

HC Series SILICON PLANAR ZENER DIODE

Silicon Planar zener Diodes



Glass case JEDEC DO-35

Dimensions in mm

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

| | Symbol | Value | Unit |
|---|-----------|-------------------|------------------|
| Zener Current see Table "Characteristics" | | | |
| Power Dissipation at $T_{amb} = 25\text{ }^\circ\text{C}$ | P_{tot} | 500 ¹⁾ | mW |
| Junction Temperature | P_j | 175 | $^\circ\text{C}$ |
| Storage Temperature Range | T_s | -55 to + 175 | $^\circ\text{C}$ |

¹⁾ Valid provided that leads are kept at ambient temperature at distance of 8 mm from case.

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

| | Symbol | Min. | Typ. | Max. | Unit |
|---|-----------|------|------|-------------------|------|
| Thermal Resistance Junction to Ambient Air | R_{thA} | - | - | 0.3 ¹⁾ | K/mW |
| Forward Voltage at $I_F = 100\text{ mA}$ | V_F | - | - | 1 | V |

¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.



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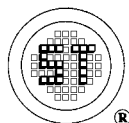
HC Series SILICON PLANAR ZENER DIODE

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

| TYPE | Zener Voltage | | | Dynamic Resistance | | Reverse Leakage Current (I_R at V_R) | |
|---------|---------------|---------|---------------|--------------------|---------------|--|-----------|
| | Min. (V) | Max (V) | I_{ZT} (mA) | Ohm at I_{ZT} | I_{ZT} (mA) | I_R (μA) Max. | V_R (V) |
| DO-35 | | | | | | | |
| 2.2 HC | 2.09 | 2.41 | 20 | 120 | 20 | 120 | 0.7 |
| 2.2 HCA | 2.12 | 2.30 | | | | | |
| 2.2 HCB | 2.22 | 2.41 | | | | | |
| 2.4 HC | 2.30 | 2.64 | 20 | 120 | 20 | 120 | 1 |
| 2.4 HCA | 2.33 | 2.52 | | | | | |
| 2.4 HCB | 2.43 | 2.63 | | | | | |
| 2.7 HC | 2.50 | 2.90 | 20 | 100 | 20 | 100 | 1 |
| 2.7 HCA | 2.54 | 2.75 | | | | | |
| 2.7 HCB | 2.69 | 2.91 | | | | | |
| 3.0 HC | 2.80 | 3.20 | 20 | 80 | 20 | 50 | 1 |
| 3.0 HCA | 2.85 | 3.07 | | | | | |
| 3.0 HCB | 3.01 | 3.22 | | | | | |
| 3.3 HC | 3.10 | 3.50 | 20 | 70 | 20 | 20 | 1 |
| 3.3 HCA | 3.16 | 3.38 | | | | | |
| 3.3 HCB | 3.32 | 3.53 | | | | | |
| 3.6 HC | 3.40 | 3.80 | 20 | 60 | 20 | 10 | 1 |
| 3.6 HCA | 3.47 | 3.68 | | | | | |
| 3.6 HCB | 3.62 | 3.83 | | | | | |
| 3.9 HC | 3.70 | 4.10 | 20 | 50 | 20 | 5 | 1 |
| 3.9 HCA | 3.77 | 3.98 | | | | | |
| 3.9 HCB | 3.92 | 4.14 | | | | | |
| 4.3 HC | 4.00 | 4.50 | 20 | 40 | 20 | 5 | 1 |
| 4.3 HCA | 4.05 | 4.26 | | | | | |
| 4.3 HCB | 4.20 | 4.40 | | | | | |
| 4.3 HCC | 4.34 | 4.53 | | | | | |
| 4.7 HC | 4.40 | 4.90 | 20 | 25 | 20 | 5 | 1 |
| 4.7 HCA | 4.47 | 4.65 | | | | | |
| 4.7 HCB | 4.59 | 4.77 | | | | | |
| 4.7 HCC | 4.71 | 4.91 | | | | | |
| 5.1 HC | 4.80 | 5.40 | 20 | 20 | 20 | 5 | 1.5 |
| 5.1 HCA | 4.85 | 5.03 | | | | | |
| 5.1 HCB | 4.97 | 5.18 | | | | | |
| 5.1 HCC | 5.12 | 5.35 | | | | | |
| 5.6 HC | 5.30 | 6.00 | 20 | 13 | 20 | 5 | 2.5 |
| 5.6 HCA | 5.29 | 5.52 | | | | | |
| 5.6 HCB | 5.46 | 5.70 | | | | | |
| 5.6 HCC | 5.64 | 5.88 | | | | | |
| 6.2 HC | 5.80 | 6.60 | 20 | 10 | 20 | 5 | 3 |
| 6.2 HCA | 5.81 | 6.06 | | | | | |
| 6.2 HCB | 5.99 | 6.24 | | | | | |
| 6.2 HCC | 6.16 | 6.40 | | | | | |
| 6.8 HC | 6.40 | 7.20 | 20 | 8 | 20 | 2 | 3.5 |
| 6.8 HCA | 6.32 | 6.59 | | | | | |
| 6.8 HCB | 6.52 | 6.79 | | | | | |
| 6.8 HCC | 6.70 | 6.97 | | | | | |

