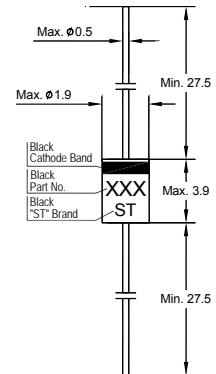


HC Series

Silicon Epitaxial Planar Zener Diodes



Glass Case DO-35
Dimensions in mm

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

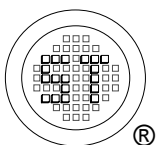
| Parameter | Symbol | Value | Unit |
|---------------------------|-----------|-------------------|------------------|
| Power Dissipation | P_{tot} | 500 ¹⁾ | mW |
| Junction Temperature | T_j | 175 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 65 to + 175 | $^\circ\text{C}$ |

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

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

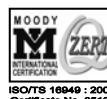
| Parameter | Symbol | Max. | Unit |
|---|-----------|-------------------|------|
| Thermal Resistance Junction to Ambient Air | R_{thA} | 0.3 ¹⁾ | K/mW |
| Forward Voltage at $I_F = 100\text{ mA}$ | V_F | 1 | V |

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



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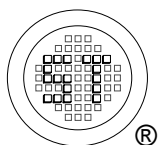
Dated : 18/07/2009

HC Series

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

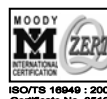
| Type | Zener Voltage ¹⁾ | | | Dynamic Resistance | | Reverse Leakage Current | |
|--------|-----------------------------|----------|-------------|--------------------|-------------|-------------------------|----------|
| | V_Z | | at I_{ZT} | Z_{ZT} | at I_{ZT} | I_R | at V_R |
| | Min. (V) | Max. (V) | (mA) | Max. (Ω) | (mA) | Max. (μA) | (V) |
| 2V2HC | 2.09 | 2.41 | 20 | 120 | 20 | 120 | 0.7 |
| 2V2HCA | 2.12 | 2.3 | 20 | 120 | 20 | 120 | 0.7 |
| 2V2HCB | 2.22 | 2.41 | 20 | 120 | 20 | 120 | 0.7 |
