

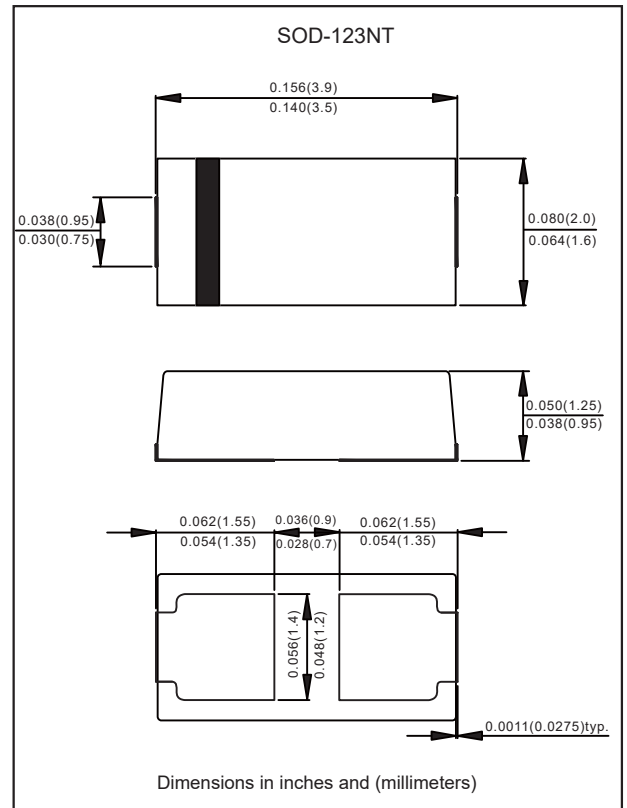
Features

- Well package design with solder pad on the bottom for best thermal performance
- Leads on two opposing sides of the body
- Tiny plastic SMD package
- 400W peak pulse power capability with a 10/1000 μ s waveform, repetition rate (duty cycle): 0.01%
- Uni and Bidirectional unit
- Glass passivated chip junction
- Excellent clamping capability
- Low incremental surge resistance
- Lead-free parts meet RoHS requirements
- Compliant to Halogen-free

Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123NT
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band(Uni-directional types only)
- Mounting Position : Any

Package outline



Maximum ratings (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Value	Unit
Peak power dissipation	with a 10/1000 μ s waveform, Note 1, 2 & Fig. 1	P _{PPM}	400	W
Peak pulse current	with a 10/1000 μ s waveform	I _{PPM}	See Table	A
Steady state power dissipation	at T _L =75°C, Note 2	P _{M(AV)}	1.0	W
Typical thermal resistance	Junction to case Junction to ambient	R _{θJC} R _{θJA}	34 60	°C/W
Operating junction temperature range		T _J	-55 to +150	°C
Storage temperature range		T _{STG}	-65 to +175	°C

Notes 1: Non-repetitive current pulse, per Fig. 3 and derated above $T_A=25^\circ\text{C}$ per Fig. 2

