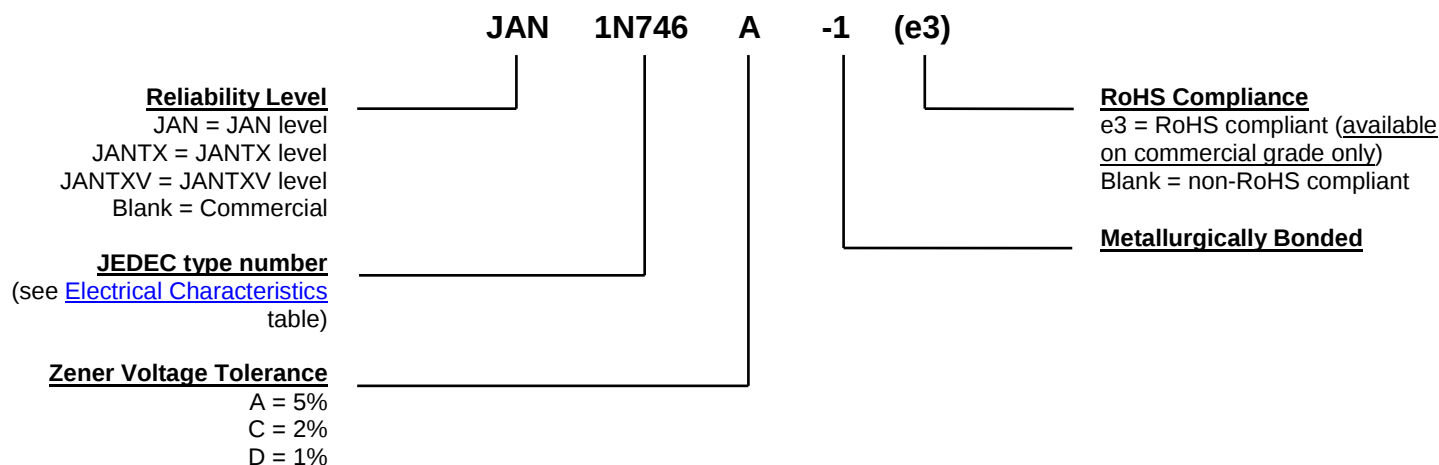


### MECHANICAL and PACKAGING

- CASE: Hermetically sealed axial-lead glass DO-35 (DO-204 AH) package.
- TERMINALS: Tin-lead or RoHS compliant annealed matte-tin plating (on commercial grade only). Solderable per MIL-STD-750, method 2026.
- MARKING: Part number.
- POLARITY: Cathode indicated by band. Diode to be operated with the banded end positive with respect to the opposite end for Zener regulation.
- TAPE & REEL option: Standard per EIA-296 (add "TR" suffix to part number).
- WEIGHT: Approximately 0.2 grams
- See [Package Dimensions](#) on last page.

