

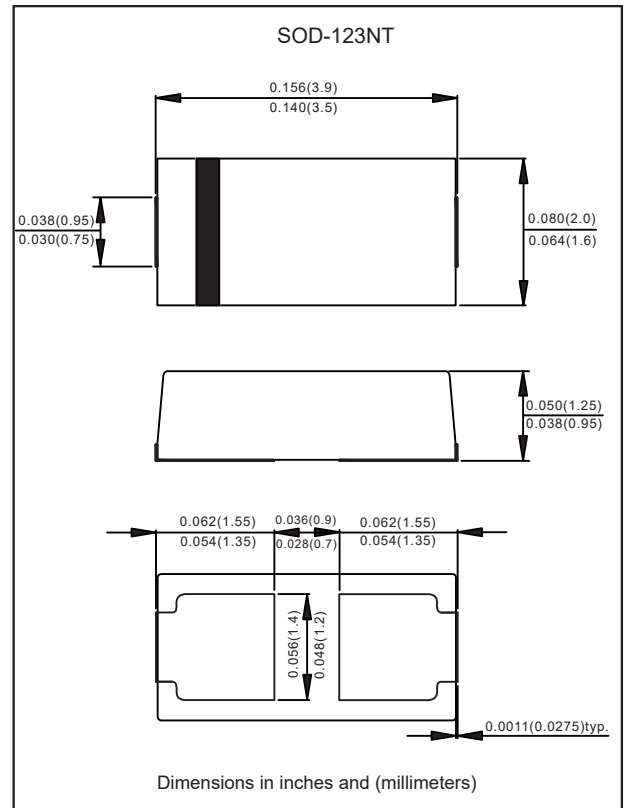
Features

- 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
- Suffix "-Q1" for AEC-Q101

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 $^\circ\text{C}$, Note 2	P _{M(AV)}	1.0	W
Typical thermal resistance	Junction to case Junction to ambient	R _{θJC} R _{θJA}	34 60	$^\circ\text{C/W}$
Operating junction temperature range		T _J	-55 to +150	$^\circ\text{C}$
Storage temperature range		T _{STG}	-65 to +175	$^\circ\text{C}$

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_{BRMin}	V_{BRMax}	I_T	V_C	I_{PP}	$I_R@V_{RWM}$		
		Volts	Volts	Volts	mA	Volts	A	μA	Uni	Bi
AS4NT22A-Q1	AS4NT22CA-Q1	22	24.4	26.9	1.0	35.5	11.27	5	4LX	4BX
AS4NT24A-Q1	AS4NT24CA-Q1	24	26.7	29.5	1.0	38.9	10.29	5	4LZ	4BZ
AS4NT26A-Q1	AS4NT26CA-Q1	26	28.9	31.9	1.0	42.1	9.51	5	4ME	4CE
AS4NT28A-Q1	AS4NT28CA-Q1	28	31.1	34.4	1.0	45.4	8.82	5	4MG	4CG
AS4NT30A-Q1	AS4NT30CA-Q1	30	33.3	36.8	1.0	48.4	8.27	5	4MK	4CK
AS4NT33A-Q1	AS4NT33CA-Q1	33	36.7	40.6	1.0	53.3	7.51	5	4MM	4CM
AS4NT36A-Q1	AS4NT36CA-Q1	36	40.0	44.2	1.0	58.1	6.89	5	4MP	4CP
AS4NT40A-Q1	AS4NT40CA-Q1	40	44.4	49.1	1.0	64.5	6.21	5	4MR	4CR
AS4NT43A-Q1	AS4NT43CA-Q1	43	47.8	52.8	1.0	69.4	5.77	5	4MT	4CT
AS4NT45A-Q1	AS4NT45CA-Q1	45	50.0	55.3	1.0	72.7	5.51	5	4MV	4CV
AS4NT48A-Q1	AS4NT48CA-Q1	48	53.3	58.9	1.0	77.4	5.17	5	4MX	4CX
AS4NT51A-Q1	AS4NT51CA-Q1	51	56.7	62.7	1.0	82.4	4.86	5	4MZ	4CZ
AS4NT54A-Q1	AS4NT54CA-Q1	54	60.0	66.3	1.0	87.1	4.60	5	4NE	4DE
AS4NT58A-Q1	AS4NT58CA-Q1	58	64.4	71.2	1.0	93.6	4.28	5	4NG	4DG
AS4NT60A-Q1	AS4NT60CA-Q1	60	66.7	73.7	1.0	96.8	4.14	5	4NK	4DK
AS4NT64A-Q1	AS4NT64CA-Q1	64	71.1	78.6	1.0	103	3.89	5	4NM	4DM
AS4NT70A-Q1	AS4NT70CA-Q1	70	77.8	86.0	1.0	113	3.54	5	4NP	4DP
AS4NT75A-Q1	AS4NT75CA-Q1	75	83.3	92.1	1.0	121	3.31	5	4NR	4DR
AS4NT78A-Q1	AS4NT78CA-Q1	78	86.7	95.8	1.0	126	3.18	5	4NT	4DT
AS4NT85A-Q1	AS4NT85CA-Q1	85	94.4	104	1.0	137	2.92	5	4NV	4DV
AS4NT90A-Q1	AS4NT90CA-Q1	90	100	111	1.0	146	2.74	5	4NX	4DX
AS4NT100A-Q1	AS4NT100CA-Q1	100	111	123	1.0	162	2.47	5	4NZ	4DZ
AS4NT110A-Q1	AS4NT110CA-Q1	110	122	135	1.0	177	2.26	5	4PE	4EE
AS4NT120A-Q1	AS4NT120CA-Q1	120	133	147	1.0	193	2.08	5	4PG	4EG
AS4NT130A-Q1	AS4NT130CA-Q1	130	144	159	1.0	209	1.92	5	4PK	4EK
AS4NT150A-Q1	AS4NT150CA-Q1	150	167	185	1.0	243	1.65	5	4PM	4EM
AS4NT160A-Q1	AS4NT160CA-Q1	160	178	197	1.0	259	1.55	5	4PP	4EP
AS4NT170A-Q1	AS4NT170CA-Q1	170	189	209	1.0	275	1.46	5	4PR	4ER
AS4NT180A-Q1	AS4NT180CA-Q1	180	201	222	1.0	292	1.37	5	4PT	4ET
AS4NT200A-Q1	AS4NT200CA-Q1	200	224	247	1.0	324	1.24	5	4PV	4EV
AS4NT220A-Q1	AS4NT220CA-Q1	220	246	272	1.0	356	1.13	5	4PX	4EX
AS4NT240A-Q1	AS4NT240CA-Q1	240	269	296	1.0	387	1.04	5	4PY	4EY
AS4NT250A-Q1	AS4NT250CA-Q1	250	279	309	1.0	405	0.99	5	4PZ	4EZ
AS4NT300A-Q1	AS4NT300CA-Q1	300	335	371	1.0	486	0.83	5	4QE	4FE
AS4NT330A-Q1	AS4NT330CA-Q1	330	369	408	1.0	534	0.75	5	4QF	4FF
AS4NT350A-Q1	AS4NT350CA-Q1	350	391	432	1.0	567	0.71	5	4QG	4FG
AS4NT360A-Q1	AS4NT360CA-Q1	360	403	444	1.0	582	0.69	5	4QH	4FH
AS4NT400A-Q1	AS4NT400CA-Q1	400	447	494	1.0	648	0.62	5	4QK	4FK
AS4NT440A-Q1	AS4NT440CA-Q1	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

