

TEL:805-498-2111 FAX:805-498-3804

DESCRIPTION

The 1N61xx 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 two p-n junction TVS diodes in a back-to-back configuration, hermetically sealed in a 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.

MAXIMUM RATINGS

| RATING | SYMBOL | VALUE | UNIT |
|---|--------|-------------|-------|
| Peak Pulse Power ($tp = 10 \times 1000\mu s$) | Ppk | 500 | Watts |
| Operating Temperature | Tj | -65 to +175 | °C |
| Storage Temperature | Tstg | -65 to +175 | °C |
| Steady-State Power Dissipation @ TL = 75°C (3/8") | PD | 3 | Watts |

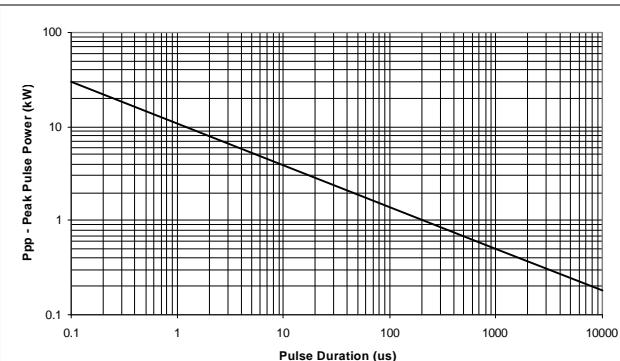
ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise specified)

| DEVICE TYPE | REVERSE STAND-OFF 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} $tp = 1ms$ | TEMPERATURE COEFFICIENT OF V_{BR} αV_z | MAXIMUM REVERSE LEAKAGE CURRENT (I_{R2}) $TA=+150^\circ C$ |
|-------------|-------------------------------------|-------------------------------|--|--------------------|---|--|--|--|
| | (V) | (μA) | (V) | (mA) | (V) | (A) | % / °C | (A) |
| 1N6102A | 5.2 | 100 | 6.46 | 175 | 10.5 | 47.6 | 0.05 | 4000 |
| 1N6103A | 5.7 | 50 | 7.13 | 175 | 11.2 | 44.6 | 0.06 | 750 |
| 1N6104A | 6.2 | 20 | 7.79 | 150 | 12.1 | 41.3 | 0.06 | 500 |
| 1N6105A | 6.9 | 20 | 8.65 | 150 | 13.4 | 37.3 | 0.06 | 300 |
| 1N6106A | 7.6 | 20 | 9.50 | 125 | 14.5 | 34.5 | 0.07 | 200 |
| 1N6107A | 8.4 | 20 | 10.45 | 125 | 15.6 | 32.0 | 0.07 | 200 |
| 1N6108A | 9.1 | 20 | 11.40 | 100 | 16.9 | 29.6 | 0.07 | 150 |
| 1N6109A | 9.9 | 20 | 12.35 | 100 | 18.2 | 27.5 | 0.08 | 150 |
| 1N6110A | 11.4 | 20 | 14.25 | 75 | 21.0 | 23.8 | 0.08 | 100 |
| 1N6111A | 12.2 | 20 | 15.20 | 75 | 22.3 | 22.4 | 0.08 | 100 |
| 1N6112A | 13.7 | 1 | 17.10 | 65 | 25.1 | 19.9 | 0.085 | 100 |
| 1N6113A | 15.2 | 1 | 19.0 | 65 | 27.7 | 18.0 | 0.085 | 100 |
| 1N6114A | 16.7 | 1 | 20.9 | 50 | 30.5 | 16.4 | 0.085 | 100 |
| 1N6115A | 18.2 | 1 | 22.8 | 50 | 33.3 | 15.0 | 0.09 | 100 |
| 1N6116A | 20.6 | 1 | 25.7 | 50 | 37.4 | 13.4 | 0.09 | 100 |
| 1N6117A | 22.8 | 1 | 28.5 | 40 | 41.6 | 12.0 | 0.09 | 100 |
| 1N6118A | 25.1 | 1 | 31.4 | 40 | 45.7 | 10.9 | 0.095 | 100 |
| 1N6119A | 27.4 | 1 | 34.2 | 30 | 49.9 | 10.0 | 0.095 | 100 |
| 1N6120A | 29.7 | 1 | 37.1 | 30 | 53.6 | 9.3 | 0.095 | 100 |
| 1N6121A | 32.7 | 1 | 40.9 | 30 | 59.1 | 8.5 | 0.095 | 100 |
| 1N6122A | 35.8 | 1 | 44.7 | 25 | 64.6 | 7.7 | 0.095 | 100 |
| 1N6123A | 38.8 | 1 | 48.5 | 25 | 70.1 | 7.1 | 0.095 | 100 |
| 1N6124A | 42.6 | 1 | 53.2 | 20 | 77.0 | 6.5 | 0.095 | 100 |
| 1N6125A | 47.1 | 1 | 58.9 | 20 | 85.3 | 5.9 | 0.100 | 100 |
| 1N6126A | 51.7 | 1 | 64.6 | 20 | 97.1 | 5.1 | 0.100 | 100 |
| 1N6127A | 56.0 | 1 | 71.3 | 20 | 103.1 | 4.8 | 0.100 | 100 |
| 1N6128A | 62.2 | 1 | 77.9 | 15 | 112.8 | 4.4 | 0.100 | 100 |
| 1N6129A | 69.2 | 1 | 86.5 | 15 | 125.1 | 4.0 | 0.100 | 100 |
| 1N6130A | 76.0 | 1 | 95.0 | 12 | 137.6 | 3.6 | 0.100 | 100 |
| 1N6131A | 83.6 | 1 | 104.5 | 12 | 151.3 | 3.3 | 0.100 | 100 |
| 1N6132A | 91.2 | 1 | 114.0 | 10 | 165.1 | 3.0 | 0.100 | 100 |
| 1N6133A | 98.8 | 1 | 123.5 | 10 | 178.8 | 2.8 | 0.105 | 100 |
| 1N6134A | 114.0 | 1 | 142.5 | 8 | 206.3 | 2.4 | 0.105 | 100 |
| 1N6135A | 121.6 | 1 | 152.0 | 8 | 218.4 | 2.3 | 0.105 | 100 |
| 1N6136A | 136.8 | 1 | 171.0 | 5 | 245.7 | 2.0 | 0.110 | 100 |
| 1N6137A | 152.0 | 1 | 190.0 | 5 | 273.0 | 1.8 | 0.110 | 100 |

