



## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

| TYPE   | Nominal Zener Voltage |          | Maximum Zener Impedance |                   |          | Maximum Reverse Leakage Current |       | Maximum DC Zener Current |
|--------|-----------------------|----------|-------------------------|-------------------|----------|---------------------------------|-------|--------------------------|
|        | $V_Z @ I_{ZT}$        | $I_{ZT}$ | $Z_{ZT} @ I_{ZT}$       | $Z_{ZK} @ I_{ZK}$ | $I_{ZK}$ | $I_R @ V_R$                     |       | $I_{ZM}$                 |
|        | (V)                   | (mA)     | ( $\Omega$ )            | ( $\Omega$ )      | (mA)     | ( $\mu$ A)                      | (V)   | (mA)                     |
| 1N5913 | 3.3                   | 113.6    | 10                      | 500               | 1.0      | 100                             | 1.0   | 454                      |
| 1N5914 | 3.6                   | 104.2    | 9.0                     | 500               | 1.0      | 75                              | 1.0   | 416                      |
| 1N5915 | 3.9                   | 96.1     | 7.5                     | 500               | 1.0      | 25                              | 1.0   | 384                      |
| 1N5916 | 4.3                   | 87.2     | 6.0                     | 500               | 1.0      | 5.0                             | 1.0   | 348                      |
| 1N5917 | 4.7                   | 79.8     | 5.0                     | 500               | 1.0      | 5.0                             | 1.5   | 319                      |
| 1N5918 | 5.1                   | 73.5     | 4.0                     | 400               | 1.0      | 5.0                             | 2.0   | 294                      |
| 1N5919 | 5.6                   | 66.9     | 2.0                     | 300               | 1.0      | 5.0                             | 3.0   | 267                      |
| 1N5920 | 6.2                   | 60.5     | 2.0                     | 200               | 1.0      | 5.0                             | 4.0   | 241                      |
| 1N5921 | 6.8                   | 55.1     | 2.5                     | 200               | 1.0      | 5.0                             | 5.2   | 220                      |
| 1N5922 | 7.5                   | 50.0     | 3.0                     | 400               | 0.5      | 5.0                             | 6.0   | 200                      |
| 1N5923 | 8.2                   | 45.7     | 3.5                     | 400               | 0.5      | 5.0                             | 6.5   | 182                      |
| 1N5924 | 9.1                   | 41.2     | 4.0                     | 500               | 0.5      | 5.0                             | 7.0   | 164                      |
| 1N5925 | 10                    | 37.5     | 4.5                     | 500               | 0.25     | 5.0                             | 8.0   | 150                      |
| 1N5926 | 11                    | 34.1     | 5.5                     | 550               | 0.25     | 1.0                             | 8.4   | 136                      |
| 1N5927 | 12                    | 31.2     | 6.5                     | 550               | 0.25     | 1.0                             | 9.1   | 125                      |
| 1N5928 | 13                    | 28.8     | 7.0                     | 550               | 0.25     | 1.0                             | 9.9   | 115                      |
| 1N5929 | 15                    | 25.0     | 9.0                     | 600               | 0.25     | 1.0                             | 11.4  | 100                      |
| 1N5930 | 16                    | 23.4     | 10                      | 600               | 0.25     | 1.0                             | 12.2  | 93                       |
| 1N5931 | 18                    | 20.8     | 12                      | 650               | 0.25     | 1.0                             | 13.7  | 83                       |
| 1N5932 | 20                    | 18.7     | 14                      | 650               | 0.25     | 1.0                             | 15.2  | 75                       |
