	209	0.96	1	y
AED150AA0	AED150CAA0	SM	VM	150	167	185	1	243	0.82	1	y
AED160AA0	AED160CAA0	SP	VP	160	178	197	1	259	0.77	1	y
AED170AA0	AED170CAA0	SR	VR	170	189	209	1	275	0.73	1	y
AED180AA0	AED180CAA0	ST	VT	180	201	222	1	292	0.70	1	y
AED200AA0	AED200CAA0	SD	DD	200	224	247	1	324	0.60	1	y
AED220AA0	AED220CAA0	AD	ND	220	246	272	1	356	0.50	1	y

Notes: For bi-directional type having V_R of 10 volts and less, the I_R limit is double.

6.Ratings and Characteristic Curves (TA =25°C unless otherwise noted)

Figure 1. Peak Pulse Power Rating Curve

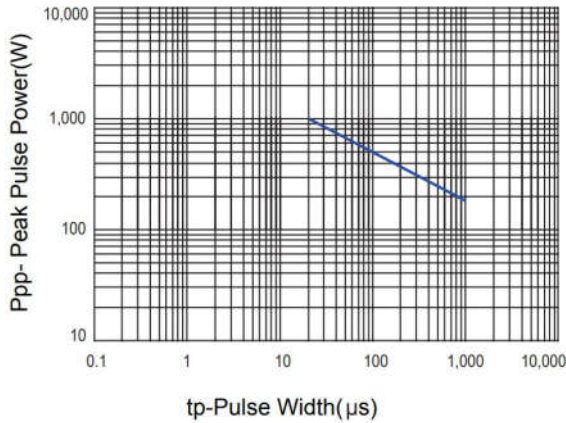


Figure 2. 10/1000 us Pulse Waveform

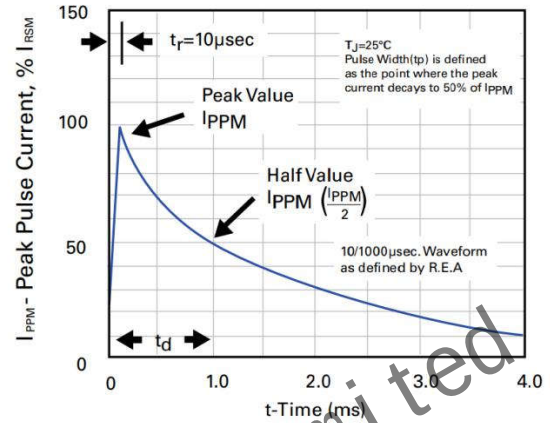


Figure 3. Capacitance vs. Reverse Voltage

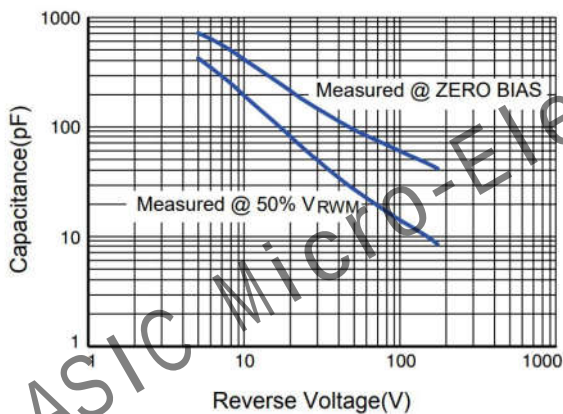
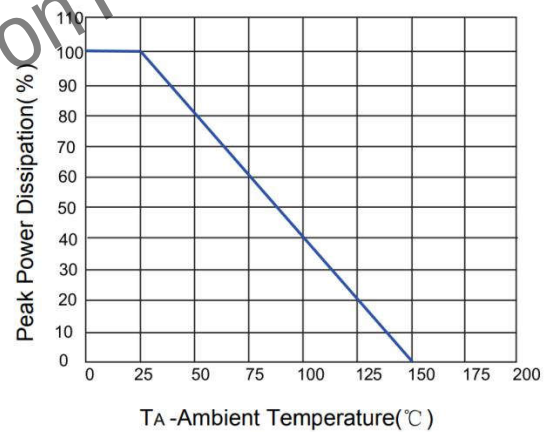
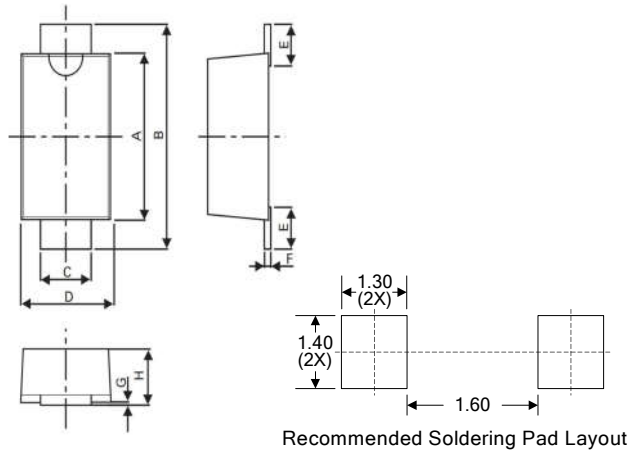