1) Tested with pulse $t_p = 40$ ms.

2) Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.



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HC Series SILICON PLANAR ZENER DIODE

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

| TYPE | Zener Voltage | | | Dynamic Resistance | | Reverse Leakage Current (I_R at V_R) | |
|---------|---------------|---------|---------------|--------------------|---------------|--|-----------|
| | Min. (V) | Max (V) | I_{ZT} (mV) | Ohm at I_{ZT} | I_{ZT} (mA) | I_R (uA) Max. | V_R (V) |
| DO-35 | | | | | | | |
| 7.5 HC | 7.00 | 7.90 | 20 | 8 | 20 | 0.5 | 4 |
| 7.5 HCA | 6.88 | 7.19 | | | | | |
| 7.5 HCB | 7.11 | 7.41 | | | | | |
| 7.5 HCC | 7.33 | 7.64 | | | | | |
| 8.2 HC | 7.70 | 8.70 | 20 | 8 | 20 | 0.5 | 5 |
| 8.2 HCA | 7.56 | 7.90 | | | | | |
| 8.2 HCB | 7.82 | 8.15 | | | | | |
| 8.2 HCC | 8.07 | 8.41 | | | | | |
| 9.1 HC | 8.50 | 9.60 | 20 | 8 | 20 | 0.5 | 6 |
| 9.1 HCA | 8.33 | 8.70 | | | | | |
| 9.1 HCB | 8.61 | 8.99 | | | | | |
| 9.1 HCC | 8.89 | 9.29 | | | | | |
| 10 HC | 9.40 | 10.90 | 20 | 8 | 20 | 0.2 | 7 |
| 10 HCA | 9.19 | 9.59 | | | | | |
| 10 HCB | 9.48 | 9.90 | | | | | |
| 10 HCC | 9.82 | 10.30 | | | | | |
| 11 HC | 10.40 | 11.60 | 10 | 10 | 10 | 0.2 | 8 |
| 11 HCA | 10.18 | 10.63 | | | | | |
| 11 HCB | 10.50 | 10.95 | | | | | |
| 11 HCC | 10.82 | 11.26 | | | | | |
| 12 HC | 11.40 | 12.60 | 10 | 12 | 10 | 0.2 | 9 |
| 12 HCA | 11.13 | 11.63 | | | | | |
| 12 HCB | 11.50 | 11.92 | | | | | |
| 12 HCC | 11.80 | 12.30 | | | | | |
| 13 HC | 12.40 | 14.10 | 10 | 14 | 10 | 0.2 | 10 |
| 13 HCA | 12.18 | 12.71 | | | | | |
| 13 HCB | 12.59 | 13.16 | | | | | |
| 13 HCC | 13.03 | 13.62 | | | | | |
| 15 HC | 13.80 | 15.60 | 10 | 16 | 10 | 0.2 | 11 |
| 15 HCA | 13.48 | 14.09 | | | | | |
| 15 HCB | 13.95 | 14.56 | | | | | |
| 15 HCC | 14.42 | 15.52 | | | | | |
| 16 HC | 15.30 | 17.10 | 10 | 18 | 10 | 0.2 | 12 |
| 16 HCA | 14.87 | 15.50 | | | | | |
| 16 HCB | 15.33 | 15.96 | | | | | |
| 16 HCC | 15.79 | 16.50 | | | | | |
| 18 HC | 16.80 | 19.10 | 10 | 23 | 10 | 0.2 | 13 |
| 18 HCA | 16.34 | 17.06 | | | | | |
| 18 HCB | 16.90 | 17.67 | | | | | |
| 18 HCC | 17.51 | 18.30 | | | | | |
| 20 HC | 18.80 | 21.60 | 10 | 28 | 10 | 0.2 | 15 |
| 20 HCA | 18.11 | 18.92 | | | | | |
| 20 HCB | 18.73 | 19.57 | | | | | |
| 20 HCC | 19.38 | 20.22 | | | | | |
| 20 HCD | 19.88 | 20.72 | | | | | |