| 1N5933 | 22                    | 17.0     | 17.5                    | 650               | 0.25     | 1.0                             | 16.7  | 68                       |
| 1N5934 | 24                    | 15.6     | 19                      | 700               | 0.25     | 1.0                             | 18.2  | 62                       |
| 1N5935 | 27                    | 13.9     | 23                      | 700               | 0.25     | 1.0                             | 20.6  | 55                       |
| 1N5936 | 30                    | 12.5     | 26                      | 750               | 0.25     | 1.0                             | 22.8  | 50                       |
| 1N5937 | 33                    | 11.4     | 33                      | 800               | 0.25     | 1.0                             | 25.1  | 45                       |
| 1N5938 | 36                    | 10.4     | 38                      | 850               | 0.25     | 1.0                             | 27.4  | 41                       |
| 1N5939 | 39                    | 9.6      | 45                      | 900               | 0.25     | 1.0                             | 29.7  | 38                       |
| 1N5940 | 43                    | 8.7      | 53                      | 950               | 0.25     | 1.0                             | 32.7  | 34                       |
| 1N5941 | 47                    | 8.0      | 67                      | 1000              | 0.25     | 1.0                             | 35.8  | 31                       |
| 1N5942 | 51                    | 7.3      | 70                      | 1100              | 0.25     | 1.0                             | 38.8  | 29                       |
| 1N5943 | 56                    | 6.7      | 86                      | 1300              | 0.25     | 1.0                             | 42.6  | 26                       |
| 1N5944 | 62                    | 6.0      | 100                     | 1500              | 0.25     | 1.0                             | 47.1  | 24                       |
| 1N5945 | 68                    | 5.5      | 120                     | 1700              | 0.25     | 1.0                             | 51.7  | 22                       |
| 1N5946 | 75                    | 5.0      | 140                     | 2000              | 0.25     | 1.0                             | 56.0  | 20                       |
| 1N5947 | 82                    | 4.6      | 160                     | 2500              | 0.25     | 1.0                             | 62.2  | 18                       |
| 1N5948 | 91                    | 4.1      | 200                     | 3000              | 0.25     | 1.0                             | 69.2  | 16                       |
| 1N5949 | 100                   | 3.7      | 250                     | 3100              | 0.25     | 1.0                             | 76.0  | 15                       |
| 1N5950 | 110                   | 3.4      | 300                     | 4000              | 0.25     | 1.0                             | 83.6  | 13                       |
| 1N5951 | 120                   | 3.1      | 380                     | 4500              | 0.25     | 1.0                             | 91.2  | 12                       |
| 1N5952 | 130                   | 2.9      | 450                     | 5000              | 0.25     | 1.0                             | 98.8  | 11                       |
| 1N5953 | 150                   | 2.5      | 600                     | 6000              | 0.25     | 1.0                             | 114.0 | 10                       |
| 1N5954 | 160                   | 2.3      | 700                     | 6500              | 0.25     | 1.0                             | 121.6 | 9.0                      |
| 1N5955 | 180                   | 2.1      | 900                     | 7000              | 0.25     | 1.0                             | 136.8 | 8.0                      |
| 1N5956 | 200                   | 1.9      | 1900                    | 9990              | 0.25     | 1.0                             | 152.0 | 7.0                      |

