

**SENSITRON****SEMICONDUCTOR****AXIAL LEAD / MELF, TRANSIENT VOLTAGE SUPPRESSOR BI- DIRECTIONAL DIODES**

| Peak Pulse Power | Unidirectional Chip                                     | <br>AXIAL | <br>MELF |
|------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| 500 W            | 1C6102 - 1C6137<br>1C6102A - 1C6137A<br>1C6461 – 1C6468 | 1N6102 - 1N6137<br>1N6102A - 1N6137A<br>1N6461 – 1N6468                                    | 1N6102US - 1N6137US<br>1N6102AUS - 1N6137AUS<br>1N6461US – 1N6468US                         |

**TRANSIENT VOLTAGE SUPPRESSORS, 500W SERIES**

| SERIES TYPE | BREAK-DOWN VOLTAGE<br>$I_{BR}$ | TEST CURRENT<br>$I_T$ | WORKING PEAK REVERSE VOLTAGE<br>$V_{RWM}$ | MAXIMUM REVERSE CURRENT<br>$I_{R1}$ | MAX. CLAMP. VOLTAGE<br>$V_C(max)$<br>@ $I_P$<br>$t_p = 1ms$ | MAX. PEAK PULSE CURRENT<br>$I_P$ | MAX. TEMP. COEFFICIENT<br>$V_{BR}$ | MAX. REVERSE CURRENT<br>@ $T_A = 150^\circ C$ | PACKAGE STYLE                                                                                                                                                               |
|-------------|--------------------------------|-----------------------|-------------------------------------------|-------------------------------------|-------------------------------------------------------------|----------------------------------|------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 500W        | Min. Vdc                       | mA dc                 | Vdc                                       | $\mu A$ dc                          | V(pk)                                                       | A(pk)                            | % / °C                             | $\mu A$ dc                                    |                                                                                                                                                                             |
| 1N6102      | 6.12                           | 175                   | 5.2                                       | 100                                 | 11.0                                                        | 45.4                             | .05                                | 4,000                                         | <br> |
| 1N6103      | 6.75                           | 175                   | 5.7                                       | 50                                  | 11.8                                                        | 42.4                             | .06                                | 750                                           |                                                                                                                                                                             |
| 1N6104      | 7.38                           | 150                   | 6.2                                       | 20                                  | 12.7                                                        | 39.4                             | .06                                | 500                                           |                                                                                                                                                                             |
| 1N6105      | 8.19                           | 150                   | 6.9                                       | 20                                  | 14.0                                                        | 35.7                             | .06                                | 300                                           |                                                                                                                                                                             |
| 1N6106      | 9.00                           | 125                   | 7.6                                       | 20                                  | 15.2                                                        | 32.9                             | .07                                | 200                                           |                                                                                                                                                                             |
| 1N6107      | 9.90                           | 125                   | 8.4                                       | 20                                  | 16.3                                                        | 30.7                             | .07                                | 200                                           |                                                                                                                                                                             |
| 1N6108      | 10.80                          | 100                   | 9.1                                       | 20                                  | 17.7                                                        | 28.2                             | .07                                | 150                                           |                                                                                                                                                                             |
| 1N6109      | 11.70                          | 100                   | 9.9                                       | 20                                  | 19.0                                                        | 26.3                             | .08                                | 150                                           |                                                                                                                                                                             |
| 1N6110      | 13.50                          | 75                    | 11.4                                      | 20                                  | 21.9                                                        | 22.8                             | .08                                | 100                                           |                                                                                                                                                                             |
| 1N6111      | 14.40                          | 75                    | 12.2                                      | 20                                  | 23.4                                                        | 21.4                             | .08                                | 100                                           |                                                                                                                                                                             |
| 1N6112      | 16.20                          | 65                    | 13.7                                      | 1.0                                 | 26.3                                                        | 19.0                             | .085                               | 100                                           |                                                                                                                                                                             |
| 1N6113      | 18.00                          | 65                    | 15.2                                      | 1.0                                 | 29.0                                                        | 17.2                             | .085                               | 100                                           |                                                                                                                                                                             |
| 1N6114      | 19.8                           | 50                    | 16.7                                      | 1.0                                 | 31.9                                                        | 15.7                             | .085                               | 100                                           |                                                                                                                                                                             |
| 1N6115      | 21.6                           | 50                    | 18.2                                      | 1.0                                 | 34.8                                                        | 14.4                             | .09                                | 100                                           |                                                                                                                                                                             |
| 1N6116      | 24.3                           | 50                    | 20.6                                      | 1.0                                 | 39.2                                                        | 12.8                             | .09                                | 100                                           |                                                                                                                                                                             |
| 1N6117      | 27.0                           | 40                    | 22.8                                      | 1.0                                 | 43.6                                                        | 11.5                             | .09                                | 100                                           |                                                                                                                                                                             |
