

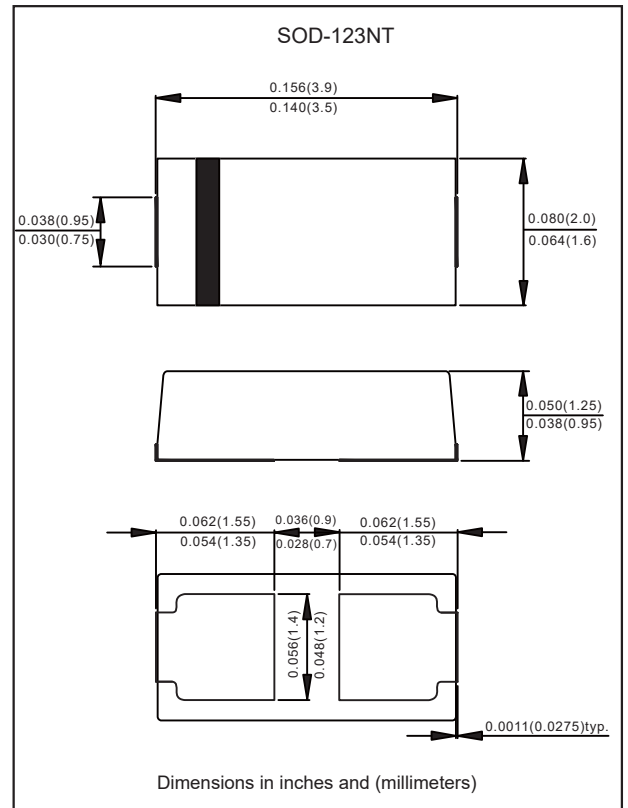
### Features

- 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 10/1000µs 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 10/1000µs waveform, Note 1, 2 & Fig. 1	PPPM	400	W
Peak pulse current	with a 10/1000µs waveform	IPPM	See Table 1	A
Steady state power dissipation	at $T_L=75^{\circ}\text{C}$ , Note 2	$P_{M(AV)}$	1.0	W
Maximum instantaneous forward voltage	at 12A For Uni-directional types only	$V_F$	9.9	V
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