Note : (1) Suffix "A" indicates  $\pm 10\%$  tolerance, suffix "B" indicates  $\pm 5\%$  tolerance and suffix "C" indicates  $\pm 2\%$  tolerance.

## RATING AND CHARACTERISTIC CURVES ( 1N5913 - 1N5956 )

FIG. 1 - POWER TEMPERATURE DERATING CURVE

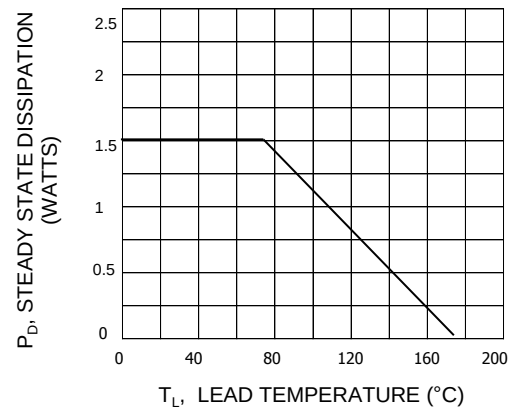


FIG. 2 - TYPICAL THERMAL RESPONSE  $L$ , LEAD LENGTH = 3/8 INCH

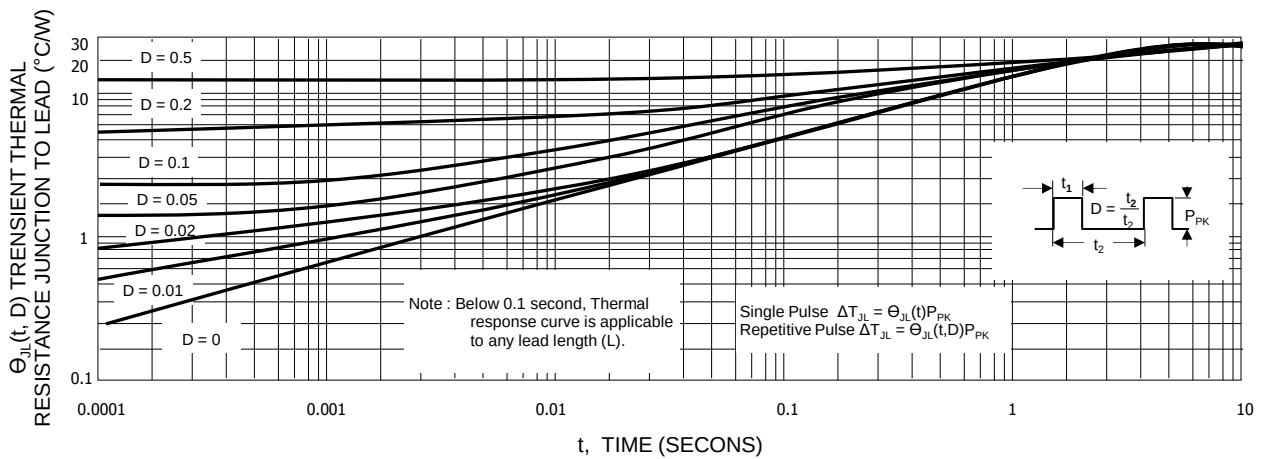


FIG. 3 - MAXIMUM SURGE POWER

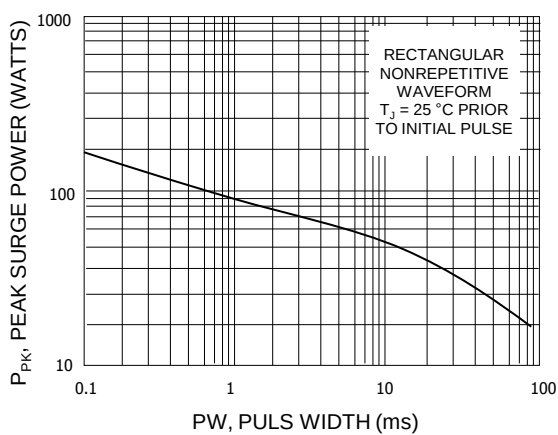
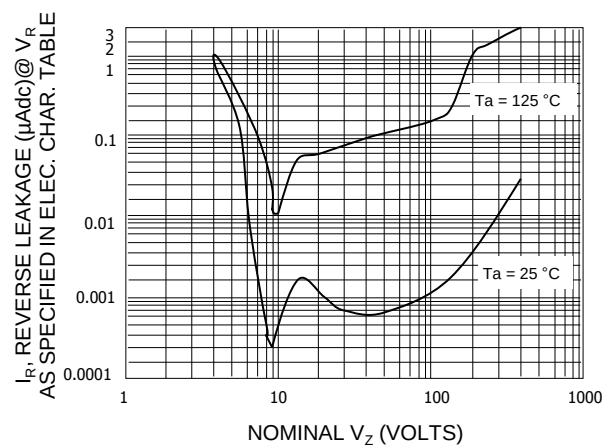
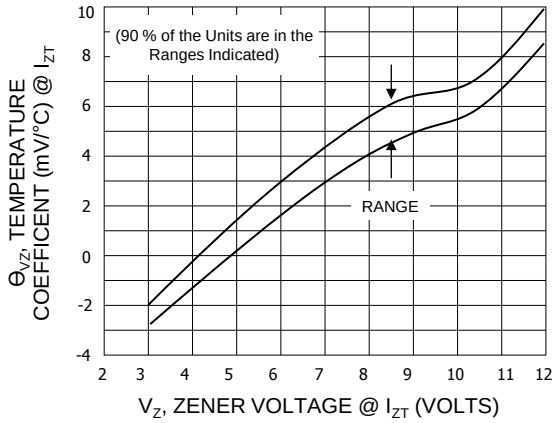