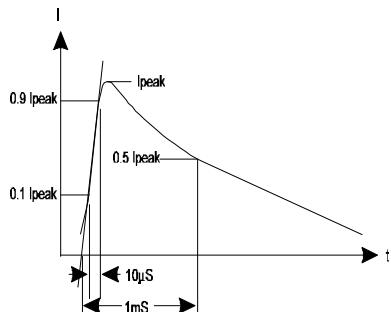
1. Non-A Part has 5% higher clamping voltage, 5% lower minimum breakdown voltage, and 5% lower peak pulse current.

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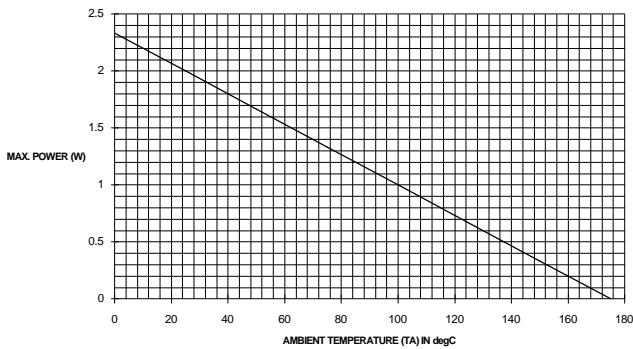
PEAK PULSE POWER vs. PULSE TIME



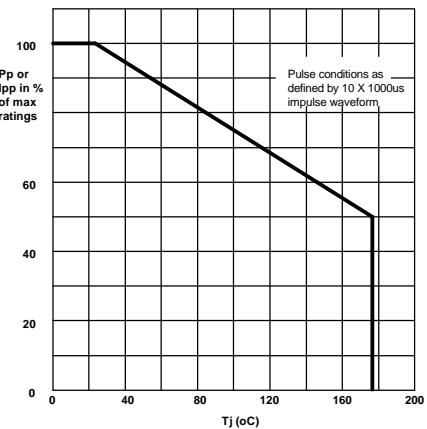
10x1000μs IMPULSE WAVEFORM



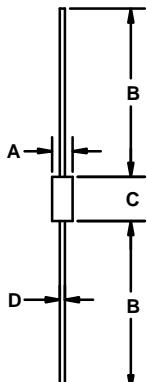
STEADY STATE DERATING CHARACTERISTICS FOR FREE AIR MOUNTING



PULSE DERATING CURVE



MECHANICAL OUTLINE

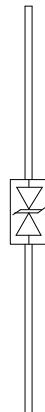


| DIM ^N | INCHES | | MM | | NOTE |
|------------------|--------|-------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.085 | 0.140 | 2.1 | 3.6 | |
| B | 1.00 | 1.300 | 25.4 | 33.0 | |
| C | 0.140 | 0.245 | 3.5 | 6.3 | 2 |
| D | 0.026 | 0.033 | 0.66 | 0.84 | |

NOTES :

1. Controlling dimension is inches.
2. Includes uncontrolled area of device leads.

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