

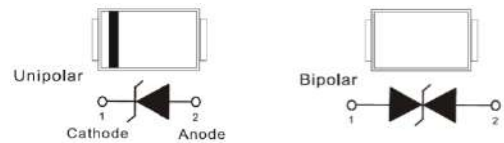
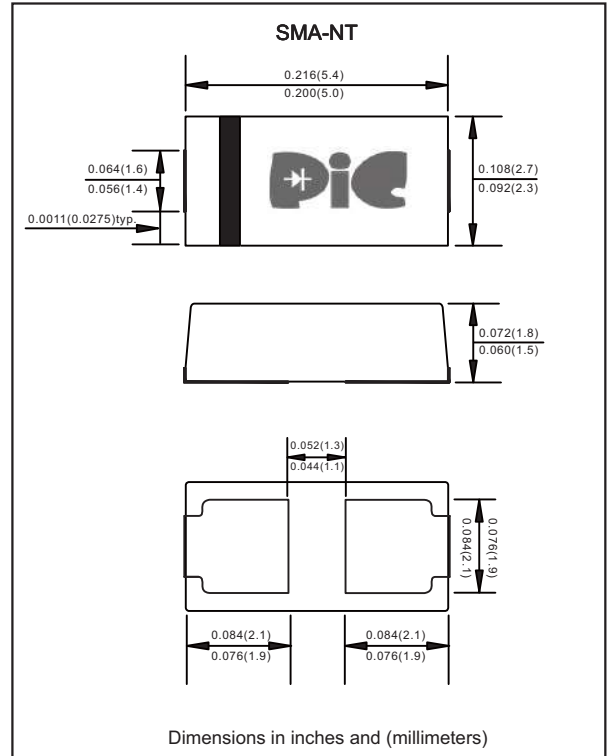
Features

- 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
- Suffix "-H" indicates Halogen-free part, ex. SMAK5NT200A-H

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 ($T_A=25^\circ\text{C}$ 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 | A |
| Steady state power dissipation | at $T_L=75^\circ\text{C}$, Note 2 | PM(AV) | 3.5 | 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



SMAK5NT200A THRU SMA5KNT800A

**1500W Dual Flat No-Lead Unidirectional
and Bidirectional Transient Voltage
Suppressors- 200V- 800V**

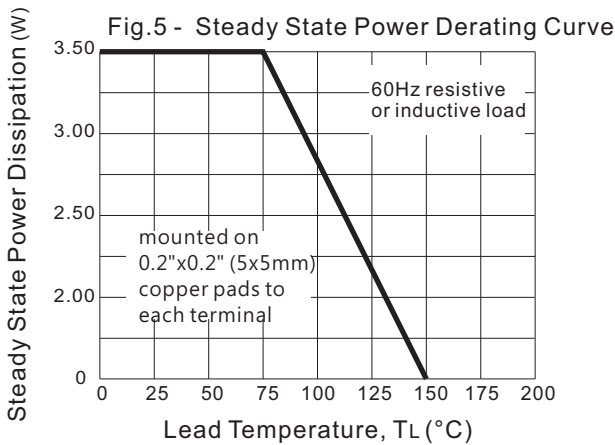
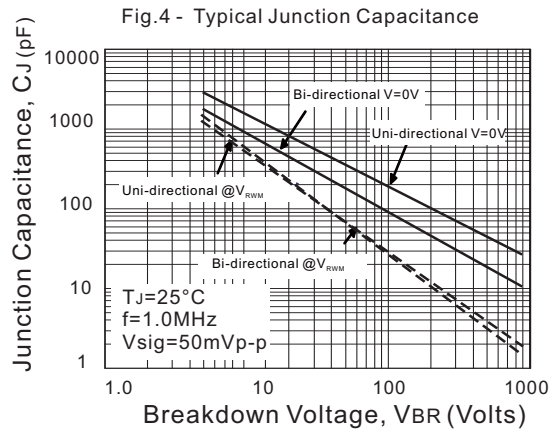
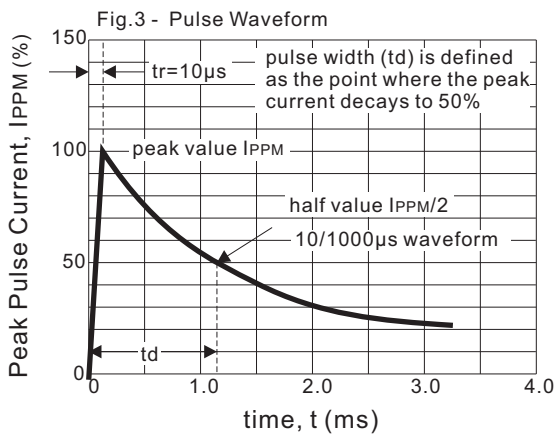
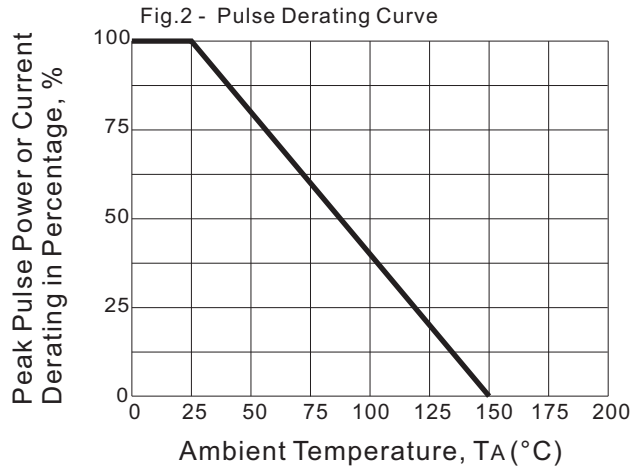
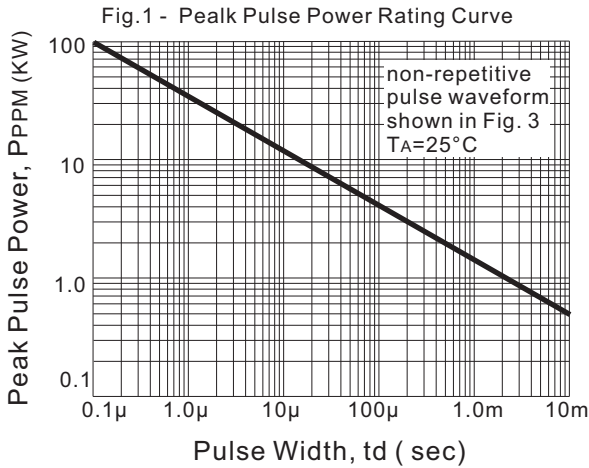
Electrical Characteristics($T_A=25^\circ\text{C}$ unless otherwise noted)