| 1N6118      | 29.7                           | 40                    | 25.1                                      | 1.0                                 | 47.9                                                        | 10.4                             | .095                               | 100                                           |                                                                                                                                                                             |
| 1N6119      | 32.4                           | 30                    | 27.4                                      | 1.0                                 | 52.3                                                        | 9.6                              | .095                               | 100                                           |                                                                                                                                                                             |
| 1N6120      | 35.1                           | 30                    | 29.7                                      | 1.0                                 | 56.2                                                        | 8.9                              | .095                               | 100                                           |                                                                                                                                                                             |
| 1N6121      | 38.7                           | 30                    | 32.7                                      | 1.0                                 | 62.0                                                        | 8.1                              | .095                               | 100                                           |                                                                                                                                                                             |
| 1N6122      | 42.3                           | 25                    | 35.8                                      | 1.0                                 | 67.7                                                        | 7.4                              | .095                               | 100                                           |                                                                                                                                                                             |
| 1N6123      | 45.9                           | 25                    | 38.8                                      | 1.0                                 | 73.5                                                        | 6.8                              | .095                               | 100                                           |                                                                                                                                                                             |
| 1N6124      | 50.4                           | 20                    | 42.6                                      | 1.0                                 | 80.7                                                        | 6.2                              | .095                               | 100                                           |                                                                                                                                                                             |
| 1N6125      | 55.8                           | 20                    | 47.1                                      | 1.0                                 | 89.3                                                        | 5.6                              | .100                               | 100                                           |                                                                                                                                                                             |
| 1N6126      | 61.2                           | 20                    | 51.7                                      | 1.0                                 | 98.0                                                        | 5.1                              | .100                               | 100                                           |                                                                                                                                                                             |
| 1N6127      | 67.5                           | 20                    | 56.0                                      | 1.0                                 | 108.1                                                       | 4.6                              | .100                               | 100                                           |                                                                                                                                                                             |
| 1N6128      | 73.8                           | 15                    | 62.2                                      | 1.0                                 | 118.2                                                       | 4.2                              | .100                               | 100                                           |                                                                                                                                                                             |
| 1N6129      | 81.9                           | 15                    | 69.2                                      | 1.0                                 | 131.1                                                       | 3.8                              | .100                               | 100                                           |                                                                                                                                                                             |
| 1N6130      | 90.0                           | 12                    | 76.0                                      | 1.0                                 | 144.1                                                       | 3.5                              | .100                               | 100                                           |                                                                                                                                                                             |
| 1N6131      | 99.0                           | 12                    | 83.6                                      | 1.0                                 | 158.5                                                       | 3.2                              | .100                               | 100                                           |                                                                                                                                                                             |
| 1N6132      | 108.0                          | 10                    | 91.2                                      | 1.0                                 | 172.9                                                       | 2.9                              | .100                               | 100                                           |                                                                                                                                                                             |
| 1N6133      | 117.0                          | 10                    | 98.8                                      | 1.0                                 | 187.3                                                       | 2.7                              | .105                               | 100                                           |                                                                                                                                                                             |
| 1N6134      | 135.0                          | 8.0                   | 114.0                                     | 1.0                                 | 216.2                                                       | 2.3                              | .105                               | 100                                           |                                                                                                                                                                             |
| 1N6135      | 144.0                          | 8.0                   | 121.6                                     | 1.0                                 | 228.8                                                       | 2.2                              | .105                               | 100                                           |                                                                                                                                                                             |
| 1N6136      | 162.0                          | 5.0                   | 136.8                                     | 1.0                                 | 257.4                                                       | 1.9                              | .110                               | 100                                           |                                                                                                                                                                             |
| 1N6137      | 180.0                          | 5.0                   | 152.0                                     | 1.0                                 | 286.0                                                       | 1.7                              | .110                               | 100                                           |                                                                                                                                                                             |

(Transient Voltage Suppressors, Continued on the Next Page)

**SENSITRON****SEMICONDUCTOR****AXIAL LEAD / MELF, TRANSIENT VOLTAGE SUPPRESSOR BI DIRECTIONAL DIODES****TRANSIENT VOLTAGE SUPPRESSORS, 500W SERIES**