| 2V4HC | 2.3 | 2.64 | 20 | 120 | 20 | 120 | 1 |
| 2V4HCA | 2.33 | 2.52 | 20 | 120 | 20 | 120 | 1 |
| 2V4HCB | 2.43 | 2.63 | 20 | 120 | 20 | 120 | 1 |
| 2V7HC | 2.5 | 2.9 | 20 | 100 | 20 | 100 | 1 |
| 2V7HCA | 2.54 | 2.75 | 20 | 100 | 20 | 100 | 1 |
| 2V7HCB | 2.69 | 2.91 | 20 | 100 | 20 | 100 | 1 |
| 3V0HC | 2.8 | 3.2 | 20 | 80 | 20 | 50 | 1 |
| 3V0HCA | 2.85 | 3.07 | 20 | 80 | 20 | 50 | 1 |
| 3V0HCB | 3.01 | 3.22 | 20 | 80 | 20 | 50 | 1 |
| 3V3HC | 3.1 | 3.5 | 20 | 70 | 20 | 20 | 1 |
| 3V3HCA | 3.16 | 3.38 | 20 | 70 | 20 | 20 | 1 |
| 3V3HCB | 3.32 | 3.53 | 20 | 70 | 20 | 20 | 1 |
| 3V6HC | 3.4 | 3.8 | 20 | 60 | 20 | 10 | 1 |
| 3V6HCA | 3.47 | 3.68 | 20 | 60 | 20 | 10 | 1 |
| 3V6HCB | 3.62 | 3.83 | 20 | 60 | 20 | 10 | 1 |
| 3V9HC | 3.7 | 4.1 | 20 | 50 | 20 | 5 | 1 |
| 3V9HCA | 3.77 | 3.98 | 20 | 50 | 20 | 5 | 1 |
| 3V9HCB | 3.92 | 4.14 | 20 | 50 | 20 | 5 | 1 |
| 4V3HC | 4 | 4.5 | 20 | 40 | 20 | 5 | 1 |
| 4V3HCA | 4.05 | 4.26 | 20 | 40 | 20 | 5 | 1 |
| 4V3HCB | 4.2 | 4.4 | 20 | 40 | 20 | 5 | 1 |
| 4V3HCC | 4.34 | 4.53 | 20 | 40 | 20 | 5 | 1 |
| 4V7HC | 4.4 | 4.9 | 20 | 25 | 20 | 5 | 1 |
| 4V7HCA | 4.47 | 4.65 | 20 | 25 | 20 | 5 | 1 |
| 4V7HCB | 4.59 | 4.77 | 20 | 25 | 20 | 5 | 1 |
| 4V7HCC | 4.71 | 4.91 | 20 | 25 | 20 | 5 | 1 |
| 5V1HC | 4.8 | 5.4 | 20 | 20 | 20 | 5 | 1.5 |
| 5V1HCA | 4.85 | 5.03 | 20 | 20 | 20 | 5 | 1.5 |
| 5V1HCB | 4.97 | 5.18 | 20 | 20 | 20 | 5 | 1.5 |
| 5V1HCC | 5.12 | 5.35 | 20 | 20 | 20 | 5 | 1.5 |
| 5V6HC | 5.3 | 6 | 20 | 13 | 20 | 5 | 2.5 |
| 5V6HCA | 5.29 | 5.52 | 20 | 13 | 20 | 5 | 2.5 |
| 5V6HCB | 5.46 | 5.7 | 20 | 13 | 20 | 5 | 2.5 |
| 5V6HCC | 5.64 | 5.88 | 20 | 13 | 20 | 5 | 2.5 |