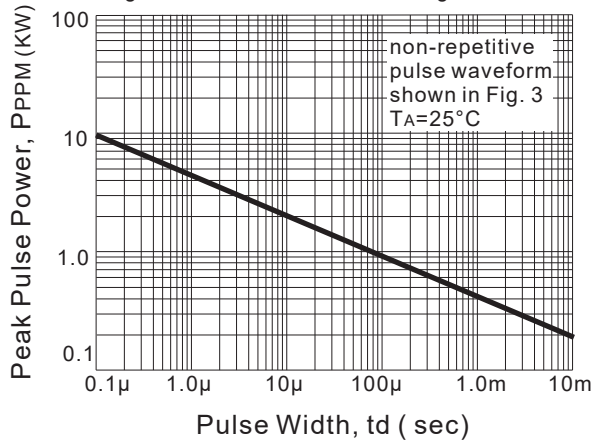


Fig.2 - Pulse Derating Curve

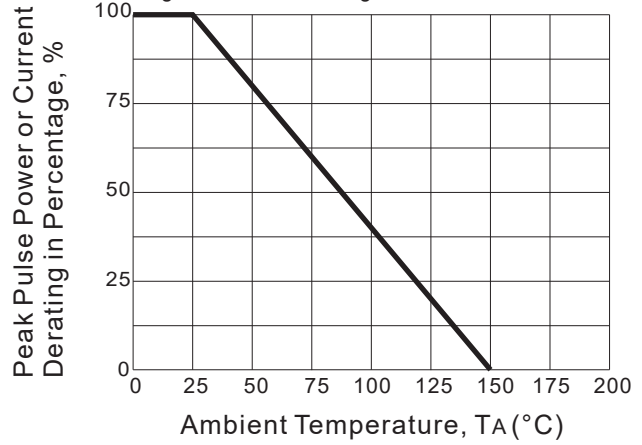


Fig.3 - Pulse Waveform

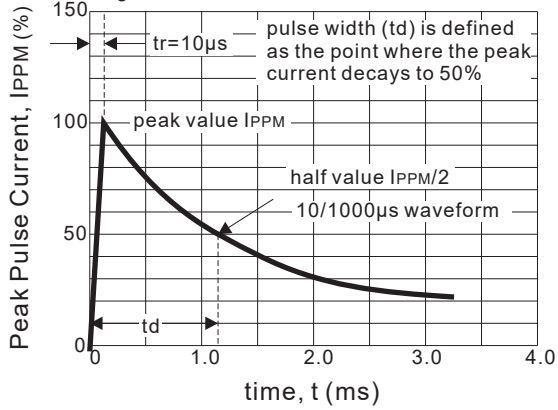


Fig.4 - Typical Junction Capacitance

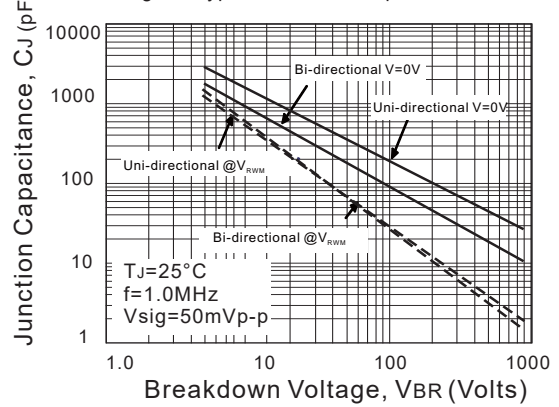
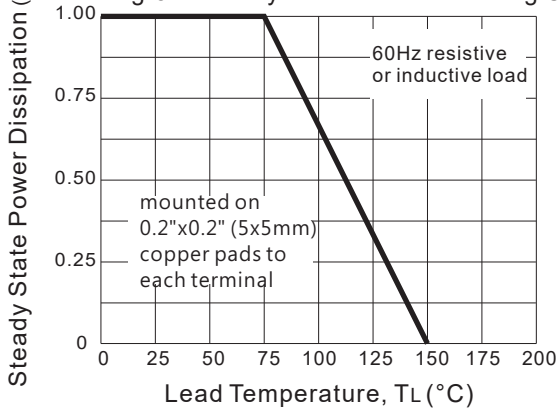


Fig.5 - Steady State Power Derating Curve



Rating and characteristic curves

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

