

POWER DISCRETES

Description

The 1N64xx series of transient voltage suppressors are designed to protect military and commercial electronic equipment from overvoltages caused by lightning, ESD, EFT, inductive load switching, and EMP. These devices are constructed using a p-n junction TVS diode in a hermetically sealed, voidless glass package. The hermetically sealed package provides high reliability in harsh environmental conditions. TVS diodes are further characterized by their high surge capability, low operating and clamping voltages, and a theoretically instantaneous response time. This makes them ideal for use as board level protection for sensitive semiconductor components. These devices are DSCC QPL qualified to MIL-PRF-19500/552.

Features

- ◆ 1500 Watts peak pulse power (tp = 10/1000µs)
- ◆ Voidless hermetically sealed glass package
- ◆ Metallurgically bonded
- ◆ High surge capacity
- ◆ Unidirectional
- ◆ Available in JAN, JTX, and JTXV versions per MIL-PRF-19500/552

Applications

- ◆ Aerospace and industrial electronics
- ◆ Board level protection
- ◆ Airborne systems
- ◆ Shipboard systems
- ◆ Ground systems

Mechanical Characteristics

- ◆ Hermetically sealed glass package

Absolute Maximum Ratings

| Rating | Symbol | Value | Units |
|---|------------------|-------------|-------|
| Peak Pulse Power (tp = 10 x 1000µs) | Ppk | 1500 | Watts |
| Operating Temperature Range | Tj | -65 to +175 | °C |
| Storage Temperature Range | T _{STG} | -65 to +175 | °C |
| Steady-State Power Dissipation @ TL = 75°C (3/8") | PD | 5 | Watts |

Electrical Characteristics

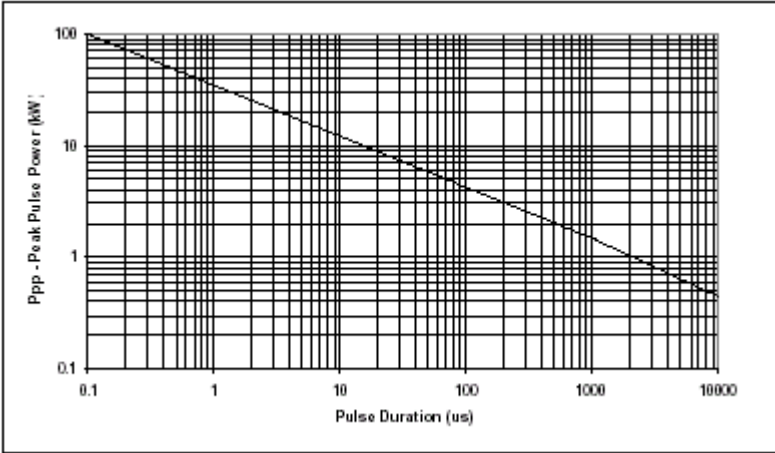
Electrical specifications @ T_a = 25°C unless otherwise specified.

| Device Type | Reverse Standoff Voltage V _{RWM} | Reverse Leakage Current I _R | Minimum Breakdown Voltage V _{BR} @ I _T | Test Current I _T | Maximum Clamping Voltage V _C @ I _{PP} | Peak Pulse Current I _{PP} T _P = 1mS | Peak Pulse Current I _{PP} T _P = 20µS | Temp. Coef. of V _{BR} αV _Z |
|-------------|--|---|---|--------------------------------|--|---|--|---|
| | V | µA | V | mA | V | A | A | %/°C |
| 1N6469 | 5 | 1500 | 5.6 | 50 | 9 | 167 | 945 | 0.040 |
| 1N6470 | 6 | 1000 | 6.5 | 50 | 11.0 | 137 | 775 | 0.040 |
| 1N6471 | 12 | 20 | 13.6 | 10 | 22.6 | 66 | 374 | 0.050 |
| 1N6472 | 15 | 10 | 16.4 | 10 | 26.5 | 57 | 322 | 0.060 |
| 1N6473 | 24 | 5 | 27.0 | 5 | 41.4 | 36.5 | 206 | 0.084 |
| 1N6474 | 30.5 | 5 | 33.0 | 1 | 47.5 | 32 | 190 | 0.093 |
| 1N6475 | 40.3 | 5 | 43.7 | 1 | 63.5 | 24 | 136 | 0.094 |
| 1N6476 | 51.6 | 5 | 54.0 | 1 | 78.5 | 19 | 106 | 0.096 |

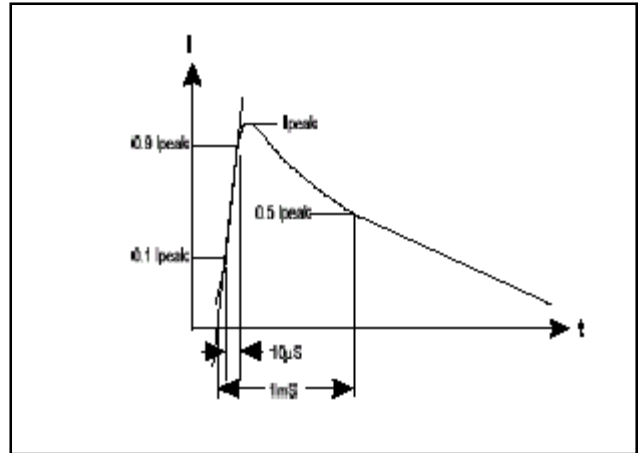
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Electrical Characteristics

