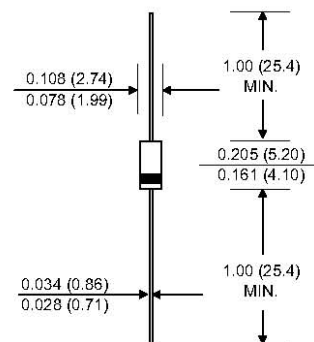


Silicon Planar Power Zener Diodes

1N4728AE...Z1200A

for use in stabilizing and clipping circuits with high power rating.

DO - 41



Dimensions in inches and (millimeters)

Mechanical Data

- Case: Molded plastic, DO-41
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads solderable per MIL-STD-202 method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting position: Any

Absolute Maximum Ratings (T_a = 25 °C)

| Parameter | Symbol | Value | Unit |
|---------------------------|------------------|-----------------|------|
| Power Dissipation | P _{tot} | 1 ¹⁾ | W |
| Junction Temperature | T _j | 175 | °C |
| Storage Temperature Range | T _{stg} | - 55 to + 175 | °C |

¹⁾ Valid provided that leads at a distance of 10 mm from case are kept at ambient temperature.

Characteristics at T_a = 25 °C

| Parameter | Symbol | Max. | Unit |
|--|------------------|-------------------|------|
| Thermal Resistance Junction to Ambient Air | R _{thA} | 170 ¹⁾ | K/W |
| Forward Voltage at I _F = 200 mA | V _F | 1.2 | V |

¹⁾ Valid provided that leads at a distance of 10 mm from case are kept at ambient temperature.

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 Characteristics at $T_a = 25\text{ }^\circ\text{C}$