Figure 4. Power Derating curve

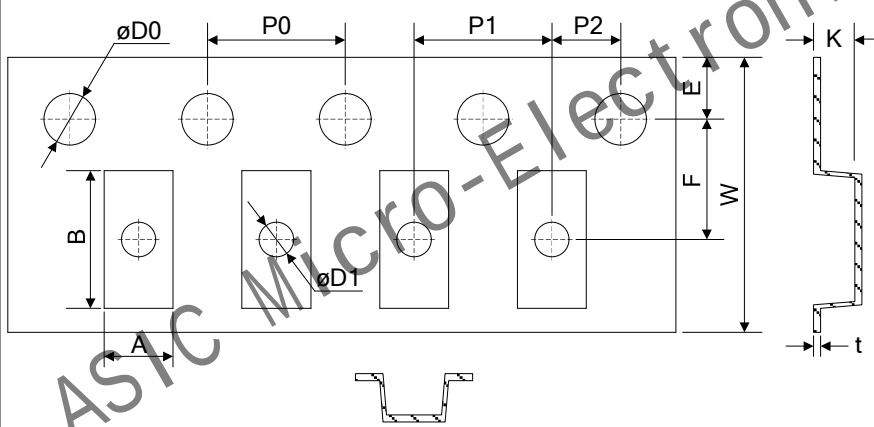
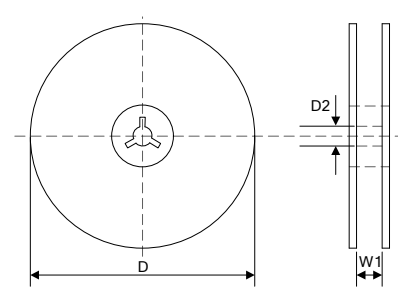


7.Dimension (SOD-123F)



Dimensions	Millimeters		Inches	
	Min	Max	Min	Max
A	2.5	3.05	0.0984	0.1201
B	3.35	4.05	0.1319	0.1594
C	0.7	1.2	0.0276	0.0472
D	1.6	2.0	0.0629	0.0787
E	0.35	0.95	0.0138	0.0374
F	0.05	0.26	0.002	0.0102
G	0	0.2	0	0.0079
H	0.7	1.35	0.0276	0.0531

8. Packaging

Tape		Symbol	Dimension (mm)
		W	8.00±0.30
		P0	4.00±0.10
		P1	4.00±0.10
		P2	2.00±0.10
		D0	Φ1.50±0.10
		D1	Φ1.00±0.05
		E	1.75±0.10
		F	3.50±0.10
		A	2.00±0.10
		B	3.95±0.10
		K	1.40±0.12
		t	0.23±0.10
7" Reel		D	Φ178.0±2.0
		D2	Φ13.0
		W1	9.5
		Quantity: 3000PCS	

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