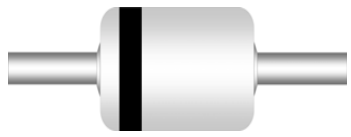
**Small Signal Product**

# 1W DO-41 Zener Volatge Regulators

## FEATURES

- Zener voltage range 3.3 to 56Volts
- DO-41 package (JEDEC)
- Through-hole device type mounting
- Hermetically sealed glass
- Compression bonded construction
- All external surfaces are corrosion resistant and terminals are readily solderable
- Solder hot dip tin(Sn) lead finish
- Pb free and RoHS compliant



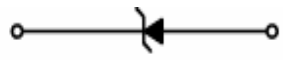
Pb-Free

**DO-41**

RoHS COMPLIANT

## MECHANICAL DATA

- Lead: Pure tin plated, lead free, solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode
- High temperature soldering guaranteed: ' 260$^{o}$C/10 s
- Weight: 0.270~0.290 grams
- Marking code: 1N47XXG for ± 5% Vz



Cathode Anode

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS** ($T_A$=25℃ unless otherwise noted)

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|---|---|---|
| Power Dissipation | $P_D$ | 1 | W |
| Thermal Resistance Junction to Lead | $R_{jl}$ | 53.5 | $^{o}$C/W |
| Thermal Resistance Junction to Ambient | $R_{ja}$ | 100 | $^{o}$C/W |
| OperatingTemperature Range | $T_{OPR}$ | - 65 to + 200 | $^{o}$C |
| Storage Temperature Range | $T_{STG}$ | - 65 to + 200 | $^{o}$C |

Note: These ratings are limiting values above which the serviceability of the diode may be impaired

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**ELECTRICAL CHARACTERISTICS** (Ratings at $T_A$=25°C ambient temperature unless otherwise specified)

$V_F$ Forward Voltage = 1.2 V Maximum @ $I_F$ = 200 mA for all types

| Device Type | $V_Z$ @ $I_{ZT}$ (V) Typ. | $I_{ZT}$ (mA) | $Z_{ZT}$ @ $O_{ZK}$ (Ω) Max. | $I_{ZK}$ (mA) | $Z_{ZK}$ @ $I_{ZK}$ (Ω) Max. | $I_R$ @ $V_R$ (μA) Max. | $V_R$ (V) |
|---|---|---|---|---|---|---|---|
| 1N4728G | 3.3 | 76 | 10 | 1 | 400 | 100 | 1 |
| 1N4729G | 3.6 | 69 | 10 | 1 | 400 | 100 | 1 |
| 1N4730G | 3.9 | 64 | 9 | 1 | 400 | 50 | 1 |
| 1N4731G | 4.3 | 58 | 9 | 1 | 400 | 10 | 1 |
| 1N4732G | 4.7 | 53 | 8 | 1 | 500 | 10 | 1 |
| 1N4733G | 5.1 | 49 | 7 | 1 | 550 | 10 | 1 |
| 1N4734G | 5.6 | 45 | 5 | 1 | 600 | 10 | 2 |
| 1N4735G | 6.2 | 41 | 2 | 1 | 700 | 10 | 3 |
| 1N4736G | 6.8 | 37 | 3.5 | 1 | 700 | 10 | 4 |
| 1N4737G | 7.5 | 34 | 4 | 0.5 | 700 | 10 | 5 |
| 1N4738G | 8.2 | 31 | 4.5 | 0.5 | 700 | 10 | 6 |
| 1N4739G | 9.1 | 28 | 5 | 0.5 | 700 | 10 | 7 |
| 1N4740G | 10 | 25 | 7 | 0.25 | 700 | 10 | 7.6 |
| 1N4741G | 11 | 23 | 8 | 0.25 | 700 | 5 | 8.4 |
| 1N4742G | 12 | 21 | 9 | 0.25 | 700 | 5 | 9.1 |
| 1N4743G | 13 | 19 | 10 | 0.25 | 700 | 5 | 9.9 |
| 1N4744G | 15 | 17 | 14 | 0.25 | 700 | 5 | 11.4 |
| 1N4745G | 16 | 15.5 | 16 | 0.25 | 700 | 5 | 12.2 |
| 1N4746G | 18 | 14 | 20 | 0.25 | 700 | 5 | 13.7 |
| 1N4747G | 20 | 12.5 | 22 | 0.25 | 750 | 5 | 15.2 |
| 1N4748G | 22 | 11.5 | 23 | 0.25 | 750 | 5 | 16.7 |
| 1N4749G | 24 | 10.5 | 25 | 0.25 | 750 | 5 | 18.2 |
| 1N4750G | 27 | 9.5 | 35 | 0.25 | 750 | 5 | 20.6 |
| 1N4751G | 30 | 8.5 | 40 | 0.25 | 1000 | 5 | 22.8 |
| 1N4752G | 33 | 7.5 | 45 | 0.25 | 1000 | 5 | 25.1 |
| 1N4753G | 36 | 7 | 50 | 0.25 | 1000 | 5 | 27.4 |
| 1N4754G | 39 | 6.5 | 60 | 0.25 | 1000 | 5 | 29.7 |
| 1N4755G | 43 | 6 | 70 | 0.25 | 1500 | 5 | 32.7 |
| 1N4756G | 47 | 5.5 | 80 | 0.25 | 1500 | 5 | 35.8 |
| 1N4757G | 51 | 5 | 95 | 0.25 | 1500 | 5 | 38.8 |
| 1N4758G | 56 | 4.5 | 110 | 0.25 | 2000 | 5 | 42.6 |

