

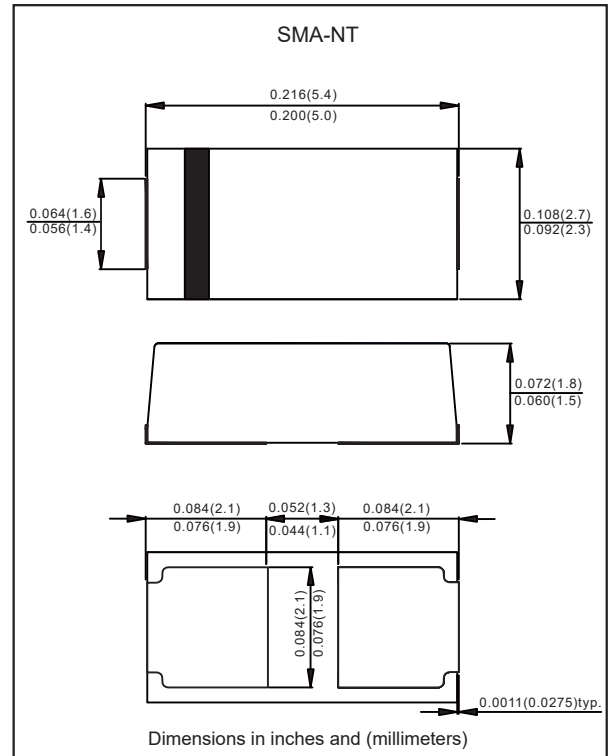
Features

- Well package design with solder pad on the bottom for best thermal performance
- Leads on two opposing sides of the body
- 1000W 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

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 10/1000µs waveform, Note 1, 2 & Fig. 1 | PPPM | 1000 | W |
| Peak pulse current | with a 10/1000µs waveform | I _{PPM} | See Table 1 | A |
| Steady state power dissipation | at $T_L=75^{\circ}\text{C}$, Note 2 | P _{M(AV)} | 3.0 | 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 | °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