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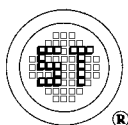
HC Series SILICON PLANAR ZENER DIODE

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

| TYPE | Zener Voltage | | | Dynamic Resistance | | Reverse Leakage Current (I_R at V_R) | |
|--------|---------------|---------|---------------|--------------------|---------------|--|-----------|
| | Min. (V) | Max (V) | I_{ZT} (mA) | Ohm at I_{ZT} | I_{ZT} (mA) | I_R (μA) Max. | V_R (V) |
| DO-35 | | | | | | | |
| 22 HC | 20.80 | 23.30 | 5 | 30 | 5 | 0.2 | 17 |
| 22 HCA | 20.23 | 21.08 | | | | | |
| 22 HCB | 20.76 | 21.65 | | | | | |
| 22 HCC | 21.22 | 22.09 | | | | | |
| 22 HCD | 21.68 | 22.61 | | | | | |
| 24 HC | 22.80 | 25.60 | 5 | 35 | 5 | 0.2 | 19 |
| 24 HCA | 22.26 | 23.12 | | | | | |
| 24 HCB | 22.75 | 23.73 | | | | | |
| 24 HCC | 23.29 | 24.27 | | | | | |
| 24 HCD | 23.81 | 24.81 | | | | | |
| 27 HC | 25.10 | 28.90 | 5 | 45 | 5 | 0.2 | 21 |
| 27 HCA | 24.26 | 25.52 | | | | | |
| 27 HCB | 24.97 | 26.26 | | | | | |
| 27 HCC | 25.63 | 26.95 | | | | | |
| 27 HCD | 26.29 | 27.64 | | | | | |
| 30 HC | 28.00 | 32.00 | 5 | 55 | 5 | 0.2 | 23 |
| 30 HCA | 26.99 | 28.39 | | | | | |
| 30 HCB | 27.70 | 29.13 | | | | | |
| 30 HCC | 28.36 | 29.82 | | | | | |
| 30 HCD | 29.02 | 30.51 | | | | | |
| 33 HC | 31.00 | 35.00 | 5 | 65 | 5 | 0.2 | 25 |
| 33 HCA | 29.68 | 31.22 | | | | | |
| 33 HCB | 30.32 | 31.88 | | | | | |
| 33 HCC | 30.90 | 32.50 | | | | | |
| 33 HCD | 31.49 | 33.11 | | | | | |

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