| Type | Zener Voltage Range | | | Dynamic Resistance | | | Reverse Current | | Maximum Surge Current ¹⁾ | Maximum Regulator Current |
|----------|---------------------|---------------|-------------|--------------------|------------------|-------------|-----------------|----------|-------------------------------------|---------------------------|
| | V_{Znom} | V_{ZT} | at I_{ZT} | Z_{ZT} | Z_{ZK} | at I_{ZK} | I_R | at V_R | | |
| | (V) | (V) | (mA) | Max.(Ω) | Max.(Ω) | (mA) | Max.(μ A) | (V) | I_{ZSM} (mA) | I_{ZM} (mA) |
| 1N4728AE | 3.3 | 3.13...3.47 | 76 | 10 | 400 | 1 | 100 | 1 | 1380 | 276 |
| 1N4729AE | 3.6 | 3.42...3.78 | 69 | 10 | 400 | 1 | 100 | 1 | 1260 | 252 |
| 1N4730AE | 3.9 | 3.7...4.1 | 64 | 9 | 400 | 1 | 50 | 1 | 1190 | 234 |
| 1N4731AE | 4.3 | 4.08...4.52 | 58 | 9 | 400 | 1 | 10 | 1 | 1070 | 217 |
| 1N4732AE | 4.7 | 4.46...4.94 | 53 | 8 | 500 | 1 | 10 | 1 | 970 | 193 |
| 1N4733AE | 5.1 | 4.84...5.36 | 49 | 7 | 550 | 1 | 10 | 1 | 890 | 178 |
| 1N4734AE | 5.6 | 5.32...5.88 | 45 | 5 | 600 | 1 | 10 | 2 | 810 | 162 |
| 1N4735AE | 6.2 | 5.89...6.51 | 41 | 2 | 700 | 1 | 10 | 3 | 730 | 146 |
| 1N4736AE | 6.8 | 6.46...7.14 | 37 | 3.5 | 700 | 1 | 10 | 4 | 660 | 133 |
| 1N4737AE | 7.5 | 7.12...7.88 | 34 | 4 | 700 | 0.5 | 10 | 5 | 605 | 121 |
| 1N4738AE | 8.2 | 7.79...8.61 | 31 | 4.5 | 700 | 0.5 | 10 | 6 | 550 | 110 |
| 1N4739AE | 9.1 | 8.64...9.56 | 28 | 5 | 700 | 0.5 | 10 | 7 | 500 | 100 |
| 1N4740AE | 10 | 9.5...10.5 | 25 | 7 | 700 | 0.25 | 10 | 7.6 | 454 | 91 |
| 1N4741AE | 11 | 10.45...11.55 | 23 | 8 | 700 | 0.25 | 5 | 8.4 | 414 | 83 |
| 1N4742AE | 12 | 11.4...12.6 | 21 | 9 | 700 | 0.25 | 5 | 9.1 | 380 | 76 |
| 1N4743AE | 13 | 12.35...13.65 | 19 | 10 | 700 | 0.25 | 5 | 9.9 | 344 | 69 |
| 1N4744AE | 15 | 14.25...15.75 | 17 | 14 | 700 | 0.25 | 5 | 11.4 | 304 | 61 |
| 1N4745AE | 16 | 15.2...16.8 | 15.5 | 16 | 700 | 0.25 | 5 | 12.2 | 285 | 57 |
| 1N4746AE | 18 | 17.1...18.9 | 14 | 20 | 750 | 0.25 | 5 | 13.7 | 250 | 50 |
| 1N4747AE | 20 | 19...21 | 12.5 | 22 | 750 | 0.25 | 5 | 15.2 | 225 | 45 |
| 1N4748AE | 22 | 20.9...23.1 | 11.5 | 23 | 750 | 0.25 | 5 | 16.7 | 205 | 41 |
| 1N4749AE | 24 | 22.8...25.2 | 10.5 | 25 | 750 | 0.25 | 5 | 18.2 | 190 | 38 |
| 1N4750AE | 27 | 25.65...28.35 | 9.5 | 35 | 750 | 0.25 | 5 | 20.6 | 170 | 34 |
| 1N4751AE | 30 | 28.5...31.5 | 8.5 | 40 | 1000 | 0.25 | 5 | 22.8 | 150 | 30 |
| 1N4752AE | 33 | 31.35...34.65 | 7.5 | 45 | 1000 | 0.25 | 5 | 25.1 | 135 | 27 |
| 1N4753AE | 36 | 34.2...37.8 | 7 | 50 | 1000 | 0.25 | 5 | 27.4 | 125 | 25 |
| 1N4754AE | 39 | 37.05...40.95 | 6.5 | 60 | 1000 | 0.25 | 5 | 29.7 | 115 | 23 |
| 1N4755AE | 43 | 40.85...45.15 | 6 | 70 | 1500 | 0.25 | 5 | 32.7 | 110 | 22 |
| 1N4756AE | 47 | 44.65...49.35 | 5.5 | 80 | 1500 | 0.25 | 5 | 35.8 | 95 | 19 |
| 1N4757AE | 51 | 48.45...53.55 | 5 | 95 | 1500 | 0.25 | 5 | 38.8 | 90 | 18 |
| 1N4758AE | 56 | 53.2...58.8 | 4.5 | 110 | 2000 | 0.25 | 5 | 42.6 | 80 | 16 |
| 1N4759AE | 62 | 58.9...65.1 | 4 | 125 | 2000 | 0.25 | 5 | 47.1 | 70 | 14 |
| 1N4760AE | 68 | 64.6...71.4 | 3.7 | 150 | 2000 | 0.25 | 5 | 51.7 | 65 | 13 |
| 1N4761AE | 75 | 71.25...78.75 | 3.3 | 175 | 2000 | 0.25 | 5 | 56 | 60 | 12 |
| 1N4762AE | 82 | 77.9...86.1 | 3 | 200 | 3000 | 0.25 | 5 | 62.2 | 55 | 11 |
| 1N4763AE | 91 | 86.45...95.55 | 2.8 | 250 | 3000 | 0.25 | 5 | 69.2 | 50 | 10 |
| 1N4764AE | 100 | 95...105 | 2.5 | 350 | 3000 | 0.25 | 5 | 76 | 45 | 9 |
| Z1110A | 110 | 104.5...115.5 | 2.3 | 450 | 4000 | 0.25 | 5 | 83.6 | 40 | 8.6 |
| Z1120A | 120 | 114...126 | 2 | 550 | 4500 | 0.25 | 5 | 91.2 | 37 | 7.8 |
| Z1130A | 130 | 123.5...136.5 | 1.9 | 700 | 5000 | 0.25 | 5 | 98.8 | 34 | 7 |
| Z1150A | 150 | 142.5...157.5 | 1.7 | 1000 | 6000 | 0.25 | 5 | 114 | 30 | 6.4 |
| Z1160A | 160 | 152...168 | 1.6 | 1100 | 6500 | 0.25 | 5 | 121.6 | 28 | 5.8 |
| Z1180A | 180 | 171...189 | 1.4 | 1200 | 7000 | 0.25 | 5 | 136.8 | 25 | 5.2 |
| Z1200A | 200 | 190...210 | 1.2 | 1900 | 9990 | 0.25 | 5 | 152 | 22 | 4.7 |

¹⁾ The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on I_{ZT} per JEDEC method.