| 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} | $V_{BR\text{Min}}$ | $V_{BR\text{Max}}$ | I_T | V_C | I_{PP} | $I_R@V_{RWM}$ | Uni | Bi |
| | | Volts | Volts | Volts | mA | Volts | A | μA | | |
| SMAK5NT200A | SMAK5NT200CA | 200 | 224 | 247 | 1.0 | 324.0 | 4.60 | 5 | K5SV | K5VV |
| SMAK5NT240A | SMAK5NT240CA | 240 | 269 | 296 | 1.0 | 387.0 | 3.88 | 5 | K5SY | K5VX |
| SMAK5NT300A | SMAK5NT300CA | 300 | 335 | 371 | 1.0 | 486.0 | 3.09 | 5 | K5TE | K5UE |
| SMAK5NT360A | SMAK5NT360CA | 360 | 403 | 444 | 1.0 | 583.0 | 2.58 | 5 | K5TH | K5UH |
| SMAK5NT400A | SMAK5NT400CA | 400 | 447 | 494 | 1.0 | 648.0 | 2.32 | 5 | K5TK | K5UK |
| SMAK5NT440A | SMAK5NT440CA | 440 | 492 | 544 | 1.0 | 713.0 | 2.11 | 5 | K5TM | K5UM |
| SMAK5NT480A | SMAK5NT480CA | 480 | 537 | 593 | 1.0 | 777.0 | 1.93 | 5 | K5TO | K5UO |
| SMAK5NT520A | SMAK5NT520CA | 520 | 582 | 642 | 1.0 | 843.0 | 1.79 | 5 | K5TQ | K5UQ |
| SMAK5NT560A | SMAK5NT560CA | 560 | 627 | 691 | 1.0 | 907.0 | 1.66 | 5 | K5TS | K5US |
| SMAK5NT600A | SMAK5NT600CA | 600 | 672 | 741 | 1.0 | 972.0 | 1.55 | 5 | K5TT | K5UT |
| SMAK5NT640A | SMAK5NT640CA | 640 | 728 | 803 | 1.0 | 1054.0 | 1.43 | 5 | K5TU | K5UU |
| SMAK5NT720A | SMAK5NT720CA | 720 | 807 | 889 | 1.0 | 1167.0 | 1.29 | 5 | K5TY | K5UY |
| SMAK5NT800A | SMAK5NT800CA | 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

Ratings and Characteristics Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)



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