

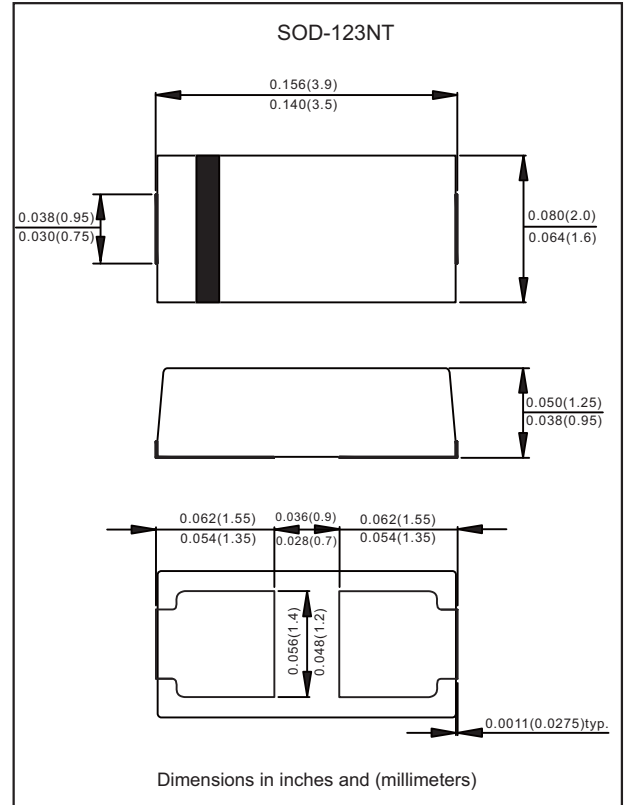
Features

- Well package design with solder pad on the bottom for best thermal performance
- Leads on two opposing sides of the body
- Tiny plastic DFN package
- 600W 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}	600	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)}	1.5	W
Typical thermal resistance	Junction to case Junction to ambient	R _{θJC} R _{θJA}	32 58	$^{\circ}\text{C/W}$
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}	$V_{BR Min}$	$V_{BR Max}$	I_T	V_C	I_{PP}	$I_R @ V_{RWM}$		
		Volts	Volts	Volts	mA	Volts	A	μA	Uni	Bi
AS6NT22A	AS6NT22CA	22	24.4	26.9	1.0	35.5	16.91	5	6LX	6BX
AS6NT24A	AS6NT24CA	24	26.7	29.5	1.0	38.9	15.43	5	6LZ	6BZ
AS6NT26A	AS6NT26CA	26	28.9	31.9	1.0	42.1	14.26	5	6ME	6CE
AS6NT28A	AS6NT28CA	28	31.1	34.4	1.0	45.4	13.22	5	6MG	6CG
AS6NT30A	AS6NT30CA	30	33.3	36.8	1.0	48.4	12.40	5	6MK	6CK
AS6NT33A	AS6NT33CA	33	36.7	40.6	1.0	53.3	11.26	5	6MM	6CM
AS6NT36A	AS6NT36CA	36	40.0	44.2	1.0	58.1	10.33	5	6MP	6CP
AS6NT40A	AS6NT40CA	40	44.4	49.1	1.0	64.5	9.31	5	6MR	6CR
AS6NT43A	AS6NT43CA	43	47.8	52.8	1.0	69.4	8.65	5	6MT	6CT
AS6NT45A	AS6NT45CA	45	50.0	55.3	1.0	72.7	8.26	5	6MV	6CV
AS6NT48A	AS6NT48CA	48	53.3	58.9	1.0	77.4	7.76	5	6MX	6CX
AS6NT51A	AS6NT51CA	51	56.7	62.7	1.0	82.4	7.29	5	6MZ	6CZ
AS6NT54A	AS6NT54CA	54	60.0	66.3	1.0	87.1	6.89	5	6NE	6DE
AS6NT58A	AS6NT58CA	58	64.4	71.2	1.0	93.6	6.42	5	6NG	6DG
AS6NT60A	AS6NT60CA	60	66.7	73.7	1.0	96.8	6.20	5	6NK	6DK
AS6NT64A	AS6NT64CA	64	71.1	78.6	1.0	103	5.83	5	6NM	6DM
AS6NT70A	AS6NT70CA	70	77.8	86.0	1.0	113	5.31	5	6NP	6DP
AS6NT75A	AS6NT75CA	75	83.3	92.1	1.0	121	4.96	5	6NR	6DR
AS6NT78A	AS6NT78CA	78	86.7	95.8	1.0	126	4.77	5	6NT	6DT
AS6NT85A	AS6NT85CA	85	94.4	104	1.0	137	4.38	5	6NV	6DV
AS6NT90A	AS6NT90CA	90	100	111	1.0	146	4.11	5	6NX	6DX
AS6NT100A	AS6NT100CA	100	111	123	1.0	162	3.71	5	6NZ	6DZ
AS6NT110A	AS6NT110CA	110	122	135	1.0	177	3.39	5	6PE	6EE
AS6NT120A	AS6NT120CA	120	133	147	1.0	193	3.11	5	6PG	6EG
AS6NT130A	AS6NT130CA	130	144	159	1.0	209	2.88	5	6PK	6EK
AS6NT150A	AS6NT150CA	150	167	185	1.0	243	2.47	5	6PM	6EM
AS6NT160A	AS6NT160CA	160	178	197	1.0	259	2.32	5	6PP	6EP
AS6NT170A	AS6NT170CA	170	189	209	1.0	275	2.19	5	6PR	6ER
AS6NT180A	AS6NT180CA	180	201	222	1.0	292	2.06	5	6PT	6ET
AS6NT200A	AS6NT200CA	200	224	247	1.0	324	1.86	5	6PV	6EV
AS6NT220A	AS6NT220CA	220	246	272	1.0	356	1.69	5	6PX	6EX

