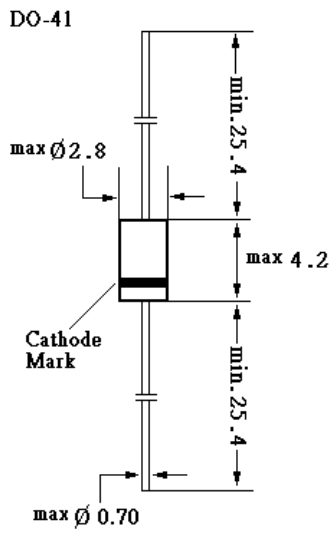
# POWER SKY (H.K.) LTD.

## IN4727A...IN4764A

### SILICON PLANAR POWER ZENER DIODES

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




Dimensions in mm

**Absolute Maximum Ratings (Ta = 25°C)**

| | Symbol | Value | Unit |
|---|---|---|---|
| Zener Current see Table "Characteristics" | | | |
| Power Dissipation at $T_{amb}$ = 25 °C | $P_{tot}$ | 1[1)] | W |
| Junction Temperature | $T_j$ | 200 | °C |
| Storage Temperature Range | $T_S$ | -65 to +200 | °C |
| [1)] Valid provided that leads at a distance of 8mm from case are kept at ambient temperature. | | | |

**Characteristics at $T_{amb}$ = 25°C**

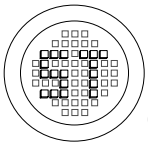
| | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Thermal Resistance Junction to Ambient Air | $R_{thA}$ | - | - | 170[(1)] | K/W |
| Forward Voltage at $I_F$ = 200mA | $V_F$ | - | - | 1.2 | V |
| [1)] Valid provided that leads at a distance of 8mm from case are kept at ambient temperature. | | | | | |