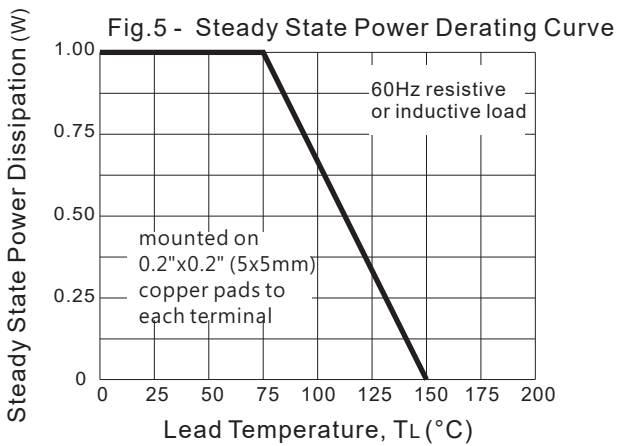
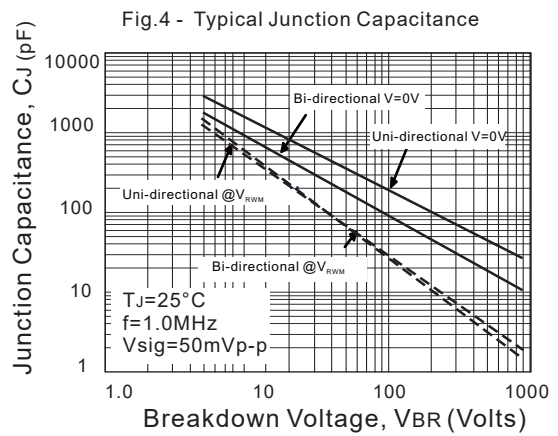
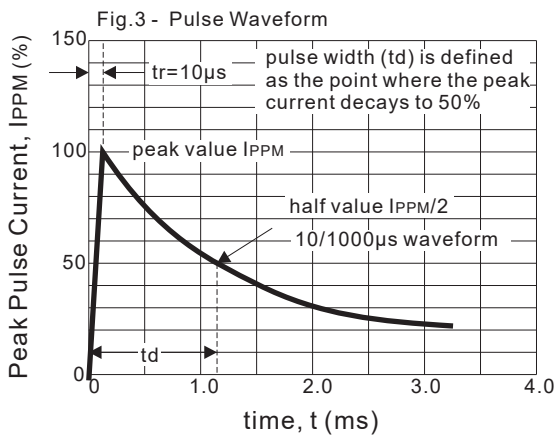
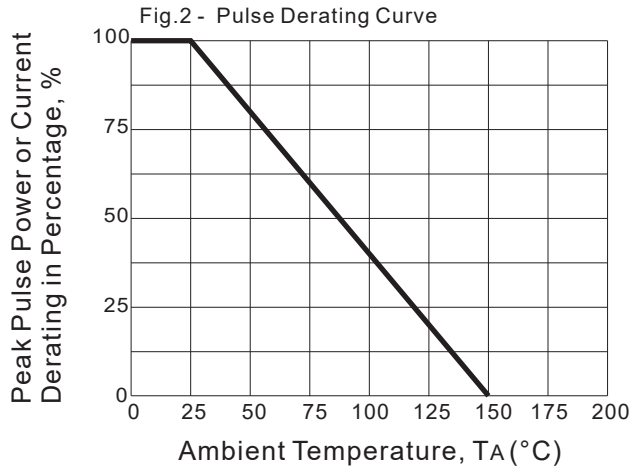
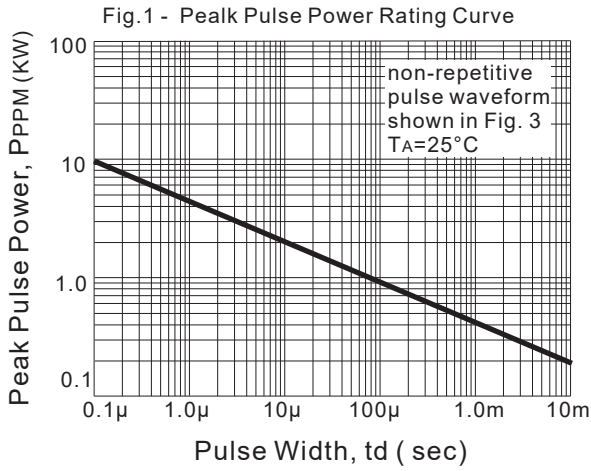
### Electrical characteristics (at $T_A=25^{\circ}\text{C}$ unless otherwise noted)

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	
			$V_{RWM}$	$V_{BR\text{Min}}$	$V_{BR\text{Max}}$		$V_C$	$I_{PP}$			
			Volts	Volts	Volts		mA	A			
AS4NT200A-Q1	AS4NT200CA-Q1	200	224	247	1.0	324.0	1.24	5	4PV	4EV	
AS4NT220A-Q1	AS4NT220CA-Q1	220	246	272	1.0	356.0	1.13	5	4PX	4EX	
AS4NT240A-Q1	AS4NT240CA-Q1	240	269	296	1.0	387.0	1.04	5	4PY	4EY	
AS4NT300A-Q1	AS4NT300CA-Q1	300	335	371	1.0	486.0	0.83	5	4QE	4FE	
AS4NT360A-Q1	AS4NT360CA-Q1	360	403	444	1.0	582.0	0.69	5	4QH	4FH	
AS4NT400A-Q1	AS4NT400CA-Q1	400	447	494	1.0	648.0	0.62	5	4QK	4FK	
AS4NT440A-Q1	AS4NT440CA-Q1	440	492	544	1.0	713.0	0.57	5	4QM	4FM	
AS4NT500A-Q1	AS4NT500CA-Q1	500	560	617	1.0	809.0	0.50	5	4QP	4FP	