### PART NOMENCLATURE



### SYMBOLS & DEFINITIONS

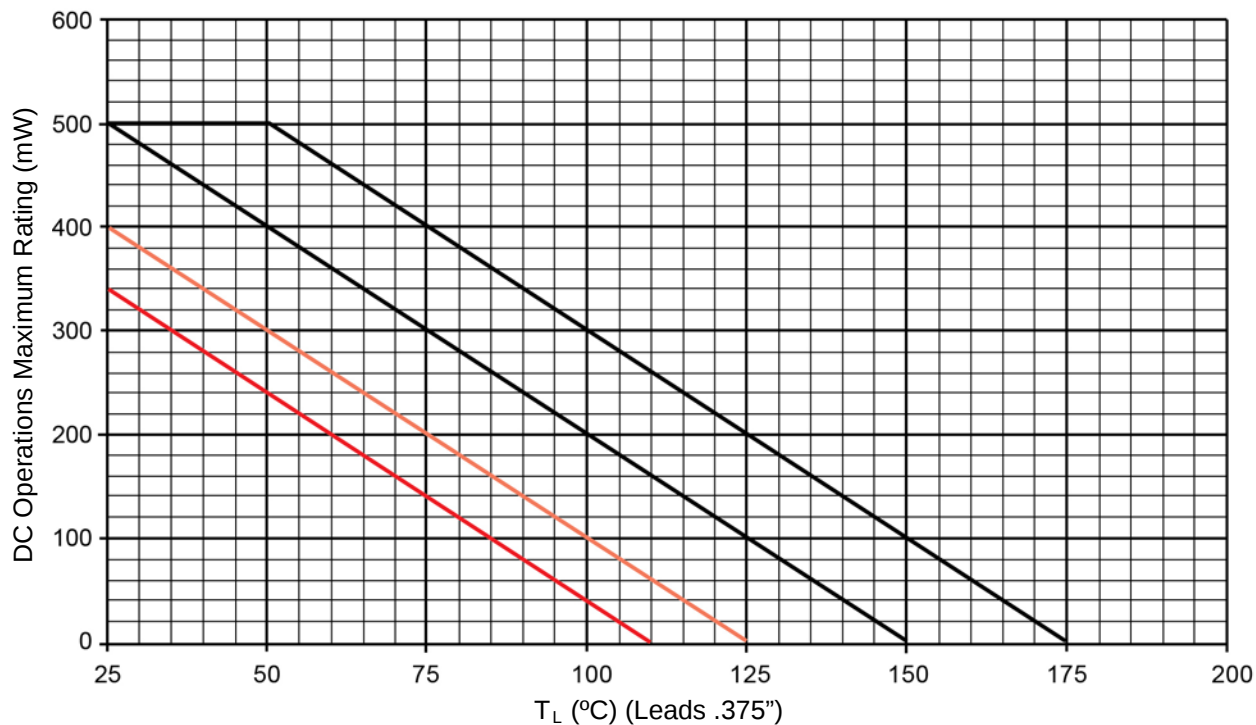
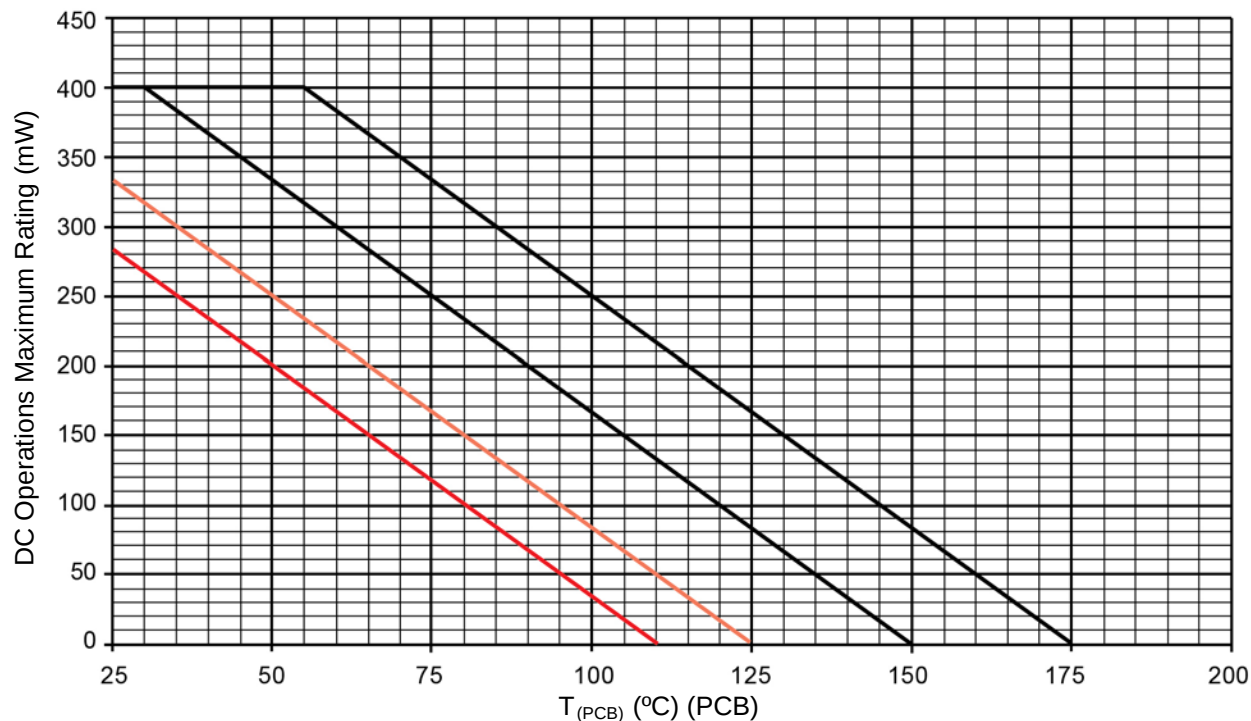
| Symbol                | Definition                                                                                                                                                                                                                                      |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $I_R$                 | Reverse Current: The maximum reverse (leakage) current that will flow at the specified voltage and temperature.                                                                                                                                 |
| $I_Z, I_{ZT}, I_{ZK}$ | Regulator Current: The dc regulator current ( $I_Z$ ), at a specified test point ( $I_{ZT}$ ), near breakdown knee ( $I_{ZK}$ ).                                                                                                                |
| $I_{ZM}$              | Maximum Regulator (Zener) Current: The maximum rated dc current for the specified power rating.                                                                                                                                                 |
| $I_{ZSM}$             | Maximum Zener Surge Current: The non-repetitive peak value of Zener surge current at a specified wave form.                                                                                                                                     |
| $V_F$                 | Maximum Forward Voltage: The maximum forward voltage the device will exhibit at a specified current.                                                                                                                                            |
| $V_R$                 | Reverse Voltage: The reverse voltage dc value, no alternating component.                                                                                                                                                                        |
| $V_Z$                 | Zener Voltage: The Zener voltage the device will exhibit at a specified current ( $I_Z$ ) in its breakdown region.                                                                                                                              |
| $Z_{ZT}$ or $Z_{ZK}$  | Dynamic Impedance: The small signal impedance of the diode when biased to operate in its breakdown region at a specified rms current modulation (typically 10% of $I_{ZT}$ or $I_{ZK}$ ) and superimposed on $I_{ZT}$ or $I_{ZK}$ respectively. |