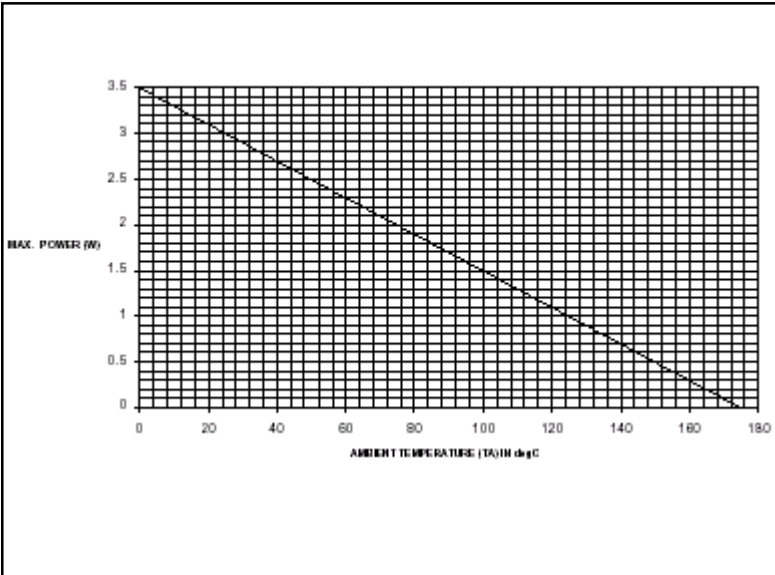
PEAK PULSE POWER vs. PULSE TIME



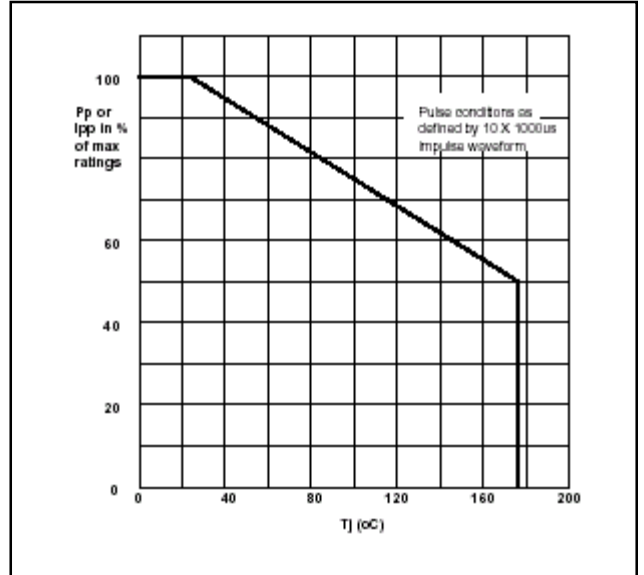
10 x 1000μs IMPLUSE WAVEFORM



STEADY STATE DERATING CHARACTERISTICS FOR FREE AIR MOUNTING



PULSE DERATING CURVE



POWER DISCRETES

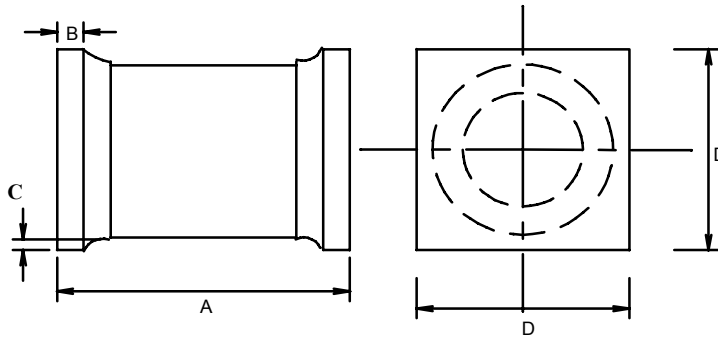
Ordering Information

| Part Number | Description |
|---|-----------------------------------|
| 1N6469US, 1N6470US, 1N6471US, 1N6472US, 1N6473US, 1N6474US, 1N6475US, 1N6476US | Surface Mount (US) ⁽¹⁾ |

Note:

(1) Available in trays and tape and reel packaging. Please consult factory for quantities.

Outline Drawing



| | Dimensions | |
|---|---------------------|-------|
| | 1N6469US - 1N6476US | |
| | Inches | |
| | MIN | MAX |
| A | 0.205 | 0.245 |
| B | 0.019 | 0.028 |
| C | 0.003 | - |
| D | 0.183 | 0.202 |

Contact Information

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