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



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

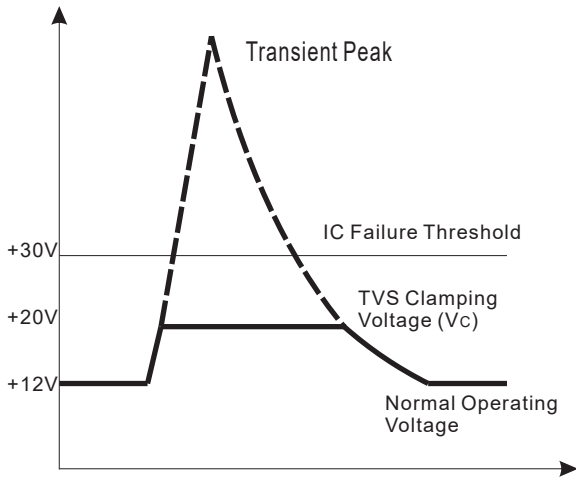
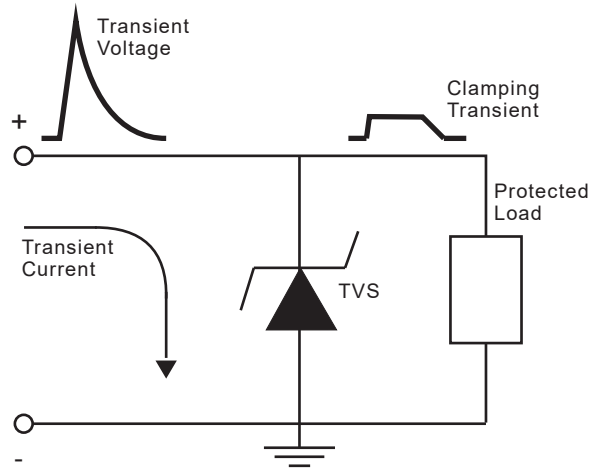


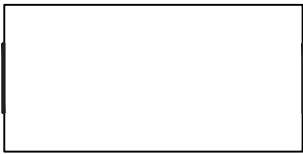



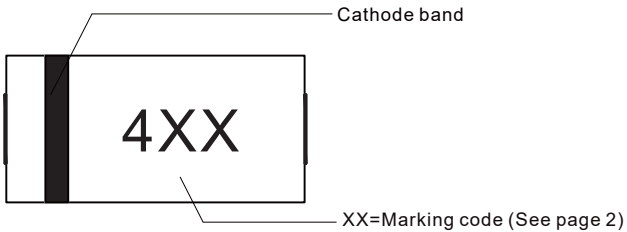
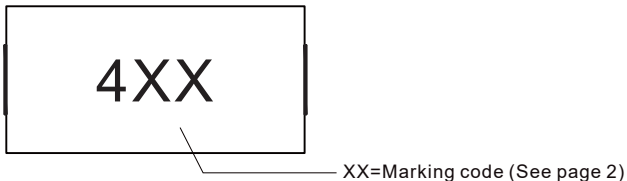
Fig. 7 - Transient current is diverted to ground thru TVS; the voltage seen by the protected load is limited to the clamping voltage level



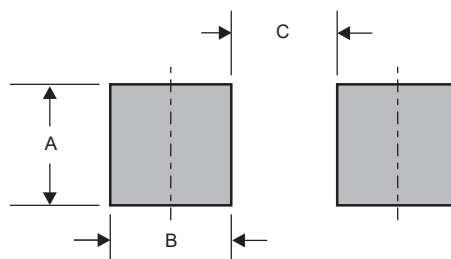
### Pinning information

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)