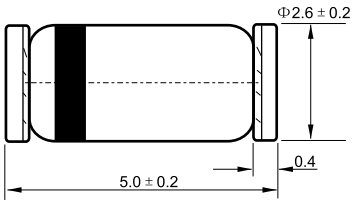
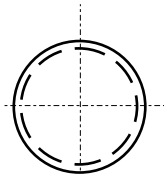
# DL4727A-DL4761A

Zener Diode

RoHS COMPLIANT

**MELF**



**Dimensions in inches and (millimeters)**

## Features

1. High reliability
2. Very sharp reverse characteristic
3. Low reverse current level
4. $V_Z$-tolerance ±5%

## Applications

Voltage stabilization

## Absolute Maximum Ratings

$T_j$=25℃

| Parameter | Test Conditions | Type | Symbol | Value | Unit |
|---|---|---|---|---|---|
| Power dissipation | $T_{amb}$≤50℃ | | $P_V$ | 1 | W |
| Z-current | | | $I_Z$ | $P_V/V_Z$ | mA |
| Junction temperature | | | $T_j$ | 200 | ℃ |
| Storage temperature range | | | $T_{stg}$ | -65~+175 | ℃ |

## Maximum Thermal Resistance

$T_j$=25℃

| Parameter | Test Conditions | Symbol | Value | Unit |
|---|---|---|---|---|
| Junction ambient | l=9.5mm(3/8") $T_L$=constant | $R_{thJA}$ | 100 | K/W |

## Electrical Characteristics

$T_j$=25℃

| Parameter | Test Conditions | Type | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Forward voltage | $I_F$=200mA | | $V_F$ | | | 1.2 | V |

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| Type | $V_{Znom}$ [1] | $I_{ZT}$ for $r_{zjT}$ | | $r_{zjK}$ at $I_{ZK}$ | | $I_R$ at $V_R$ | |
|---|---|---|---|---|---|---|---|
| | V | mA | Ω | Ω | mA | μA | V |
| DL4727A | 3.0 | 83 | <10 | <400 | 1 | <100 | 1 |
| DL4728A | 3.3 | 76 | <10 | <400 | 1 | <100 | 1 |
| DL4729A | 3.6 | 69 | <10 | <400 | 1 | <100 | 1 |
| DL4730A | 3.9 | 64 | <9 | <400 | 1 | <50 | 1 |
| DL4731A | 4.3 | 58 | <9 | <400 | 1 | <10 | 1 |
| DL4732A | 4.7 | 53 | <8 | <500 | 1 | <10 | 1 |
| DL4733A | 5.1 | 49 | <7 | <550 | 1 | <10 | 1 |
| DL4734A | 5.6 | 45 | <5 | <600 | 1 | <10 | 2 |
| DL4735A | 6.2 | 41 | <2 | <700 | 1 | <10 | 3 |
| DL4736A | 6.8 | 37 | <3.5 | <700 | 1 | <10 | 4 |
| DL4737A | 7.5 | 34 | <4.0 | <700 | 0. 5 | <10 | 5 |
| DL4738A | 8.2 | 31 | <4.5 | <700 | 0. 5 | <10 | 6 |
| DL4739A | 9.1 | 28 | <5.0 | <700 | 0. 5 | <10 | 7 |
| DL4740A | 10 | 25 | <7 | <700 | 0.25 | <10 | 7.6 |
| DL4741A | 11 | 23 | <8 | <700 | 0.25 | <5 | 8.4 |
| DL4742A | 12 | 21 | <9 | <700 | 0.25 | <5 | 9.1 |
| DL4743A | 13 | 19 | <10 | <700 | 0.25 | <5 | 9.9 |
| DL4744A | 15 | 17 | <14 | <700 | 0.25 | <5 | 11.4 |
| DL4745A | 16 | 15.5 | <16 | <700 | 0.25 | <5 | 12.2 |
| DL4746A | 18 | 14 | <20 | <750 | 0.25 | <5 | 13.7 |
| DL4747A | 20 | 12.5 | <22 | <750 | 0.25 | <5 | 15.2 |
| DL4748A | 22 | 11.5 | <23 | <750 | 0.25 | <5 | 16.7 |
| DL4749A | 24 | 10.5 | <25 | <750 | 0.25 | <5 | 18.2 |
| DL4750A | 27 | 9.5 | <35 | <750 | 0.25 | <5 | 20.6 |
| DL4751A | 30 | 8.5 | <40 | <1000 | 0.25 | <5 | 22.8 |
| DL4752A | 33 | 7.5 | <45 | <1000 | 0.25 | <5 | 25.1 |
| DL4753A | 36 | 7.0 | <50 | <1000 | 0.25 | <5 | 27.4 |
| DL4754A | 39 | 6.5 | <60 | <1000 | 0.25 | <5 | 29.7 |
| DL4755A | 43 | 6.0 | <70 | <1500 | 0.25 | <5 | 32.7 |
| DL4756A | 47 | 5.5 | <80 | <1500 | 0.25 | <5 | 35.8 |
| DL4757A | 51 | 5.0 | <95 | <1500 | 0.25 | <5 | 38.8 |
| DL4758A | 56 | 4.5 | <110 | <2000 | 0.25 | <5 | 42.6 |
| DL4759A | 62 | 4.0 | <125 | <2000 | 0.25 | <5 | 47.1 |
| DL4760A | 68 | 3.7 | <150 | <2000 | 0.25 | <5 | 51.7 |
| DL4761A | 75 | 3.3 | <175 | <2000 | 0.25 | <5 | 56 |

1) Based on DC-measurement at thermal equilibrium while maintaining the lead temperature($T_L$)at 30℃, 9.5mm(3/8”) from the diode body.

