

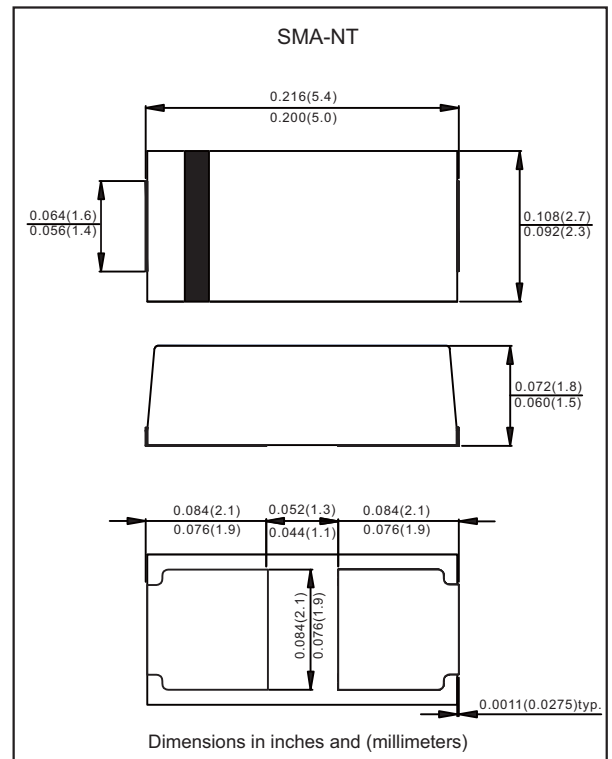
Features

- Well package design with solder pad on the bottom for best thermal performance
- Leads on two opposing sides of the body
- 1500W 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, SMA-NT
- 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	PPPM	1500	W
Peak pulse current	with a 10/1000 μ s waveform	IPPM	See Table 1	A
Steady state power dissipation	at $T_L=75^\circ\text{C}$, Note 2	$P_{M(AV)}$	3.5	W
Maximum instantaneous forward voltage	at 25A 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

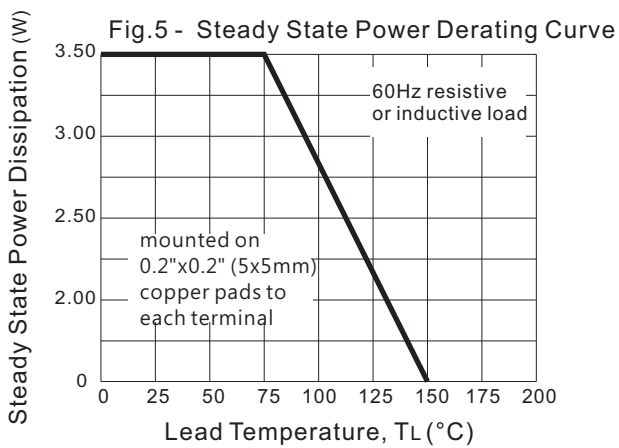
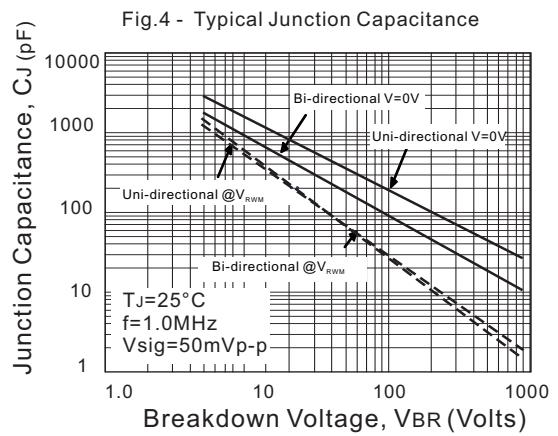
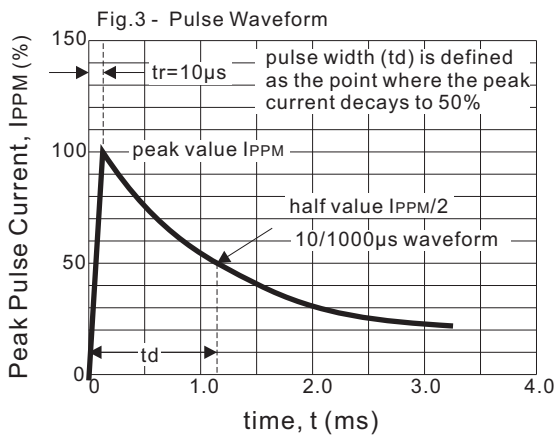
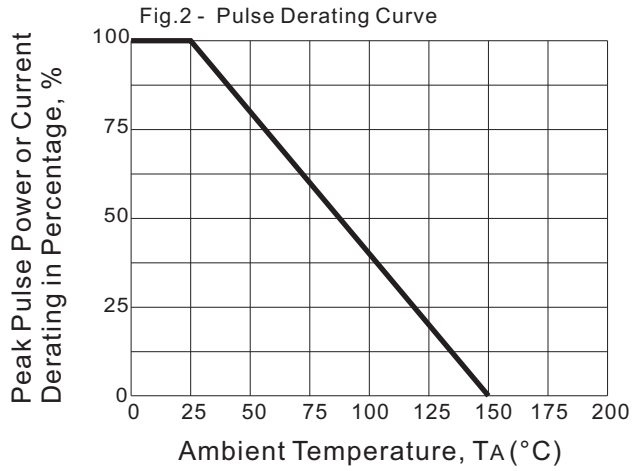
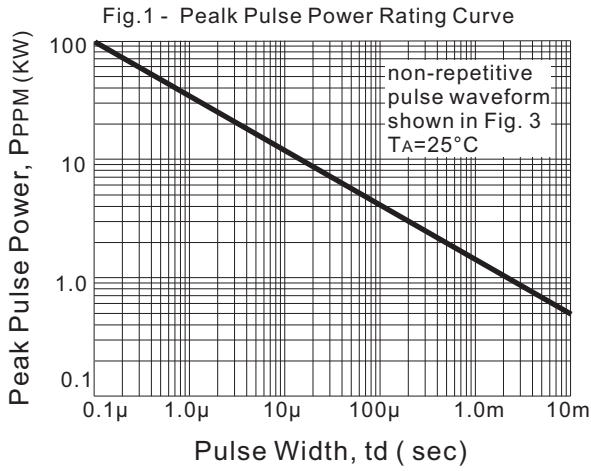
Electrical characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

