SuperTVS –200W Transient Voltage Suppressor

1. 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

2. Application

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

3. Marking Information

BI- directional	UNI-directional
	
	

4. Maximum Ratings

Ratings at 25° ambient temperature unless otherwise specified

Rating	Symbol	Value	Units
Peak pulse power dissipation at 10/1000us waveform	P_{PP}	200	W
Peak pulse current of at 10/1000us waveform	I_{PPM}	See Table	A
Steady state power dissipation at TA=50˚C	$P_{M(AV)}$	1.0	W
Peak pulse power at 8/20us waveform	P_{PP}	1000	W
ESD voltage (Contact discharge)	V_{ESD}	±30	kV
ESD voltage (Air discharge)		±30	
Storage & operating temperature range	T_{STG},T_J	-65 to 150	℃

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5. Electrical Characteristics (TA=25˚C)

Part Number	Part Number	Marking		Reverse Stand off Voltage V_R (Volts)	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		MIN	MAX	(mA)	(V)	(A)	(μA)	
SJD12A05L01-ES	SJD12C05L01-ES	AE	WE	5	6.4	7	10	9.2	21.7	200	y
SJD12A06 L01-ES	SJD12C06L01-ES	AG	WG	6	6.67	7.37	10	10.3	19.4	200	y
SJD12A6.5 L01-ES	SJD12C6.5L01-ES	AK	WK	6.5	7.22	7.98	10	11.2	17.9	150	y
SJD12A07L01-ES	SJD12C07L01-ES	AM	WM	7	7.78	8.6	10	12	16.7	75	y
SJD12A7.5 L01-ES	SJD12C7.5L01-ES	AP	WP	7.5	8.33	9.21	1	12.9	15.5	50	y
SJD12A08 L01-ES	SJD12C08L01-ES	AR	WR	8	8.89	9.83	1	13.6	14.7	25	y
SJD12A8.5 L01-ES	SJD12C8.5L01-ES	AT	WT	8.5	9.44	10.4	1	14.4	13.9	20	y
SJD12A09L01-ES	SJD12C09L01-ES	AV	WV	9	10	11.1	1	15.4	13	10	y
SJD12A10L01-ES	SJD12C10L01-ES	AX	WX	10	11.1	12.3	1	17	11.8	5	y
SJD12A11L01-ES	SJD12C11L01-ES	AZ	WZ	11	12.2	13.5	1	18.2	11	1	y
SJD12A12L01-ES	SJD12C12L01-ES	BE	XE	12	13.3	14.7	1	19.9	10.1	1	y
SJD12A13L01-ES	SJD12C13L01-ES	BG	XG	13	14.4	15.9	1	21.5	9.3	1	y
SJD12A14L01-ES	SJD12C14L01-ES	BK	XK	14	15.6	17.2	1	23.2	8.62	1	y
SJD12A15L01-ES	SJD12C15L01-ES	BM	XM	15	16.7	18.5	1	24.4	8.2	1	y
SJD12A16L01-ES	SJD12C16L01-ES	BP	XP	16	17.8	19.7	1	26	7.69	1	y
SJD12A17L01-ES	SJD12C17L01-ES	BR	XR	17	18.9	20.9	1	27.6	7.25	1	y
SJD12A18L01-ES	SJD12C18L01-ES	BT	XT	18	20	22.1	1	29.2	6.85	1	y
SJD12A20L01-ES	SJD12C20L01-ES	BV	XV	20	22.2	24.5	1	32.4	6.17	1	y
SJD12A22L01-ES	SJD12C22L01-ES	BX	XX	22	24.4	26.9	1	35.5	5.63	1	y
SJD12A24L01-ES	SJD12C24L01-ES	BZ	XZ	24	26.7	29.5	1	38.9	5.14	1	y
SJD12A26L01-ES	SJD12C26L01-ES	CE	YE	26	28.9	31.9	1	42.1	4.75	1	y
SJD12A28L01-ES	SJD12C28L01-ES	CG	YG	28	31.1	34.4	1	45.4	4.41	1	y
SJD12A30L01-ES	SJD12C30L01-ES	CK	YK	30	33.3	36.8	1	48.4	4.13	1	y
SJD12A33L01-ES	SJD12C33L01-ES	CM	YM	33	36.7	40.6	1	53.3	3.75	1	y
SJD12A36L01-ES	SJD12C36L01-ES	CP	YP	36	40	44.2	1	58.1	3.44	1	y
SJD12A40L01-ES	SJD12C40L01-ES	CR	YR	40	44.4	49.1	1	64.5	3.1	1	y
SJD12A43L01-ES	SJD12C43L01-ES	CT	YT	43	47.8	52.8	1	69.4	2.88	1	y
SJD12A45L01-ES	SJD12C45L01-ES	CV	YV	45	50	55.3	1	72.7	2.75	1	y
SJD12A48L01-ES	SJD12C48L01-ES	CX	YX	48	53.3	58.9	1	77.4	2.58	1	y
SJD12A51L01-ES	SJD12C51L01-ES	CZ	YZ	51	56.7	62.7	1	82.4	2.43	1	y