Notes : 1. TOLERANCE AND TYPE NUMBER DESIGNATION ($V_Z$)

The type numbers listed have a standard tolerance on the nmial zener voltage of ±5%.

2. SPECIAL AVAILABLE INCLUDE

Nomial zener voltages shown and tighter voltage, for detailed information on price, availability and delivery, contact your nearest Taiwan Semiconductor representative.

3. ZENER VOLTAGE ($V_Z$) MEASUREMENT

The zener voltage ($V_Z$) is tested under pulse condition. The measured $V_Z$ is guaranteed to be within specification with device junction in thermal equilibrium.

4. ZENER IMPEDANCE ($Z_Z$) DERIVATION

The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an RMS value equal to 10% of the dc zener current($I_{ZT}$ or $I_{ZK}$) is superimposed to $I_{ZT}$ or $I_{ZK}$.

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| ORDERING INFORMATION | | | | |
|---|---|---|---|---|
| **PART NO.** | **PACKING CODE** | **GREEN COMPOUND CODE** | **PACKAGE** | **PACKING** |
| 1N47xxG (Note1,2) | R0 | G | DO-41 | 5K / 14" Reel |
| | A0 | G | DO-41 | 3K / BOX (Ammo) |

Note 1: "xx" is Device Code from "28" through "58"

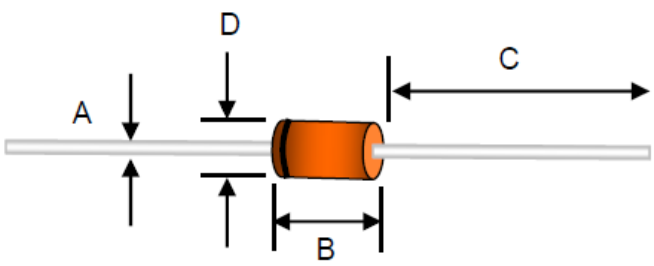
Note 2: Whole series with green compound.

| EXAMPLE | | | | |
|---|---|---|---|---|
| **PREFERRED PART NO.** | **PART NO.** | **PACKING CODE** | **PACKING CODE SUFFIX** | **DESCRIPTION** |
| 1N4728G R0G | 1N4728G | R0 | G | Green compound |

## Small Signal Product

### PACKAGE OUTLINE DIMENSIONS

**DO-41**




| DIM. | Unit (mm) | | Unit (inch) | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 0.50 | 0.90 | 0.020 | 0.035 |
| B | 3.50 | 5.20 | 0.138 | 0.205 |
| C | 22.00 | -- | 0.866 | -- |
| D | 1.80 | 2.80 | 0.071 | 0.110 |

### MARKING DIAGRAM

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