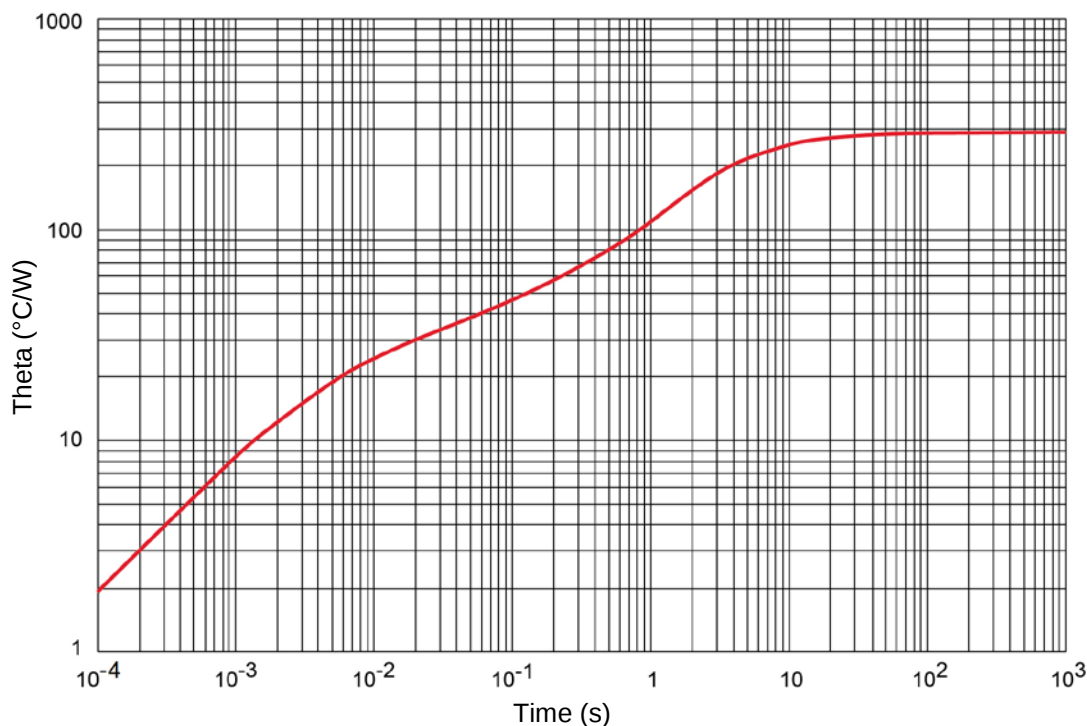
**ELECTRICAL CHARACTERISTICS @ 25 °C**

| JEDEC<br>TYPE NO.<br>(NOTE 1) | NOMINAL<br>ZENER<br>VOLTAGE<br>$V_Z @ I_{ZT}$<br>(NOTE 2) | MAXIMUM<br>ZENER<br>IMPEDANCE<br>$Z_{ZT} @ I_{ZT}$<br>(NOTE 3) | MAXIMUM<br>REVERSE<br>VOLTAGE<br>$V_R$ | MAXIMUM REVERSE<br>CURRENT<br>$I_R @ V_R$ |           | MAXIMUM<br>ZENER<br>CURRENT<br>$I_{ZM}$<br>(NOTE 4) | TEMPERATURE<br>COEFFICIENT<br>OF ZENER<br>VOLTAGE<br>$\alpha_{VZ}$ |
|-------------------------------|-----------------------------------------------------------|----------------------------------------------------------------|----------------------------------------|-------------------------------------------|-----------|-----------------------------------------------------|--------------------------------------------------------------------|
|                               |                                                           |                                                                |                                        | @ 25 °C                                   | @ +150 °C |                                                     |                                                                    |
|                               |                                                           |                                                                |                                        | $\mu A$                                   | $\mu A$   |                                                     |                                                                    |
| 1N4370A-1                     | 2.4                                                       | 30                                                             | 1.0                                    | 100                                       | 200       | 155                                                 | -0.085                                                             |
| 1N4371A-1                     | 2.7                                                       | 30                                                             | 1.0                                    | 60                                        | 150       | 140                                                 | -0.080                                                             |
| 1N4372A-1                     | 3.0                                                       | 29                                                             | 1.0                                    | 30                                        | 100       | 125                                                 | -0.075                                                             |
| 1N746A-1                      | 3.3                                                       | 24                                                             | 1.0                                    | 5                                         | 30        | 120                                                 | -0.070                                                             |
| 1N747A-1                      | 3.6                                                       | 22                                                             | 1.0                                    | 3                                         | 30        | 110                                                 | -0.065                                                             |
| 1N748A-1                      | 3.9                                                       | 20                                                             | 1.0                                    | 2                                         | 30        | 100                                                 | -0.060                                                             |
| 1N749A-1                      | 4.3                                                       | 18                                                             | 1.0                                    | 2                                         | 50        | 90                                                  | -0.055 / +.020                                                     |
| 1N750A-1                      | 4.7                                                       | 15                                                             | 1.5                                    | 5                                         | 50        | 85                                                  | -0.043 / +.025                                                     |
| 1N751A-1                      | 5.1                                                       | 14                                                             | 2.0                                    | 5                                         | 50        | 75                                                  | -0.030 / +.030                                                     |
| 1N752A-1                      | 5.6                                                       | 8                                                              | 2.5                                    | 5                                         | 50        | 70                                                  | -0.028 / +.036                                                     |
| 1N753A-1                      | 6.2                                                       | 3                                                              | 3.5                                    | 5                                         | 50        | 65                                                  | +0.045                                                             |
| 1N754A-1                      | 6.8                                                       | 3                                                              | 4.0                                    | 2                                         | 50        | 60                                                  | +0.050                                                             |
| 1N755A-1                      | 7.5                                                       | 4                                                              | 5.0                                    | 2                                         | 50        | 55                                                  | +0.058                                                             |
| 1N756A-1                      | 8.2                                                       | 5                                                              | 6.0                                    | 1                                         | 50        | 50                                                  | +0.062                                                             |
| 1N757A-1                      | 9.1                                                       | 6                                                              | 7.0                                    | 1                                         | 50        | 45                                                  | +0.068                                                             |
| 1N758A-1                      | 10.0                                                      | 7                                                              | 8.0                                    | 1                                         | 50        | 40                                                  | +0.076                                                             |
| 1N759A-1                      | 12.0                                                      | 10                                                             | 9.0                                    | 1                                         | 50        | 35                                                  | +0.080                                                             |