2: Mounted on copper pad area of 0.2"x0.2" (5.0x5.0 mm) per Fig 5

Electrical characteristics (at $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Part No. (Uni)	Part No. (Bi)	Reverse Stand-off Voltage	Breakdown Voltage @ I_T		Test Current	Maximum Clamping Voltage @ I_{PP}		Maximum Reverse Leakage Current	Marking Code	
		V_{RWM}	$V_{BR Min}$	$V_{BR Max}$	I_T	V_C	I_{PP}	$I_R@V_{RWM}$		
		Volts	Volts	Volts	mA	Volts	A	μA	Uni	Bi
AS4NT22A	AS4NT22CA	22	24.4	26.9	1.0	35.5	11.27	5	4LX	4BX
AS4NT24A	AS4NT24CA	24	26.7	29.5	1.0	38.9	10.29	5	4LZ	4BZ
AS4NT26A	AS4NT26CA	26	28.9	31.9	1.0	42.1	9.51	5	4ME	4CE
AS4NT28A	AS4NT28CA	28	31.1	34.4	1.0	45.4	8.82	5	4MG	4CG
AS4NT30A	AS4NT30CA	30	33.3	36.8	1.0	48.4	8.27	5	4MK	4CK
AS4NT33A	AS4NT33CA	33	36.7	40.6	1.0	53.3	7.51	5	4MM	4CM
AS4NT36A	AS4NT36CA	36	40.0	44.2	1.0	58.1	6.89	5	4MP	4CP
AS4NT40A	AS4NT40CA	40	44.4	49.1	1.0	64.5	6.21	5	4MR	4CR
AS4NT43A	AS4NT43CA	43	47.8	52.8	1.0	69.4	5.77	5	4MT	4CT
AS4NT45A	AS4NT45CA	45	50.0	55.3	1.0	72.7	5.51	5	4MV	4CV
AS4NT48A	AS4NT48CA	48	53.3	58.9	1.0	77.4	5.17	5	4MX	4CX
AS4NT51A	AS4NT51CA	51	56.7	62.7	1.0	82.4	4.86	5	4MZ	4CZ
AS4NT54A	AS4NT54CA	54	60.0	66.3	1.0	87.1	4.60	5	4NE	4DE
AS4NT58A	AS4NT58CA	58	64.4	71.2	1.0	93.6	4.28	5	4NG	4DG
AS4NT60A	AS4NT60CA	60	66.7	73.7	1.0	96.8	4.14	5	4NK	4DK
AS4NT64A	AS4NT64CA	64	71.1	78.6	1.0	103	3.89	5	4NM	4DM
AS4NT70A	AS4NT70CA	70	77.8	86.0	1.0	113	3.54	5	4NP	4DP
AS4NT75A	AS4NT75CA	75	83.3	92.1	1.0	121	3.31	5	4NR	4DR
AS4NT78A	AS4NT78CA	78	86.7	95.8	1.0	126	3.18	5	4NT	4DT
AS4NT85A	AS4NT85CA	85	94.4	104	1.0	137	2.92	5	4NV	4DV
AS4NT90A	AS4NT90CA	90	100	111	1.0	146	2.74	5	4NX	4DX
AS4NT100A	AS4NT100CA	100	111	123	1.0	162	2.47	5	4NZ	4DZ
AS4NT110A	AS4NT110CA	110	122	135	1.0	177	2.26	5	4PE	4EE
AS4NT120A	AS4NT120CA	120	133	147	1.0	193	2.08	5	4PG	4EG
AS4NT130A	AS4NT130CA	130	144	159	1.0	209	1.92	5	4PK	4EK
AS4NT150A	AS4NT150CA	150	167	185	1.0	243	1.65	5	4PM	4EM
AS4NT160A	AS4NT160CA	160	178	197	1.0	259	1.55	5	4PP	4EP
AS4NT170A	AS4NT170CA	170	189	209	1.0	275	1.46	5	4PR	4ER
AS4NT180A	AS4NT180CA	180	201	222	1.0	292	1.37	5	4PT	4ET
AS4NT200A	AS4NT200CA	200	224	247	1.0	324	1.24	5	4PV	4EV
AS4NT220A	AS4NT220CA	220	246	272	1.0	356	1.13	5	4PX	4EX
AS4NT240A	AS4NT240CA	240	269	296	1.0	387	1.04	5	4PY	4EY
AS4NT250A	AS4NT250CA	250	279	309	1.0	405	0.99	5	4PZ	4EZ
AS4NT300A	AS4NT300CA	300	335	371	1.0	486	0.83	5	4QE	4FE
AS4NT330A	AS4NT330CA	330	369	408	1.0	534	0.75	5	4QF	4FF
AS4NT350A	AS4NT350CA	350	391	432	1.0	567	0.71	5	4QG	4FG
AS4NT360A	AS4NT360CA	360	403	444	1.0	582	0.69	5	4QH	4FH
AS4NT400A	AS4NT400CA	400	447	494	1.0	648	0.62	5	4QK	4FK
AS4NT440A	AS4NT440CA	440	492	544	1.0	713	0.57	5	4QM	4FM

Notes 1: Suffix 'C' denotes bi-directional devices. Suffix 'A' denotes 5% tolerance devices

2: Transient Voltage Suppressors (TVS) are devices used to protect vulnerable circuits from electrical overstress such as that caused by electrostatic discharge, inductive load switching and induced lightning. Within the TVS, damaging voltage spikes are limited by clamping or avalanche action of a rugged silicon pn junction which reduces the amplitude of the transient to a nondestructive level. See Fig. 6 & Fig. 7