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Part Number	Part Number	Marking		Reverse Stand off Voltage V_R (Volts)	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		MIN	MAX	(mA)	(V)	(A)	(μA)	
SJD12A54L01-ES	SJD12C54L01-ES	RE	ZE	54	60	66.3	1	87.1	2.3	1	y
SJD12A58L01-ES	SJD12C58L01-ES	RG	ZG	58	64.4	71.2	1	93.6	2.14	1	y
SJD12A60L01-ES	SJD12C60L01-ES	RK	ZK	60	66.7	73.7	1	96.8	2.07	1	y
SJD12A64L01-ES	SJD12C64L01-ES	RM	ZM	64	71.1	78.6	1	103	1.94	1	y
SJD12A70L01-ES	SJD12C70L01-ES	RP	ZP	70	77.8	86	1	113	1.77	1	y
SJD12A75L01-ES	SJD12C75L01-ES	RR	ZR	75	83.3	92.1	1	121	1.65	1	y
SJD12A78L01-ES	SJD12C78L01-ES	RT	ZT	78	86.7	95.8	1	126	1.59	1	y
SJD12A85L01-ES	SJD12C85L01-ES	RV	ZV	85	94.4	104	1	137	1.46	1	y
SJD12A90L01-ES	SJD12C90L01-ES	RX	ZX	90	100	111	1	146	1.37	1	y
SJD12A100L01-ES	SJD12C100L01-ES	RZ	ZZ	100	111	123	1	162	1.23	1	y
SJD12A110L01-ES	SJD12C110L01-ES	SE	VE	110	122	135	1	177	1.13	1	y
SJD12A120L01-ES	SJD12C120L01-ES	SG	VG	120	133	147	1	193	1.04	1	y
SJD12A130L01-ES	SJD12C130L01-ES	SK	VK	130	144	159	1	209	0.96	1	y
SJD12A150L01-ES	SJD12C150L01-ES	SM	VM	150	167	185	1	243	0.82	1	y
SJD12A160L01-ES	SJD12C160L01-ES	SP	VP	160	178	197	1	259	0.77	1	y
SJD12A170L01-ES	SJD12C170L01-ES	SR	VR	170	189	209	1	275	0.73	1	y