# POWER SKY (H.K.) LTD.

## 1N4727A...1N4764A

| Type | Zener Voltage Range[1] | | Maximum Zener Impedance[1] | | | Reverse Leakage Current | | Surge current at $T_A$ =25°C | Maximum regulator current[2] |
|---|---|---|---|---|---|---|---|---|---|
| | Vz | $I_{ZT}$ | $r_{ZJT}$ | $r_{ZJK}$ at $I_{ZK}$ | | $I_R$ at $V_R$ | | | |
| | V | mA | Ω | Ω | mA | uA | V | $I_R$ mA | $I_{ZM}$ mA |
| 1N4727A | 2.85…3.15 | 83 | 10 | 400 | 1 | 150 | 1 | 1375 | 275 |
| 1N4728A | 3.13…3.47 | 76 | 10 | 400 | 1 | 150 | 1 | 1375 | 275 |
| 1N4729A | 3.42…3.78 | 69 | 10 | 400 | 1 | 100 | 1 | 1260 | 252 |
| 1N4730A | 3.70…4.10 | 64 | 9 | 400 | 1 | 100 | 1 | 1190 | 234 |
| 1N4731A | 4.08…4.52 | 58 | 9 | 400 | 1 | 50 | 1 | 1070 | 217 |
| 1N4732A | 4.46…4.94 | 53 | 8 | 500 | 1 | 10 | 1 | 970 | 193 |
| 1N4733A | 4.84…5.36 | 49 | 7 | 550 | 1 | 10 | 1 | 890 | 178 |
| 1N4734A | 5.32…5.88 | 45 | 5 | 600 | 1 | 10 | 2 | 810 | 162 |
| 1N4735A | 5.89…6.51 | 41 | 2 | 700 | 1 | 10 | 3 | 730 | 146 |
| 1N4736A | 6.46…7.14 | 37 | 3.5 | 700 | 1 | 10 | 4 | 660 | 133 |
| 1N4737A | 7.12…7.88 | 34 | 4 | 700 | 0.5 | 10 | 5 | 605 | 121 |
| 1N4738A | 7.79…8.61 | 31 | 4.5 | 700 | 0.5 | 10 | 6 | 550 | 110 |
| 1N4739A | 8.64…9.56 | 28 | 5 | 700 | 0.5 | 10 | 7 | 500 | 100 |
| 1N4740A | 9.50…10.50 | 25 | 7 | 700 | 0.25 | 10 | 7.6 | 454 | 91 |
| 1N4741A | 10.45…11.55 | 23 | 8 | 700 | 0.25 | 5 | 8.4 | 414 | 83 |
| 1N4742A | 11.40…12.60 | 21 | 9 | 700 | 0.25 | 5 | 9.1 | 380 | 76 |
| 1N4743A | 12.35…13.65 | 19 | 10 | 700 | 0.25 | 5 | 9.9 | 344 | 69 |
| 1N4744A | 14.25…15.75 | 17 | 14 | 700 | 0.25 | 5 | 11.4 | 304 | 61 |
| 1N4745A | 15.20…16.80 | 15.5 | 16 | 700 | 0.25 | 5 | 12.2 | 285 | 57 |
| 1N4746A | 17.10…18.90 | 14 | 20 | 750 | 0.25 | 5 | 13.7 | 250 | 50 |
| 1N4747A | 19.00…21.00 | 12.5 | 22 | 750 | 0.25 | 5 | 15.2 | 225 | 45 |
| 1N4748A | 20.90…23.10 | 11.5 | 23 | 750 | 0.25 | 5 | 16.7 | 205 | 41 |
| 1N4749A | 22.80…25.20 | 10.5 | 25 | 750 | 0.25 | 5 | 18.2 | 190 | 38 |
| 1N4750A | 25.65…28.35 | 9.5 | 35 | 750 | 0.25 | 5 | 20.6 | 170 | 34 |
| 1N4751A | 28.50…31.50 | 8.5 | 40 | 1000 | 0.25 | 5 | 22.8 | 150 | 30 |
| 1N4752A | 31.35…34.65 | 7.5 | 45 | 1000 | 0.25 | 5 | 25.1 | 135 | 27 |
| 1N4753A | 34.20…37.80 | 7 | 50 | 1000 | 0.25 | 5 | 27.4 | 125 | 25 |
| 1N4754A | 37.05…40.95 | 6.5 | 60 | 1000 | 0.25 | 5 | 29.7 | 115 | 23 |
| 1N4755A | 40.85…45.15 | 6 | 70 | 1500 | 0.25 | 5 | 32.7 | 110 | 22 |
| 1N4756A | 44.65…49.35 | 5.5 | 80 | 1500 | 0.25 | 5 | 35.8 | 95 | 19 |
| 1N4757A | 48.45…53.55 | 5 | 95 | 1500 | 0.25 | 5 | 38.8 | 90 | 18 |
| 1N4758A | 53.20…58.80 | 4.5 | 110 | 2000 | 0.25 | 5 | 42.6 | 80 | 16 |
| 1N4759A | 58.90…65.10 | 4 | 125 | 2000 | 0.25 | 5 | 47.1 | 70 | 14 |
| 1N4760A | 64.60…71.40 | 3.7 | 150 | 2000 | 0.25 | 5 | 51.7 | 65 | 13 |
| 1N4761A | 71.25…78.75 | 3.3 | 175 | 2000 | 0.25 | 5 | 56 | 60 | 12 |
| 1N4762A | 77.90…86.10 | 3 | 200 | 3000 | 0.25 | 5 | 62.2 | 55 | 11 |
| 1N4763A | 86.45…95.55 | 2.8 | 250 | 3000 | 0.25 | 5 | 69.2 | 50 | 10 |
| 1N4764A | 95.00…105.00 | 2.5 | 350 | 3000 | 0.25 | 5 | 76 | 45 | 9 |

1) The Zener Impedance is derived from the 60 Hz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener Current ($I_{ZT}$ or $I_{ZK}$) is superimposed on $I_{ZT}$ or $I_{ZK}$. Zener Impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.
2) Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.
3) Measured under thermal equilibrium and DC test conditions.