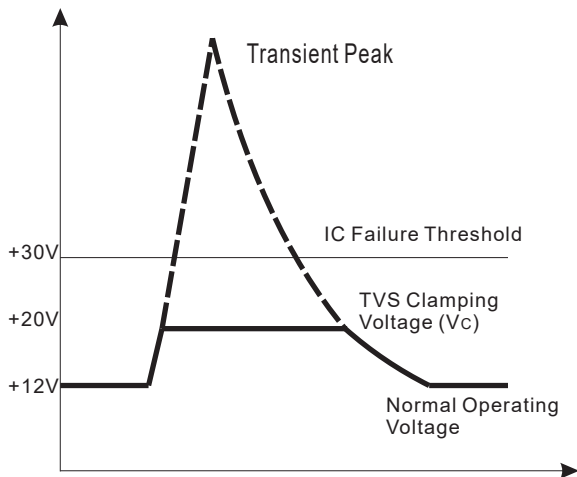
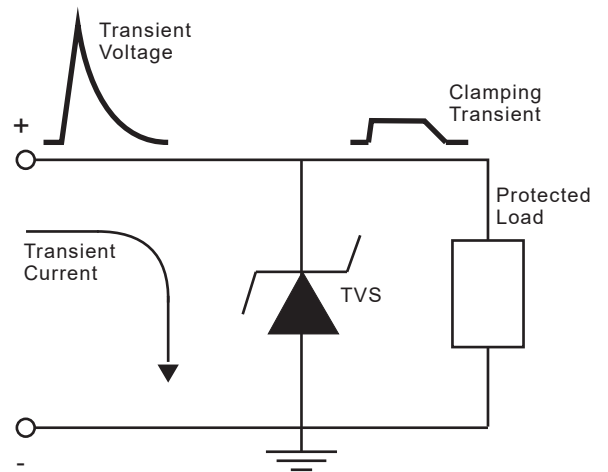


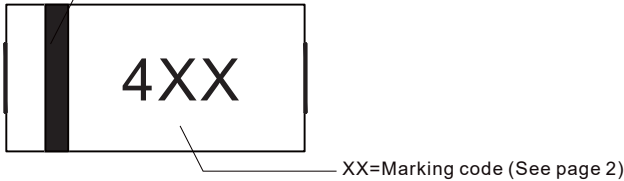
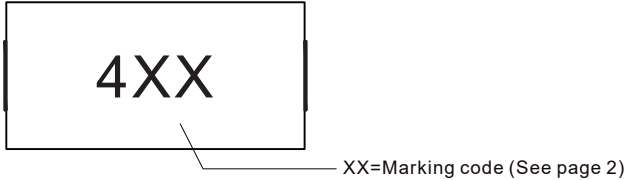
Fig. 7 - Transient current is diverted to ground thru TVS; the voltage seen by the protected load is limited to the clamping voltage level



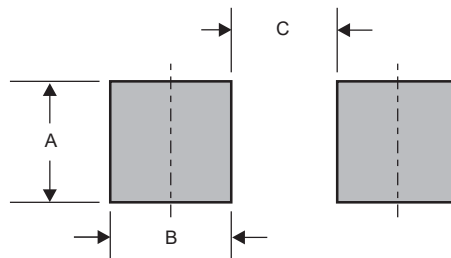
Pinning information

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)