## Characteristics ($T_j$=25℃ unless otherwise specified)

| Symbol | Parameter |
|---|---|
| Vz | Reverse zener voltage @ $I_{ZT}$ |
| $I_{ZT}$ | Reverse current |
| $Z_{ZT}$ | Maximum zener impedance @ $I_{ZT}$ |
| $I_{ZK}$ | Reverse current |
| $Z_{ZK}$ | Maximum zener impedance @ $I_{ZK}$ |
| $I_R$ | Reverse leakage current @ $V_R$ |
| $V_R$ | Breakdown voltage |
| $I_F$ | Forward current |
| $V_F$ | Forward voltage @ $I_F$ |

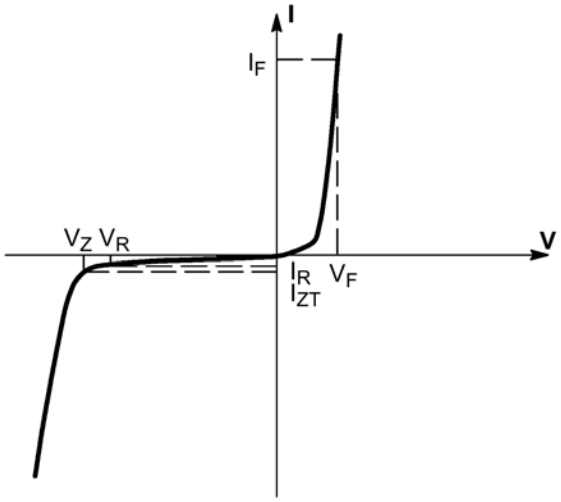


**Figure 1. Zener voltage regulator**

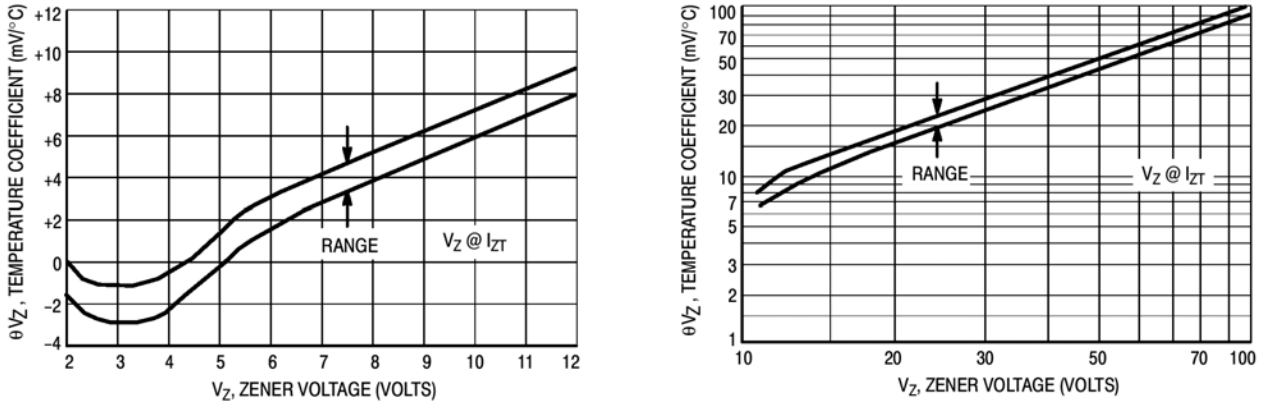


**Figure 2. Temperature coefficients**

(-55℃ to +150℃ temperature range; 90% of the units are in the ranges indicated)

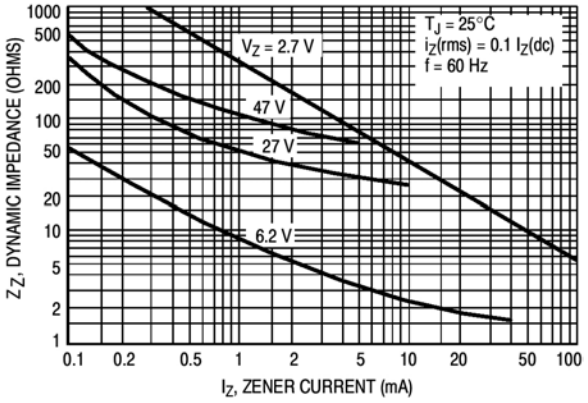


**Figure 3. Effect of zener current on zener impedance**

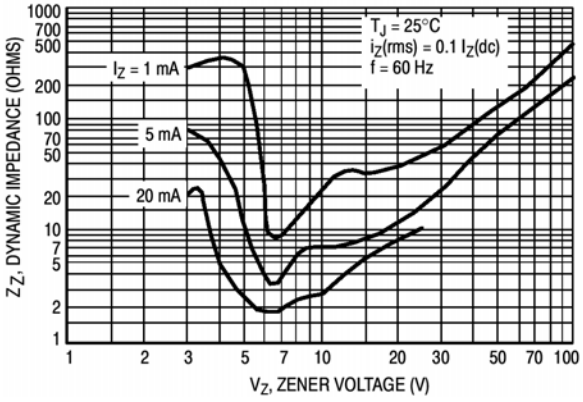


**Figure 4. Effect of zener voltage on zener impedance**