¹⁾ Tested with pulse $t_p = 20\text{ ms}$.



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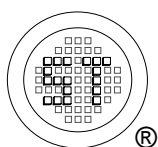
Dated : 18/07/2009

HC Series

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

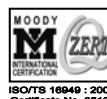
| Type | Zener Voltage ¹⁾ | | | Dynamic Resistance | | Reverse Leakage Current | |
|--------|-----------------------------|----------|-------------|--------------------|-------------|-------------------------|----------|
| | V_Z | | at I_{ZT} | Z_{ZT} | at I_{ZT} | I_R | at V_R |
| | Min. (V) | Max. (V) | (mA) | Max. (Ω) | (mA) | Max. (μA) | (V) |
| 6V2HC | 5.8 | 6.6 | 20 | 10 | 20 | 5 | 3 |
| 6V2HCA | 5.81 | 6.06 | 20 | 10 | 20 | 5 | 3 |
| 6V2HCB | 5.99 | 6.24 | 20 | 10 | 20 | 5 | 3 |
| 6V2HCC | 6.16 | 6.4 | 20 | 10 | 20 | 5 | 3 |
| 6V8HC | 6.4 | 7.2 | 20 | 8 | 20 | 2 | 3.5 |
| 6V8HCA | 6.32 | 6.59 | 20 | 8 | 20 | 2 | 3.5 |
| 6V8HCB | 6.52 | 6.79 | 20 | 8 | 20 | 2 | 3.5 |
| 6V8HCC | 6.7 | 6.97 | 20 | 8 | 20 | 2 | 3.5 |
| 7V5HC | 7 | 7.9 | 20 | 8 | 20 | 0.5 | 4 |
| 7V5HCA | 6.88 | 7.19 | 20 | 8 | 20 | 0.5 | 4 |
| 7V5HCB | 7.11 | 7.41 | 20 | 8 | 20 | 0.5 | 4 |
| 7V5HCC | 7.33 | 7.64 | 20 | 8 | 20 | 0.5 | 4 |
| 8V2HC | 7.7 | 8.7 | 20 | 8 | 20 | 0.5 | 5 |
| 8V2HCA | 7.56 | 7.9 | 20 | 8 | 20 | 0.5 | 5 |
| 8V2HCB | 7.82 | 8.15 | 20 | 8 | 20 | 0.5 | 5 |
| 8V2HCC | 8.07 | 8.41 | 20 | 8 | 20 | 0.5 | 5 |
| 9V1HC | 8.5 | 9.6 | 20 | 8 | 20 | 0.5 | 6 |
| 9V1HCA | 8.33 | 8.7 | 20 | 8 | 20 | 0.5 | 6 |
| 9V1HCB | 8.61 | 8.99 | 20 | 8 | 20 | 0.5 | 6 |
| 9V1HCC | 8.89 | 9.29 | 20 | 8 | 20 | 0.5 | 6 |
| 10HC | 9.4 | 10.9 | 20 | 8 | 20 | 0.2 | 7 |
| 10HCA | 9.19 | 9.59 | 20 | 8 | 20 | 0.2 | 7 |
| 10HCB | 9.48 | 9.9 | 20 | 8 | 20 | 0.2 | 7 |
| 10HCC | 9.82 | 10.3 | 20 | 8 | 20 | 0.2 | 7 |
| 11HC | 10.4 | 11.6 | 10 | 10 | 10 | 0.2 | 8 |
| 11HCA | 10.18 | 10.63 | 10 | 10 | 10 | 0.2 | 8 |
| 11HCB | 10.5 | 10.95 | 10 | 10 | 10 | 0.2 | 8 |
| 11HCC | 10.82 | 11.26 | 10 | 10 | 10 | 0.2 | 8 |
| 12HC | 11.4 | 12.6 | 10 | 12 | 10 | 0.2 | 9 |
| 12HCA | 11.13 | 11.63 | 10 | 12 | 10 | 0.2 | 9 |
| 12HCB | 11.5 | 11.92 | 10 | 12 | 10 | 0.2 | 9 |
| 12HCC | 11.8 | 12.3 | 10 | 12 | 10 | 0.2 | 9 |
| 13HC | 12.4 | 14.1 | 10 | 14 | 10 | 0.2 | 10 |
| 13HCA | 12.18 | 12.71 | 10 | 14 | 10 | 0.2 | 10 |
| 13HCB | 12.59 | 13.16 | 10 | 14 | 10 | 0.2 | 10 |
| 13HCC | 13.03 | 13.62 | 10 | 14 | 10 | 0.2 | 10 |
| 15HC | 13.8 | 15.6 | 10 | 16 | 10 | 0.2 | 11 |
| 15HCA | 13.48 | 14.09 | 10 | 16 | 10 | 0.2 | 11 |
| 15HCB | 13.95 | 14.56 | 10 | 16 | 10 | 0.2 | 11 |
| 15HCC | 14.42 | 15.52 | 10 | 16 | 10 | 0.2 | 11 |

¹⁾ Tested with pulse $t_p = 20\text{ ms}$.



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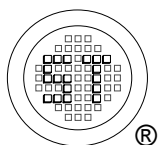
Dated : 18/07/2009