**SEMTECH**

®

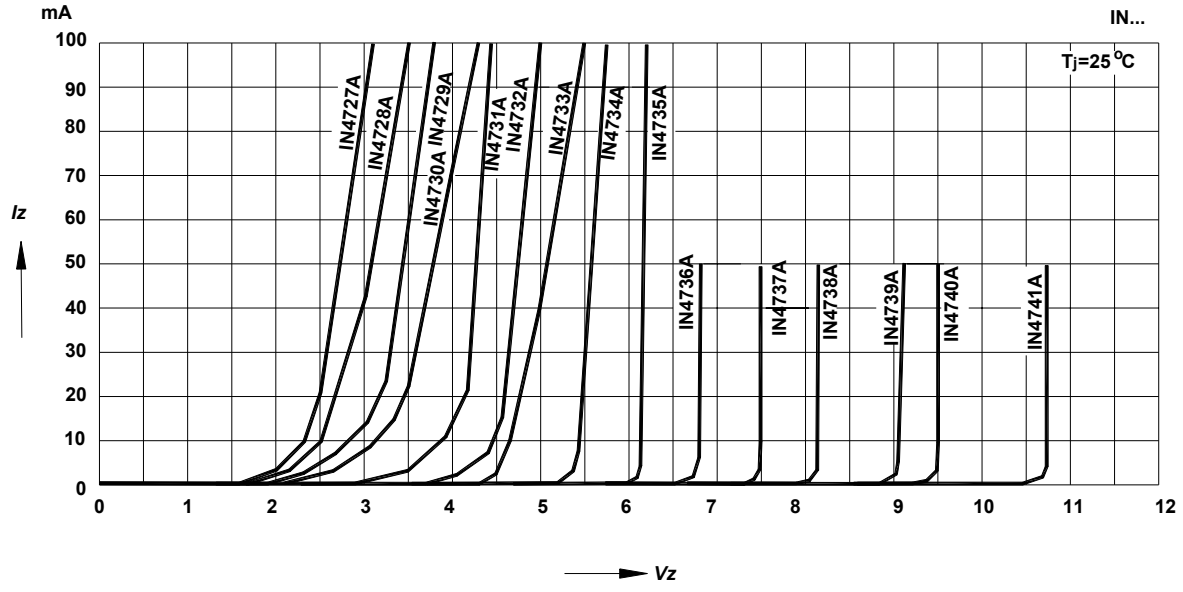
**Sales by Power Sky (HK) Ltd.**

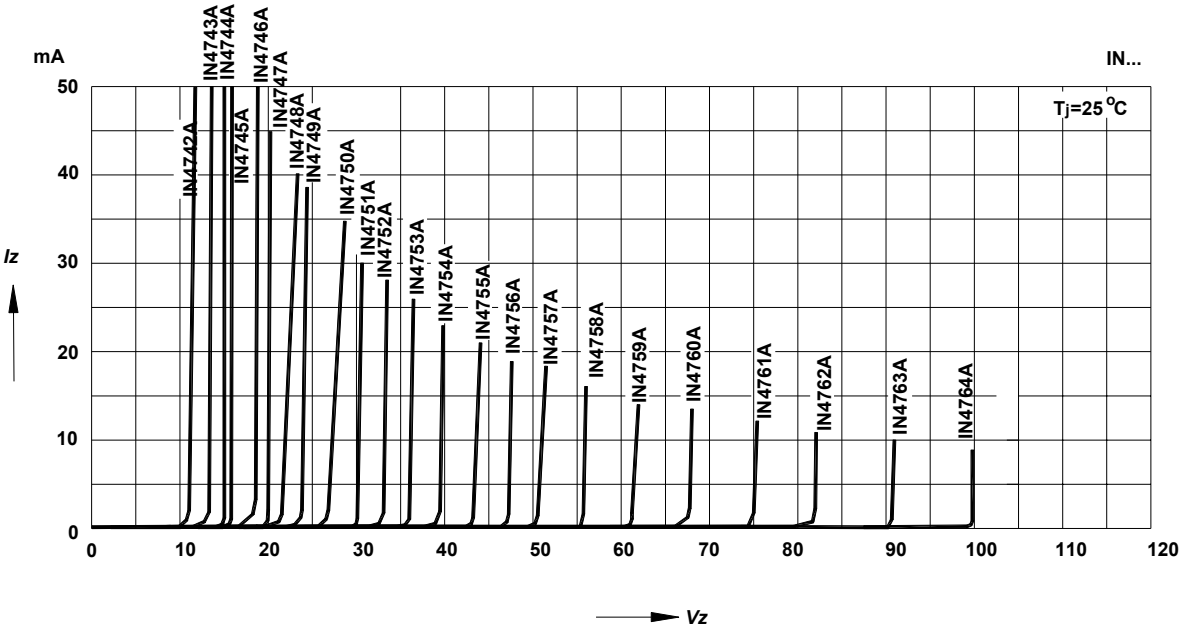
ISO 9001:2000
Certificate No. 5556-1996-AQ-RGC-RvA