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_{BRMin}	V_{BRMax}	I_T	V_C	I_{PP}	$I_R@V_{RWM}$			
		Volts	Volts	Volts	mA	Volts	A	μA	Uni	Bi	
ASAK5NT200A-Q1	ASAK5NT200CA-Q1	200	224	247	1.0	324.0	4.60	5	K5SV	K5VV	
ASAK5NT240A-Q1	ASAK5NT240CA-Q1	240	269	296	1.0	387.0	3.88	5	K5SY	K5VX	
ASAK5NT300A-Q1	ASAK5NT300CA-Q1	300	335	371	1.0	486.0	3.09	5	K5TE	K5UE	
ASAK5NT360A-Q1	ASAK5NT360CA-Q1	360	403	444	1.0	583.0	2.58	5	K5TH	K5UH	
ASAK5NT400A-Q1	ASAK5NT400CA-Q1	400	447	494	1.0	648.0	2.32	5	K5TK	K5UK	
ASAK5NT440A-Q1	ASAK5NT440CA-Q1	440	492	544	1.0	713.0	2.11	5	K5TM	K5UM	
ASAK5NT480A-Q1	ASAK5NT480CA-Q1	480	537	593	1.0	777.0	1.93	5	K5TO	K5UO	
ASAK5NT520A-Q1	ASAK5NT520CA-Q1	520	582	642	1.0	843.0	1.79	5	K5TQ	K5UQ	
ASAK5NT560A-Q1	ASAK5NT560CA-Q1	560	627	691	1.0	907.0	1.66	5	K5TS	K5US	
ASAK5NT600A-Q1	ASAK5NT600CA-Q1	600	672	741	1.0	972.0	1.55	5	K5TT	K5UT	
ASAK5NT640A-Q1	ASAK5NT640CA-Q1	640	728	803	1.0	1054.0	1.43	5	K5TU	K5UU	
ASAK5NT720A-Q1	ASAK5NT720CA-Q1	720	807	889	1.0	1167.0	1.29	5	K5TY	K5UY	
ASAK5NT800A-Q1	ASAK5NT800CA-Q1	800	896	989	1.0	1298.0	1.16	5	K5XE	K5YE	

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



Rating and characteristic curves

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

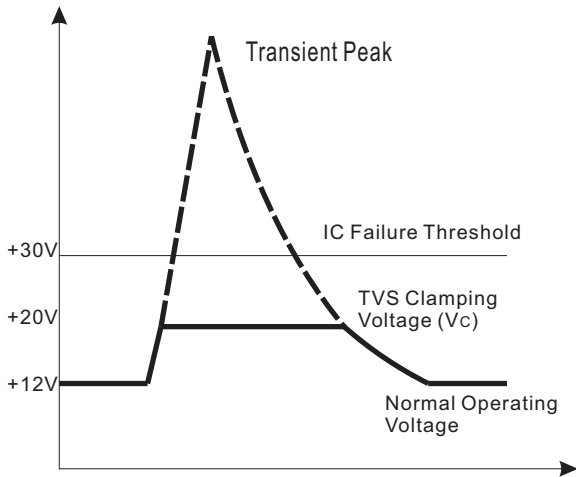
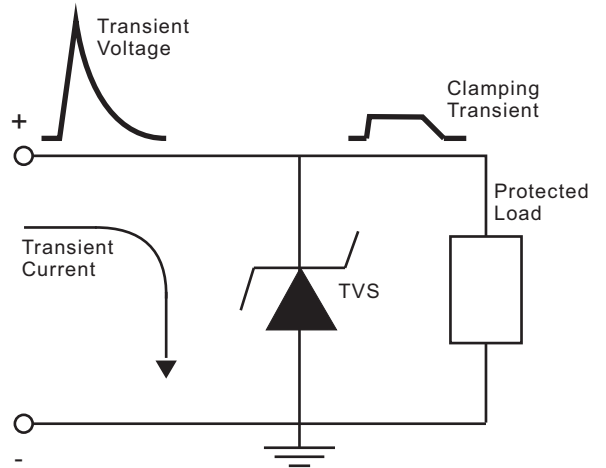








Fig. 7 - Transient current is diverted to ground thru TVS; the voltage seen by the protected load is limited to the clamping voltage level



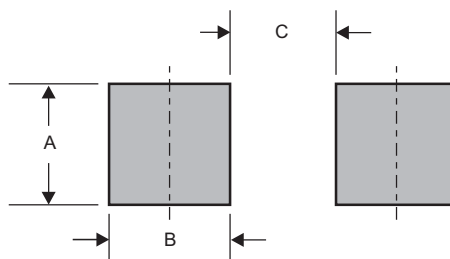
Pinning information

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

Marking

Type number	Example
Uni-Directional	 <p>Cathode band</p> <p>XX=Marking code (See page 2)</p>
Bi-Directional	 <p>XX=Marking code (See page 2)</p>

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMA-NT	0.084 (2.10)	0.084 (2.10)	0.044 (1.10)