HC Series

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

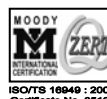
| Type | Zener Voltage ¹⁾ | | | Dynamic Resistance | | Reverse Leakage Current | |
|-------|-----------------------------|----------|-------------|--------------------|-------------|-------------------------|----------|
| | V_Z | | at I_{ZT} | Z_{ZT} | at I_{ZT} | I_R | at V_R |
| | Min. (V) | Max. (V) | (mA) | Max. (Ω) | (mA) | Max. (μA) | (V) |
| 16HC | 15.3 | 17.1 | 10 | 18 | 10 | 0.2 | 12 |
| 16HCA | 14.87 | 15.5 | 10 | 18 | 10 | 0.2 | 12 |
| 16HCB | 15.33 | 15.96 | 10 | 18 | 10 | 0.2 | 12 |
| 16HCC | 15.79 | 16.5 | 10 | 18 | 10 | 0.2 | 12 |
| 18HC | 16.8 | 19.1 | 10 | 23 | 10 | 0.2 | 13 |
| 18HCA | 16.34 | 17.06 | 10 | 23 | 10 | 0.2 | 13 |
| 18HCB | 16.9 | 17.67 | 10 | 23 | 10 | 0.2 | 13 |
| 18HCC | 17.51 | 18.3 | 10 | 23 | 10 | 0.2 | 13 |
| 20HC | 18.8 | 21.6 | 10 | 28 | 10 | 0.2 | 15 |
| 20HCA | 18.11 | 18.92 | 10 | 28 | 10 | 0.2 | 15 |
| 20HCB | 18.73 | 19.57 | 10 | 28 | 10 | 0.2 | 15 |
| 20HCC | 19.38 | 20.22 | 10 | 28 | 10 | 0.2 | 15 |
| 20HCD | 19.88 | 20.72 | 10 | 28 | 10 | 0.2 | 15 |
| 22HC | 20.8 | 23.3 | 5 | 30 | 5 | 0.2 | 17 |
| 22HCA | 20.23 | 21.08 | 5 | 30 | 5 | 0.2 | 17 |
| 22HCB | 20.76 | 21.65 | 5 | 30 | 5 | 0.2 | 17 |
| 22HCC | 21.22 | 22.09 | 5 | 30 | 5 | 0.2 | 17 |
| 22HCD | 21.68 | 22.61 | 5 | 30 | 5 | 0.2 | 17 |
| 24HC | 21.8 | 25.6 | 5 | 35 | 5 | 0.2 | 19 |
| 24HCA | 22.26 | 23.12 | 5 | 35 | 5 | 0.2 | 19 |
| 24HCB | 22.75 | 23.73 | 5 | 35 | 5 | 0.2 | 19 |
| 24HCC | 23.29 | 24.27 | 5 | 35 | 5 | 0.2 | 19 |
| 24HCD | 23.81 | 24.81 | 5 | 35 | 5 | 0.2 | 19 |
| 27HC | 25.1 | 28.9 | 5 | 45 | 5 | 0.2 | 21 |
| 27HCA | 24.26 | 25.52 | 5 | 45 | 5 | 0.2 | 21 |
| 27HCB | 24.97 | 26.26 | 5 | 45 | 5 | 0.2 | 21 |
| 27HCC | 25.63 | 26.95 | 5 | 45 | 5 | 0.2 | 21 |
| 27HCD | 26.29 | 27.64 | 5 | 45 | 5 | 0.2 | 21 |
| 30HC | 28 | 32 | 5 | 55 | 5 | 0.2 | 23 |
| 30HCA | 26.99 | 28.39 | 5 | 55 | 5 | 0.2 | 23 |
| 30HCB | 27.7 | 29.13 | 5 | 55 | 5 | 0.2 | 23 |
| 30HCC | 28.36 | 29.82 | 5 | 55 | 5 | 0.2 | 23 |
| 30HCD | 29.02 | 30.51 | 5 | 55 | 5 | 0.2 | 23 |
| 33HC | 31 | 35 | 5 | 65 | 5 | 0.2 | 25 |
| 33HCA | 29.68 | 31.22 | 5 | 65 | 5 | 0.2 | 25 |
| 33HCB | 30.32 | 31.88 | 5 | 65 | 5 | 0.2 | 25 |
| 33HCC | 30.9 | 32.5 | 5 | 65 | 5 | 0.2 | 25 |
| 33HCD | 31.49 | 33.11 | 5 | 65 | 5 | 0.2 | 25 |

¹⁾ Tested with pulse $t_p = 20\text{ ms}$.



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ISO/TS 16949:2002 Certificate No. 08103 | ISO 14001:2004 Certificate No. 7116 | ISO 9001:2000 Certificate No. 080058 | BS-OHSAS 18001:2007 Certificate No. 7116 | IECQ QC 080000 Certificate No. PC/080000

Dated : 18/07/2009