

## 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.

## FEATURES:

- 500 Watts Peak Pulse Power ( $t_p = 10/1000\mu s$ )
- Voidless hermetically sealed glass package
- Metallurgically bonded
- High surge capacity
- Military & Industrial applications
- Available in **JAN**, **JTX**, **JTXV** and **JANS** versions per MIL-S-19500/516

## MECHANICAL CHARACTERISTICS:

- Hermetically sealed glass package
- Tinned copper leads
- Marking : P/N, date code, logo

## MAXIMUM RATINGS

| RATING                                            | SYMBOL | VALUE       | UNIT  |
|---------------------------------------------------|--------|-------------|-------|
| Peak Pulse Power ( $t_p = 10 \times 1000\mu s$ )  | 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 |

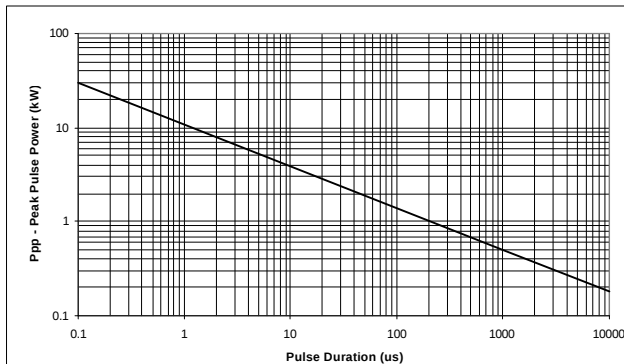
## ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise specified)

| DEVICE TYPE | REVERSE STAND-OFF VOLTAGE<br>$V_{RWM}$ | REVERSE LEAKAGE CURRENT<br>$I_R$ | MINIMUM BREAKDOWN VOLTAGE<br>$V_{BR} @ I_T$ | TEST CURRENT<br>$I_T$ | MAXIMUM CLAMPING VOLTAGE<br>$V_C @ I_{PP}$ | PEAK PULSE CURRENT<br>$I_{PP}$<br>$t_p = 1ms$ | TEMPERATURE COEFFICIENT<br>OF $V_{BR}$<br>$\alpha V_Z$ | MAXIMUM REVERSE LEAKAGE CURRENT ( $I_{R2}$ )<br>$T_A = +150^\circ C$ |
|-------------|----------------------------------------|----------------------------------|---------------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------|
|             | (V)                                    | ( $\mu A$ )                      | (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                                                                  |

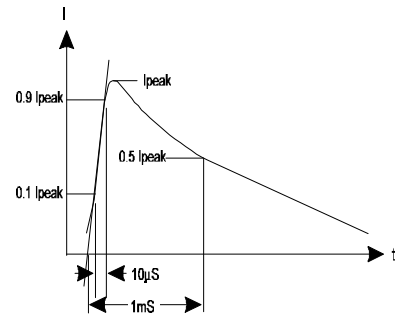
1. Non-A Part has 5% higher clamping voltage, 5% lower minimum breakdown voltage, and 5% lower peak pulse current.

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

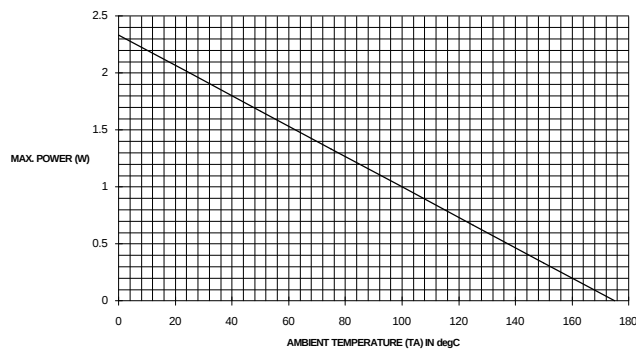
#### PEAK PULSE POWER vs. PULSE TIME



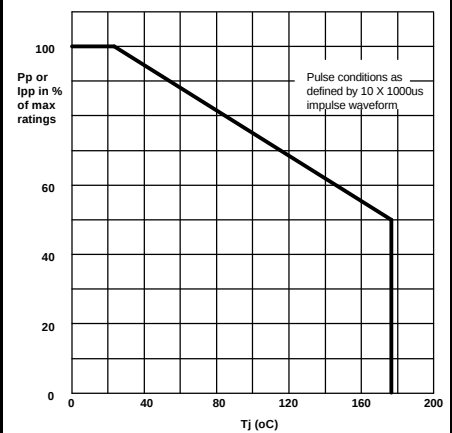
#### 10x1000μs IMPULSE WAVEFORM



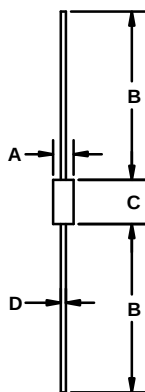
#### STEADY STATE DERATING CHARACTERISTICS FOR FREE AIR MOUNTING



#### PULSE DERATING CURVE



#### MECHANICAL OUTLINE



| DIMENSIONS       |        |       |      |      | NOTE |
|------------------|--------|-------|------|------|------|
| DIM <sup>N</sup> | INCHES |       | MM   |      |      |
|                  | 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.

#### SCHEMATIC



## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9