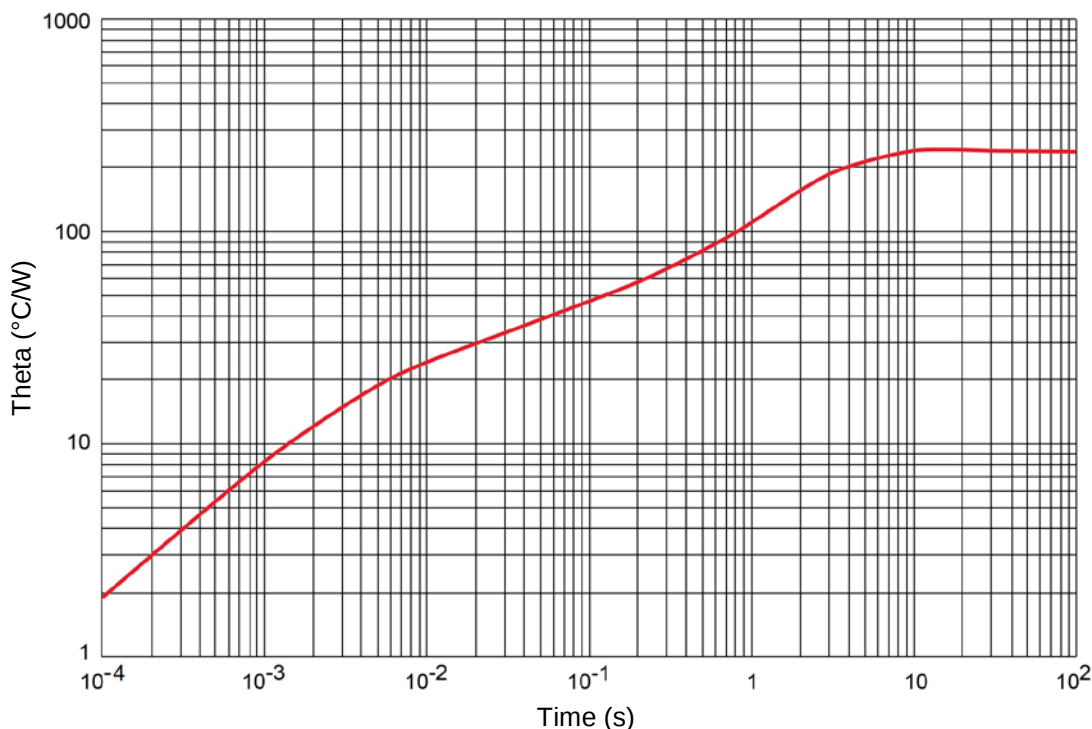
**NOTES:**

1. The JEDEC type numbers shown (A suffix) have a  $\pm 5\%$  tolerance on nominal Zener voltage.
2. Voltage measurements to be performed 20 seconds after application of dc test current.
3. Zener impedance derived by superimposing on  $I_{ZT}$ , a 60 cps, rms current equal to 10%  $I_{ZT}$  (20 mA). See [MicroNote 202](#) for typical Zener Impedance variation with different operating currents.
4. Allowance has been made for the increase in  $V_Z$  due to  $Z_Z$  and for the increase in junction temperature as the unit approaches thermal equilibrium at the power dissipation of 400 mW.

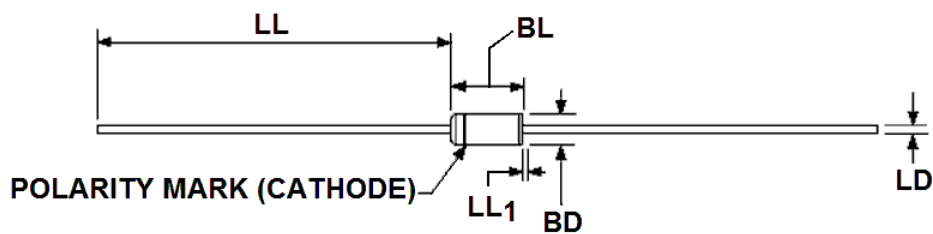
**GRAPHS**

**FIGURE 1**
Temperature-Power Derating Curve

**FIGURE 2**
Temperature-Power Derating Curve

**GRAPHS (continued)**


**FIGURE 3**  
Thermal Impedance PCB mount



**FIGURE 4**  
Thermal Impedance  
( $T_L = 25^\circ\text{C}$  at 0.375 inch (9.53 mm) from body.)

**PACKAGE DIMENSIONS**


| Ltr             | Dimensions |       |             |       | Notes |
|-----------------|------------|-------|-------------|-------|-------|
|                 | Inch       |       | Millimeters |       |       |
|                 | Min        | Max   | Min         | Max   |       |
| BD              | 0.055      | 0.090 | 1.40        | 2.29  | 3     |
| BL              | 0.120      | 0.200 | 3.05        | 5.08  | 4     |
| LD              | 0.018      | 0.023 | 0.46        | 0.58  |       |
| LL              | 1.000      | 1.500 | 25.40       | 38.10 |       |
| LL <sub>1</sub> | -          | 0.050 | -           | 1.27  | 5     |

**NOTES:**

1. Dimensions are in inches.
2. Millimeters are given for information only.
3. Dimension BD shall be measured at the largest diameter.
4. The BL dimension shall include the entire body including slugs.
5. Dimension LU shall include the sections of the lead over which the diameter is uncontrolled. This uncontrolled area is defined as the zone between the edge of the diode body and extending 0.050 inch (1.27 mm) onto the leads.
6. In accordance with ASME Y14.5M, diameters are equivalent to  $\Phi$ x symbology.