*Dated :11/06/2004*

### Breakdowm characteristics

**Tj=constant(pulsed)**



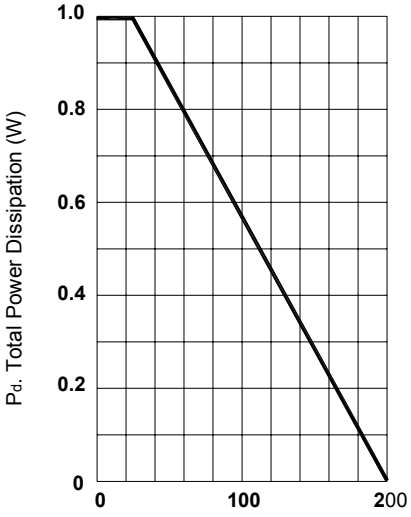



Fig. 1 Power Dissipation vs Ambient Temperature

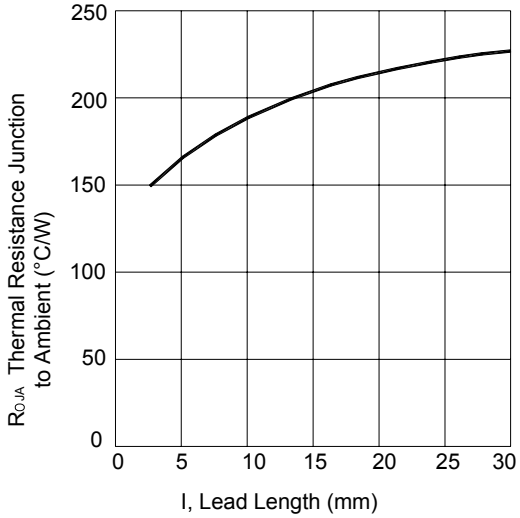



Fig. 2 Typical Thermal Resistance vs. Lead Length

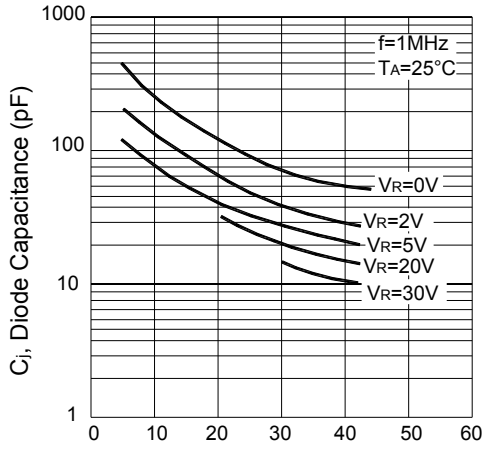



Fig. 3 Junction Capacitance vs Zener Voltage

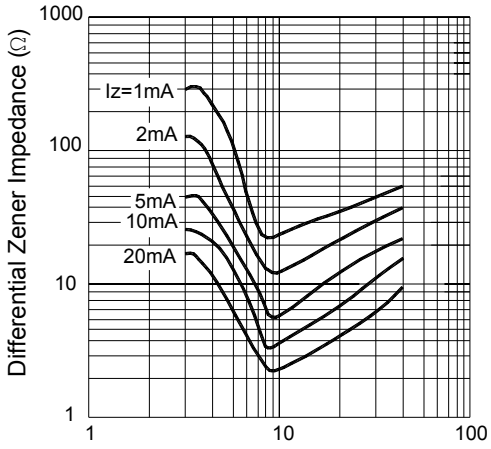



Fig. 4 Typical Zener Impedance vs. Zener Voltage