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

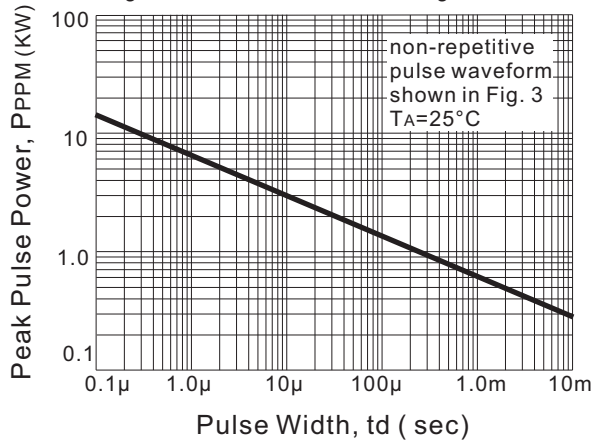


Fig.2 - Pulse Derating Curve

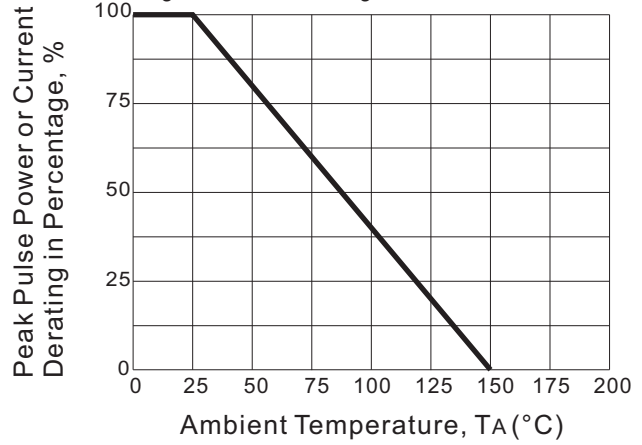


Fig.3 - Pulse Waveform

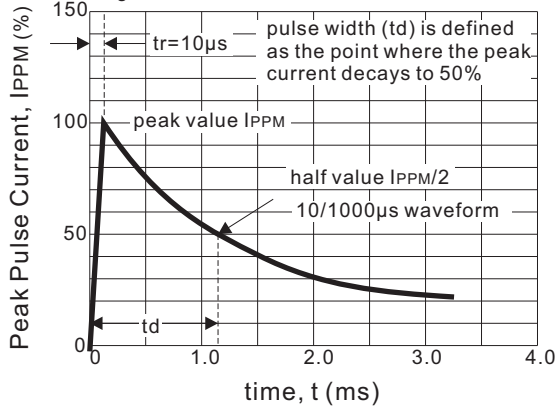


Fig.4 - Typical Junction Capacitance

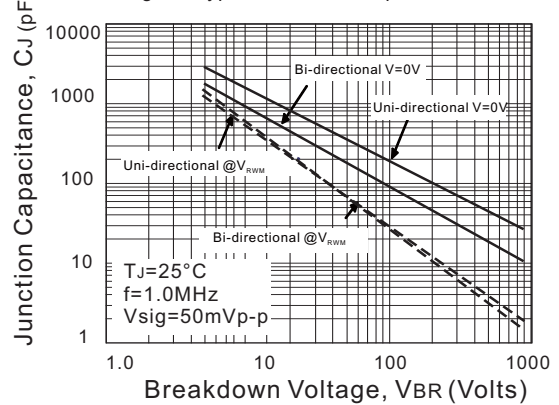
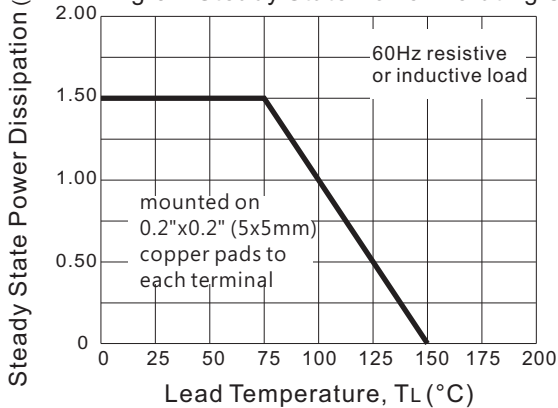


Fig.5 - Steady State Power Derating Curve



Rating and characteristic curves

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