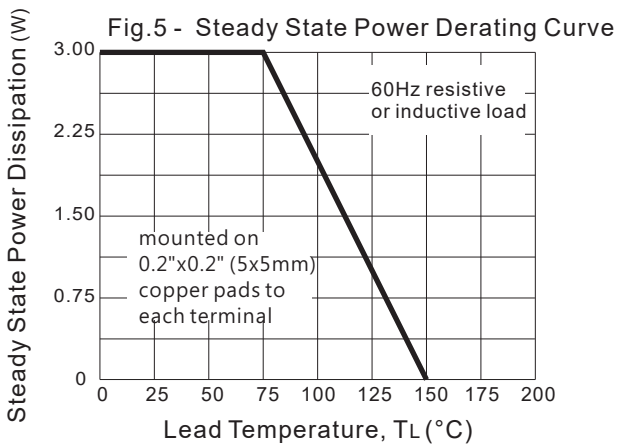
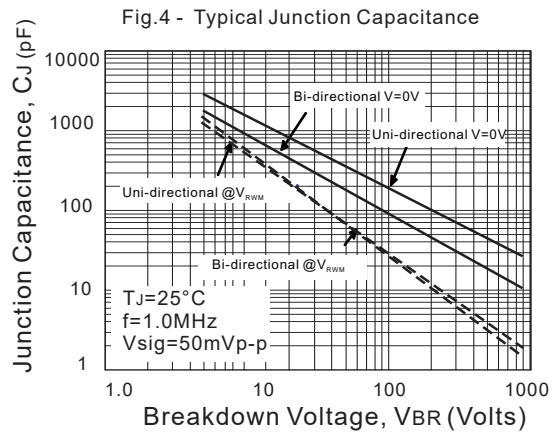
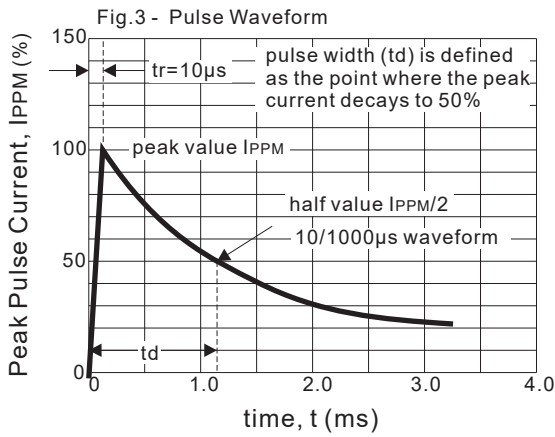
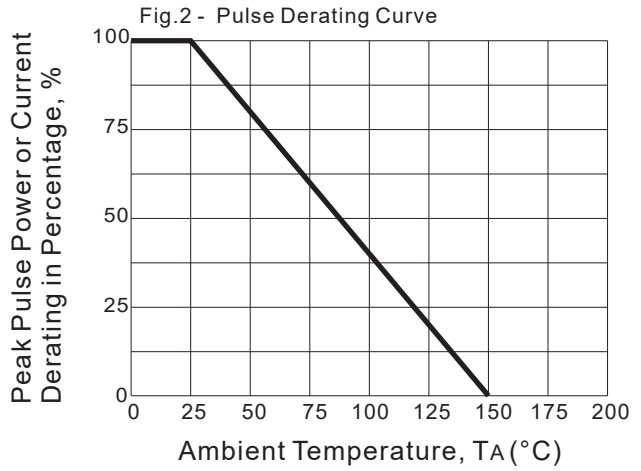
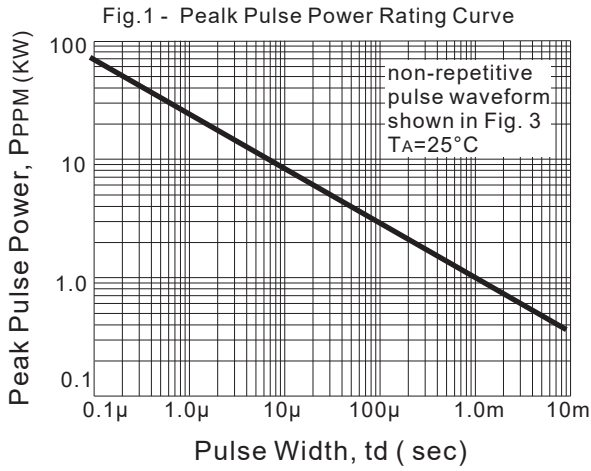
Electrical characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

| 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_{BRMin} | V_{BRMax} | I_T | V_C | I_{PP} | $I_R@V_{RWM}$ | | |
| | | Volts | Volts | Volts | mA | Volts | A | μA | Uni | Bi |
| ASAKNT200A | ASAKNT200CA | 200 | 224 | 247 | 1.0 | 324.0 | 3.09 | 5 | KSV | KVV |
| ASAKNT220A | ASAKNT220CA | 220 | 246 | 272 | 1.0 | 356.0 | 2.81 | 5 | KSX | KVX |
| ASAKNT240A | ASAKNT240CA | 240 | 269 | 296 | 1.0 | 387.0 | 2.59 | 5 | KSY | KVY |
| ASAKNT300A | ASAKNT300CA | 300 | 335 | 371 | 1.0 | 486.0 | 2.06 | 5 | KTE | KUE |
| ASAKNT360A | ASAKNT360CA | 360 | 403 | 444 | 1.0 | 582.0 | 1.72 | 5 | KTH | KUH |
| ASAKNT400A | ASAKNT400CA | 400 | 447 | 494 | 1.0 | 648.0 | 1.55 | 5 | KTK | KUK |
| ASAKNT440A | ASAKNT440CA | 440 | 492 | 544 | 1.0 | 713.0 | 1.41 | 5 | KTM | KUM |
| ASAKNT480A | ASAKNT480CA | 480 | 537 | 593 | 1.0 | 777.0 | 1.29 | 5 | KTO | KUO |
| ASAKNT500A | ASAKNT500CA | 500 | 560 | 617 | 1.0 | 809.0 | 1.24 | 5 | KTP | KUP |