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

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

Figure 1. Peak Pulse Power Rating Curve

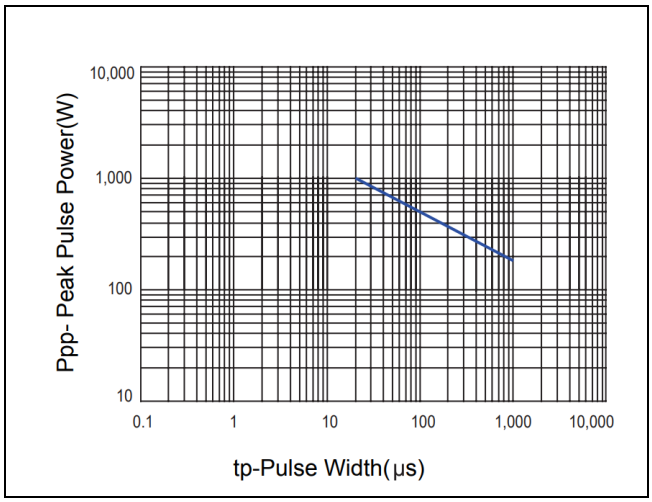


Figure 2. 10/1000 us Pulse Waveform

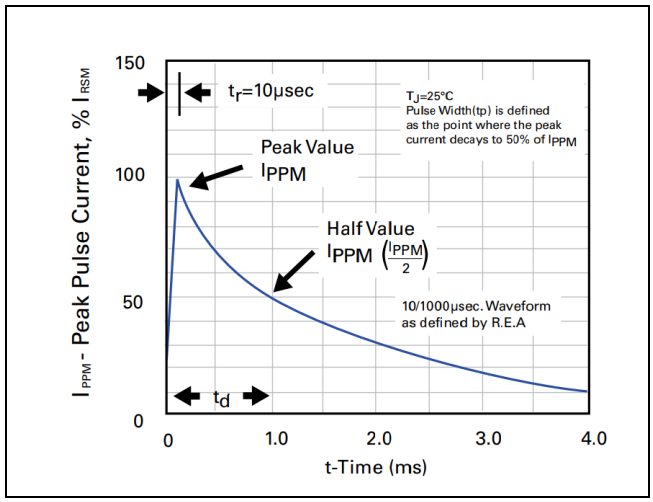


Figure 3. Capacitance vs. Reverse Voltage

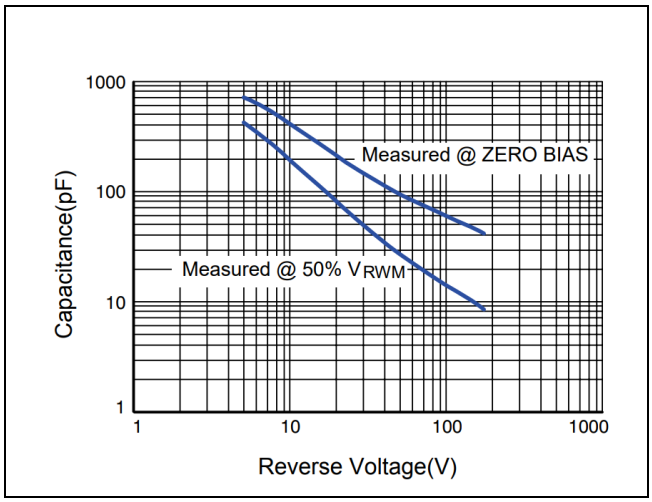
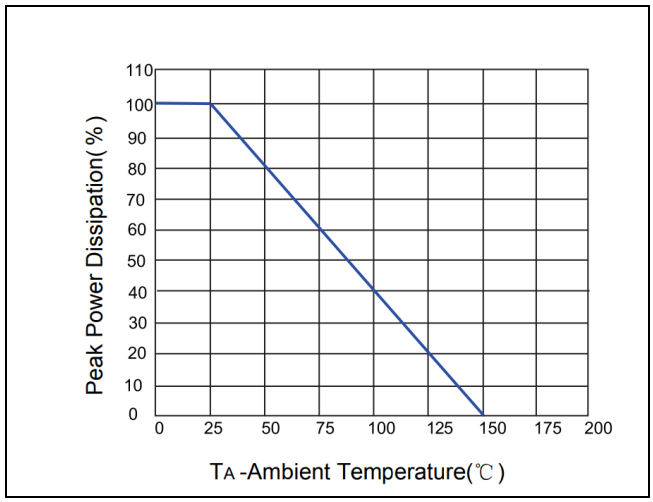
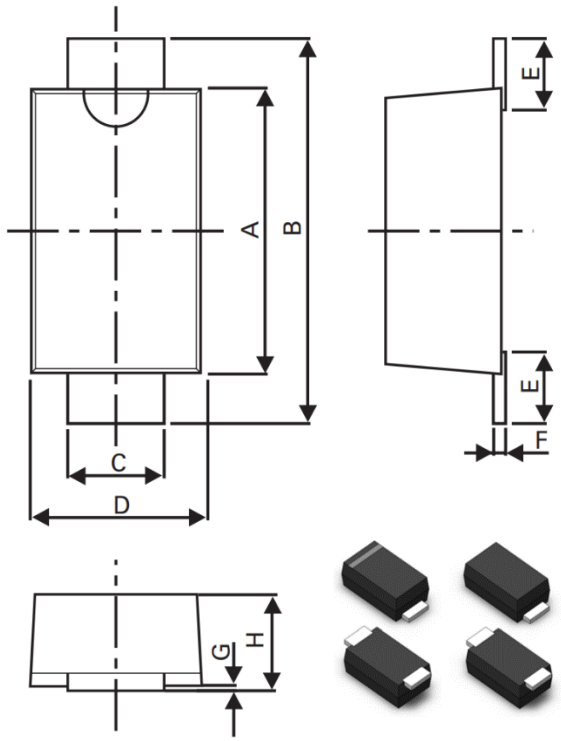


Figure 4. Power Derating curve



7. Dimension (SOD-123F)



	Millimeters		Inches	
Dimensions	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	0.0275	0.0472
D	1.5	2	0.0591	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	0.70	1.35	0.0276	0.0531

8. Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
SJD12A(C)XXL01-ES	SOD-123F	3000	Tape & Reel – 8mm tape/7” reel	EIA RS-481

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