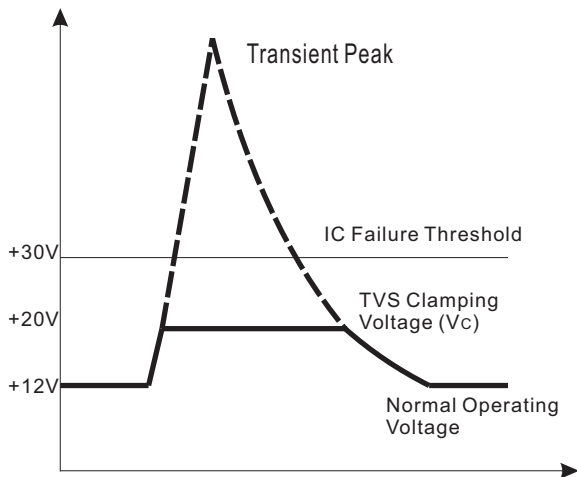
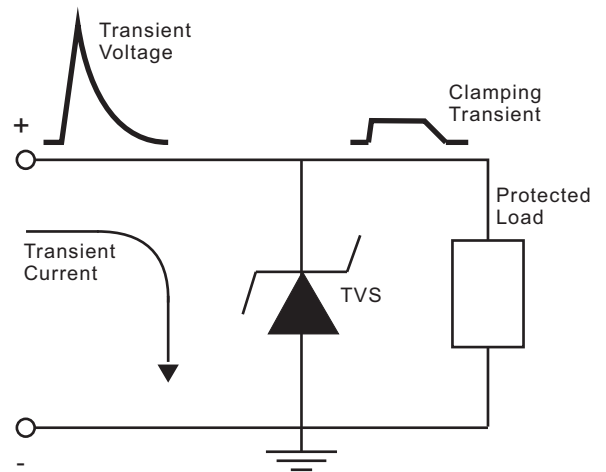
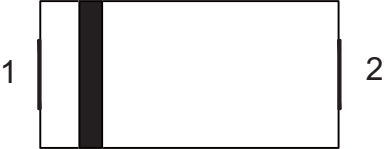


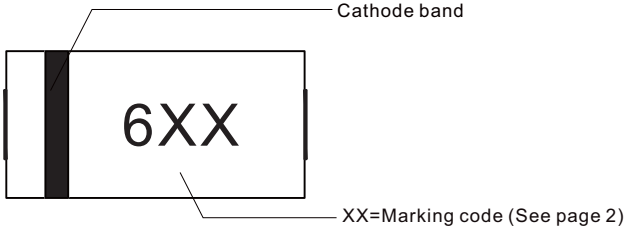
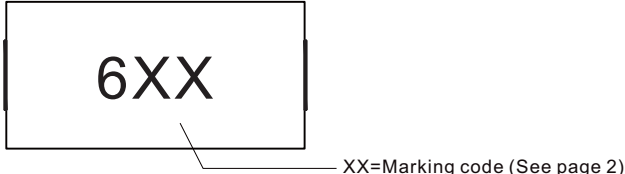
Fig. 7 - Transient current is diverted to ground thru TVS; the voltage seen by the protected load is limited to the clamping voltage level



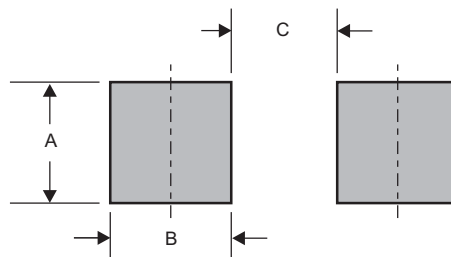
Pinning information

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)