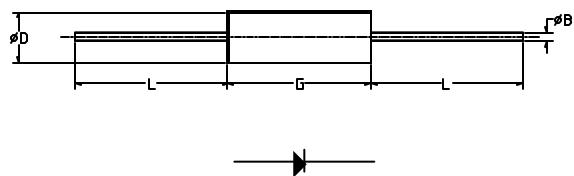
| SERIES TYPE | BREAK-DOWN VOLTAGE $V_{BR}$ | TEST CURRENT $I_{BR}$ | WORKING PEAK REVERSE VOLTAGE $V_{RWM}$ | MAXIMUM REVERSE CURRENT $I_{R1}$ | MAX. CLAMP. VOLTAGE $V_C(max)$ @ $I_P$ $t_p = 1ms$ | MAX. PEAK PULSE CURRENT $I_P$ | MAX. TEMP. COEFFICIENT $T_{V(BR)}$ | MAX. REVERSE CURRENT @ $T_A = 150^\circ C$ | PACKAGE STYLE                                                                       |
|-------------|-----------------------------|-----------------------|----------------------------------------|----------------------------------|----------------------------------------------------|-------------------------------|------------------------------------|--------------------------------------------|-------------------------------------------------------------------------------------|
| 500W        | Min. Vdc                    | mA dc                 | Vdc                                    | $\mu A_{dc}$                     | V(pk)                                              | A(pk)                         | % / $^\circ C$                     | $\mu A_{dc}$                               |                                                                                     |
| 1N6102A     | 6.46                        | 175                   | 5.2                                    | 100                              | 10.5                                               | 47.6                          | .05                                | 4,000                                      |  |
| 1N6103A     | 7.13                        | 175                   | 5.7                                    | 50                               | 11.2                                               | 44.6                          | .06                                | 750                                        |                                                                                     |
| 1N6104A     | 7.79                        | 150                   | 6.2                                    | 20                               | 12.1                                               | 41.3                          | .06                                | 500                                        |                                                                                     |
| 1N6105A     | 8.65                        | 150                   | 6.9                                    | 20                               | 13.4                                               | 37.3                          | .06                                | 300                                        |                                                                                     |
| 1N6106A     | 9.50                        | 125                   | 7.6                                    | 20                               | 14.5                                               | 34.5                          | .07                                | 200                                        |                                                                                     |
| 1N6107A     | 10.45                       | 125                   | 8.4                                    | 20                               | 15.6                                               | 32.0                          | .07                                | 200                                        |                                                                                     |
| 1N6108A     | 11.40                       | 100                   | 9.1                                    | 20                               | 16.9                                               | 29.6                          | .07                                | 150                                        |                                                                                     |
| 1N6109A     | 12.35                       | 100                   | 9.9                                    | 20                               | 18.2                                               | 27.5                          | .08                                | 150                                        |                                                                                     |
| 1N6110A     | 14.25                       | 75                    | 11.4                                   | 20                               | 21.0                                               | 23.8                          | .08                                | 100                                        |                                                                                     |
| 1N6111A     | 15.20                       | 75                    | 12.2                                   | 20                               | 22.3                                               | 22.4                          | .08                                | 100                                        |                                                                                     |
| 1N6112A     | 17.10                       | 65                    | 13.7                                   | 1.0                              | 25.1                                               | 19.9                          | .085                               | 100                                        |                                                                                     |
| 1N6113A     | 19.00                       | 65                    | 15.2                                   | 1.0                              | 27.7                                               | 18.0                          | .085                               | 100                                        |                                                                                     |
| 1N6114A     | 20.9                        | 50                    | 16.7                                   | 1.0                              | 30.5                                               | 16.4                          | .085                               | 100                                        |                                                                                     |
| 1N6115A     | 22.8                        | 50                    | 18.2                                   | 1.0                              | 33.3                                               | 15.0                          | .09                                | 100                                        |                                                                                     |
| 1N6116A     | 25.7                        | 50                    | 20.6                                   | 1.0                              | 37.4                                               | 13.4                          | .09                                | 100                                        |                                                                                     |
| 1N6117A     | 28.5                        | 40                    | 22.8                                   | 1.0                              | 41.6                                               | 12.0                          | .09                                | 100                                        |                                                                                     |
| 1N6118A     | 31.4                        | 40                    | 25.1                                   | 1.0                              | 45.7                                               | 10.9                          | .095                               | 100                                        |                                                                                     |
| 1N6119A     | 34.2                        | 30                    | 27.4                                   | 1.0                              | 49.9                                               | 10.0                          | .095                               | 100                                        |                                                                                     |
| 1N6120A     | 37.1                        | 30                    | 29.7                                   | 1.0                              | 53.6                                               | 9.3                           | .095                               | 100                                        |                                                                                     |
| 1N6121A     | 40.9                        | 30                    | 32.7                                   | 1.0                              | 59.1                                               | 8.5                           | .095                               | 100                                        |                                                                                     |
| 1N6122A     | 44.7                        | 25                    | 35.8                                   | 1.0                              | 64.6                                               | 7.7                           | .095                               | 100                                        |                                                                                     |
| 1N6123A     | 48.5                        | 25                    | 38.8                                   | 1.0                              | 70.1                                               | 7.1                           | .095                               | 100                                        |                                                                                     |
| 1N6124A     | 53.2                        | 20                    | 42.6                                   | 1.0                              | 77.0                                               | 6.5                           | .095                               | 100                                        |                                                                                     |
| 1N6125A     | 58.9                        | 20                    | 47.1                                   | 1.0                              | 85.3                                               | 5.9                           | .100                               | 100                                        |                                                                                     |
| 1N6126A     | 64.6                        | 20                    | 51.7                                   | 1.0                              | 97.1                                               | 5.1                           | .100                               | 100                                        |                                                                                     |
| 1N6127A     | 71.3                        | 20                    | 56.0                                   | 1.0                              | 103.1                                              | 4.8                           | .100                               | 100                                        |                                                                                     |
| 1N6128A     | 77.9                        | 15                    | 62.2                                   | 1.0                              | 112.8                                              | 4.4                           | .100                               | 100                                        |                                                                                     |
| 1N6129A     | 86.5                        | 15                    | 69.2                                   | 1.0                              | 125.1                                              | 4.0                           | .100                               | 100                                        |                                                                                     |
| 1N6130A     | 95.0                        | 12                    | 76.0                                   | 1.0                              | 137.6                                              | 3.6                           | .100                               | 100                                        |                                                                                     |
| 1N6131A     | 104.5                       | 12                    | 83.6                                   | 1.0                              | 151.3                                              | 3.3                           | .100                               | 100                                        |                                                                                     |
| 1N6132A     | 114.0                       | 10                    | 91.2                                   | 1.0                              | 165.1                                              | 3.0                           | .100                               | 100                                        |                                                                                     |
| 1N6133A     | 123.5                       | 10                    | 98.8                                   | 1.0                              | 178.8                                              | 2.8                           | .105                               | 100                                        |                                                                                     |
| 1N6134A     | 142.5                       | 8.0                   | 114.0                                  | 1.0                              | 206.3                                              | 2.4                           | .105                               | 100                                        |                                                                                     |
| 1N6135A     | 152                         | 8.0                   | 121.6                                  | 1.0                              | 218.4                                              | 2.3                           | .105                               | 100                                        |                                                                                     |
| 1N6136A     | 171                         | 5.0                   | 136.8                                  | 1.0                              | 245.7                                              | 2.0                           | .110                               | 100                                        |                                                                                     |
| 1N6137A     | 190                         | 5.0                   | 152.0                                  | 1.0                              | 273.0                                              | 1.8                           | .110                               | 100                                        |                                                                                     |