Rating and characteristic curves

Fig.1 - Peak Pulse Power Rating Curve

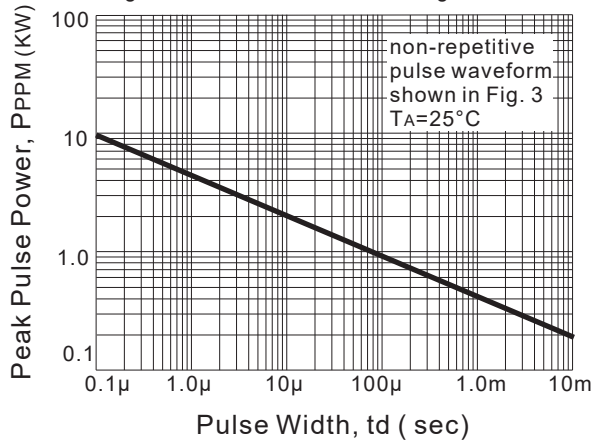


Fig.2 - Pulse Derating Curve

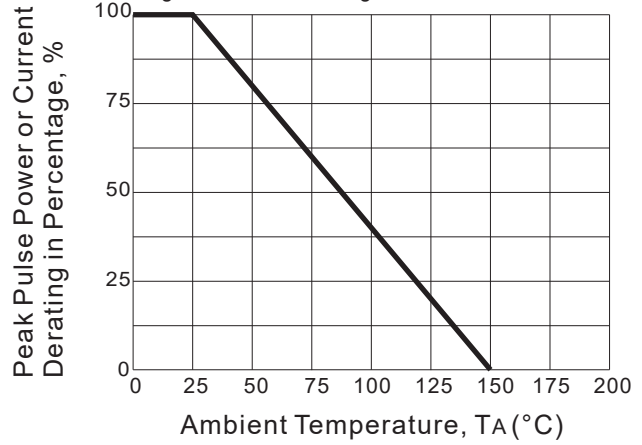


Fig.3 - Pulse Waveform

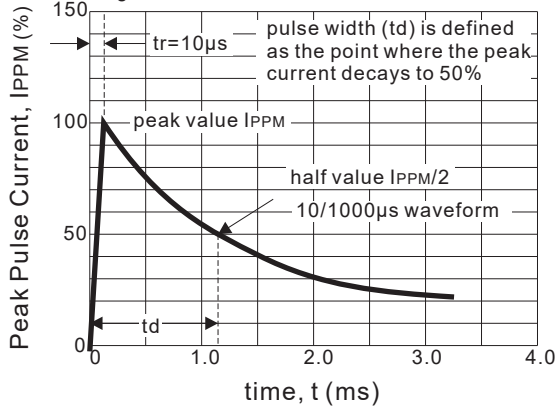


Fig.4 - Typical Junction Capacitance

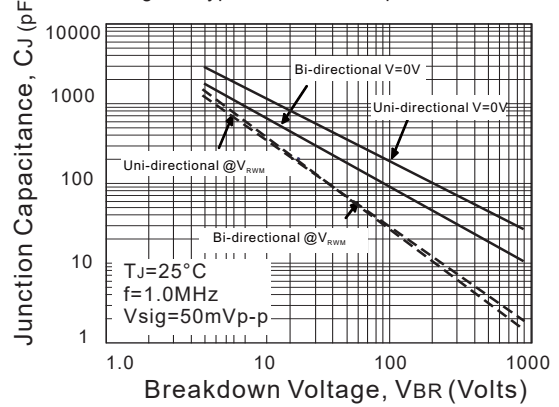
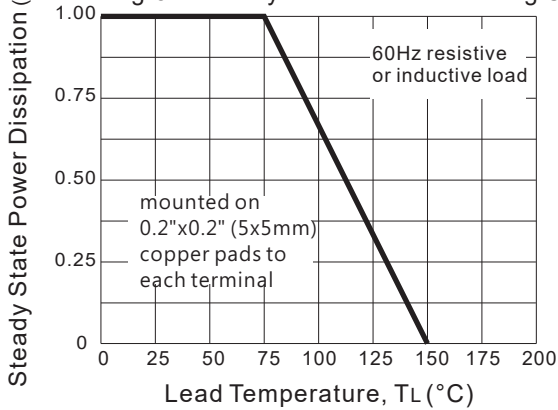