FIG. 4 - TYPICAL REVERSE LEAKAGE

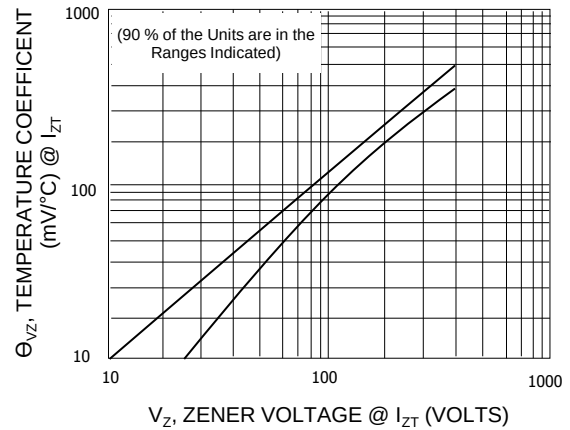


## RATING AND CHARACTERISTIC CURVES ( 1N5913 - 1N5956 )

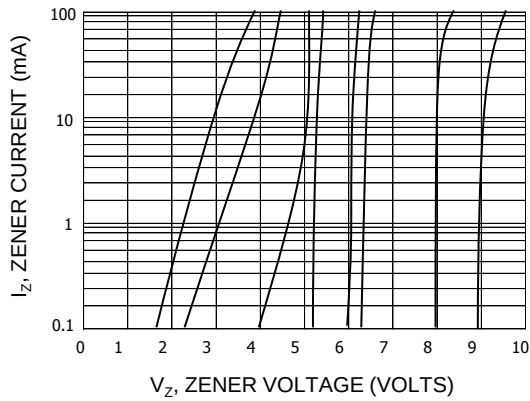
**FIG. 5 - TEMPERATURE COEFFICIENT RANGES  
UNITS TO 12 VOLTS**



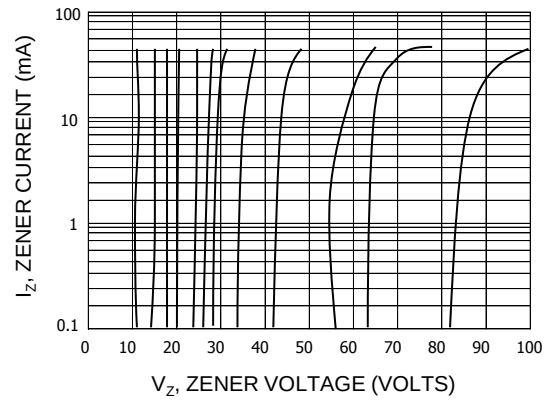
**FIG. 6 - TEMPERATURE COEFFICIENT RANGES  
UNITS 10 TO 400 VOLTS**



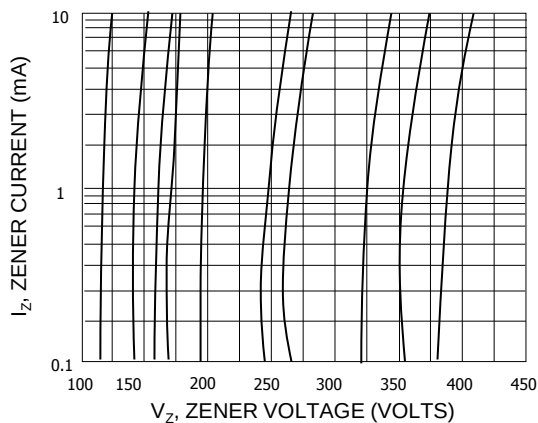
**FIG. 7 - ZENER VOLTAGE VS. ZENER CURRENT  
 $V_Z = 3.3$  thru 10 VOLTS**



**FIG. 8 - ZENER VOLTAGE VS. ZENER CURRENT  
 $V_Z = 12$  thru 82 VOLTS**



**FIG. 9 - ZENER VOLTAGE VS. ZENER CURRENT  
 $V_Z = 100$  thru 400 VOLTS**



**FIG. 10 - TYPICAL THERMAL RESISTANCE**