**Notes:** $P_R = 2W$  for 500W peak pulse power devices  $T_A = +25^\circ C$ . $P_R = 3W$  for 500W peak pulse power devices  $T_L = +75^\circ C$  for  $L = 0.375$  inch (9.53mm). $P_{PR} = 500W$  1N6102 through 1N6137 including A and US suffix versions at  $t_p = 1ms$ . $-55^\circ C \leq T_{op} \leq +175^\circ C$ ,  $-55^\circ C \leq T_{stg} \leq +175^\circ C$  (ambient temperatures).

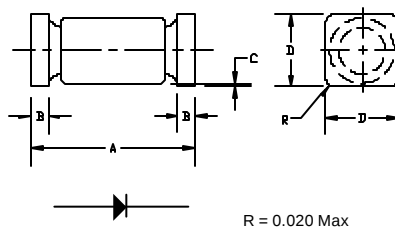
To order surface mount devices (MELFs), add the suffix US to the above listed part numbers.

## TVS OUTLINES

**AXIAL**



**MELF**



500 W 1N6102 - 1N6137, 1N6102A - 1N6137A

| PACKAGE | DIMENSIONS - INCHES / MILLIMETERS |                        |                        |                         |
|---------|-----------------------------------|------------------------|------------------------|-------------------------|
| STYLE   | $\phi B$                          | $\phi D$               | G                      | L                       |
| 401     | .026/.033<br>.66/.84              | .085/.140<br>2.16/3.56 | .140/.185<br>3.56/4.70 | 1.00/1.30<br>25.4/33.02 |

500 W 1N6102US - 1N6137US, 1N6102AUS - 1N6137AUS

| PACKAGE | DIMENSIONS - INCHES / MILLIMETERS |                        |                       |                        |
|---------|-----------------------------------|------------------------|-----------------------|------------------------|
| STYLE   | A                                 | B                      | C                     | D                      |
| MELF-B  | .200/.225<br>5.08/5.72            | .019/.028<br>0.48/0.71 | 0.003 Min<br>0.08 Min | .137/.148<br>3.48/3.76 |