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

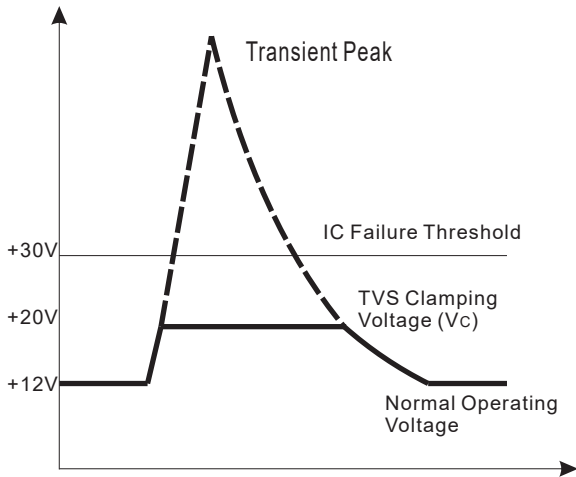
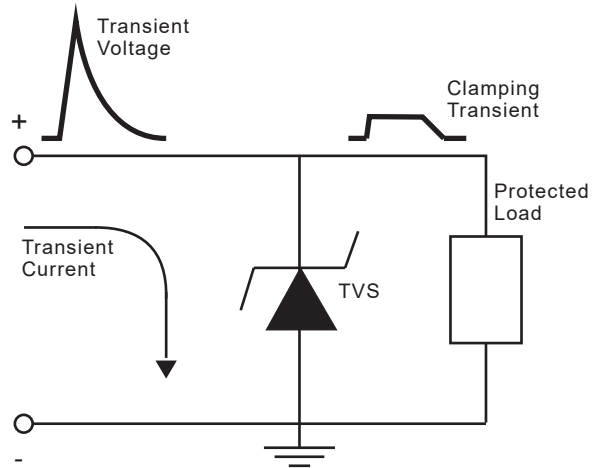
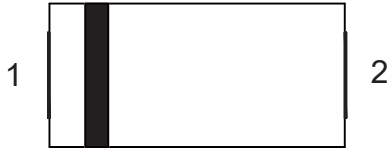





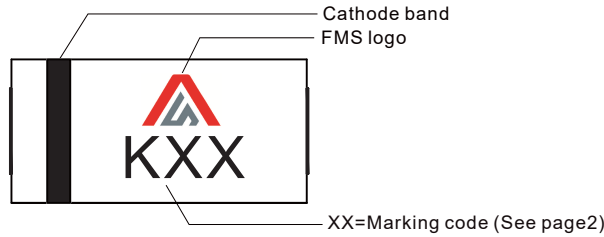
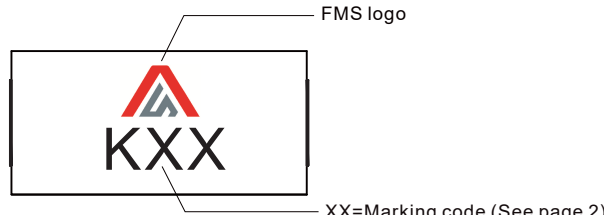
Fig. 7 - Transient current is diverted to ground thru TVS; the voltage seen by the protected load is limited to the clamping voltage level



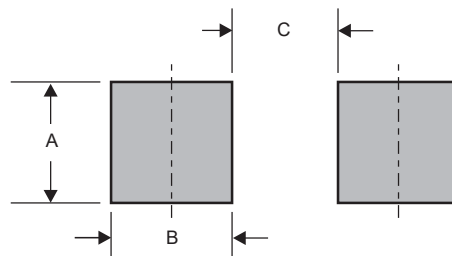
Pinning information

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

Marking

| Type number | Example |
|-----------------|---|
| Uni-Directional |  <p>Cathode band FMS logo XX=Marking code (See page2)</p> |
| Bi-Directional |  <p>FMS logo 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) |