Fig.5 - Steady State Power Derating Curve



Rating and characteristic curves

Fig. 6 - Transients of several thousand volts can be clamped to a safe level by the TVS

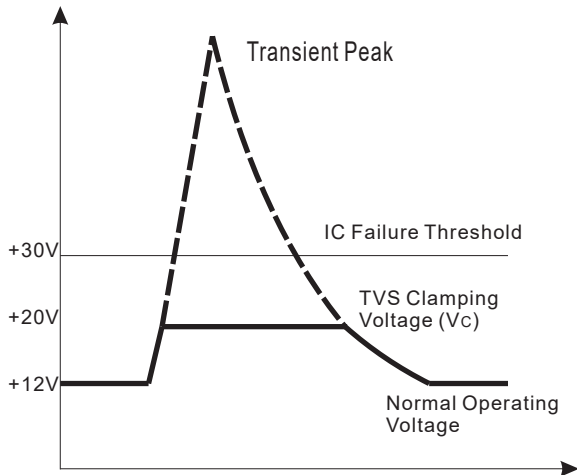
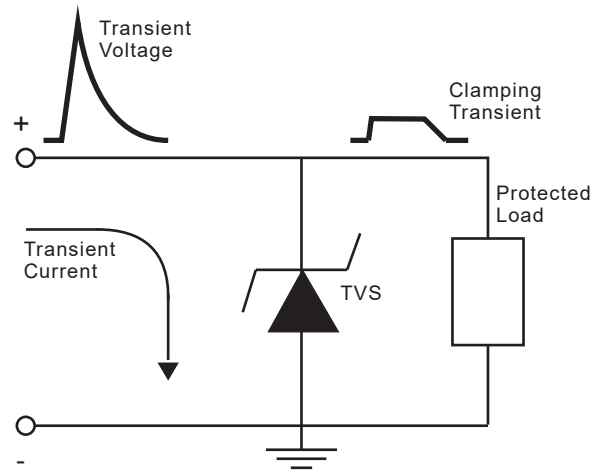
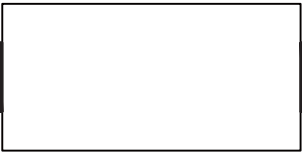


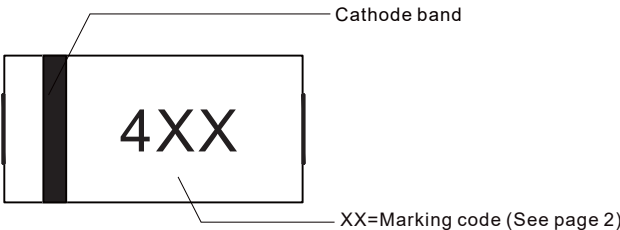
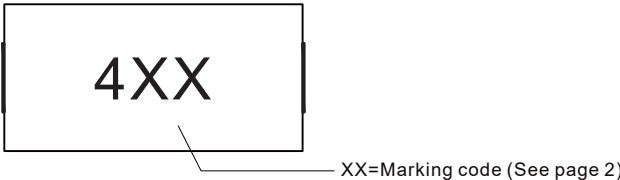
Fig. 7 - Transient current is diverted to ground thru TVS; the voltage seen by the protected load is limited to the clamping voltage level



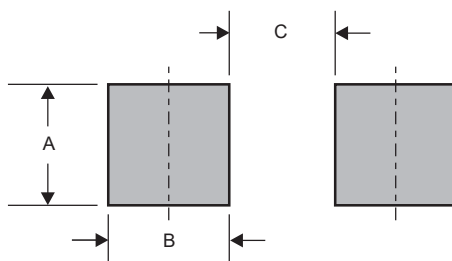
Pinning information

Pin	Simplified outline	Symbol
Uni-Directional Pin1 cathode Pin2 anode		
Bi-Directional		

Marking

Type number	Example
Uni-Directional	
Bi-Directional	

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123NT	0.056 (1.40)	0.062(1.55)	0.028 (0.70)