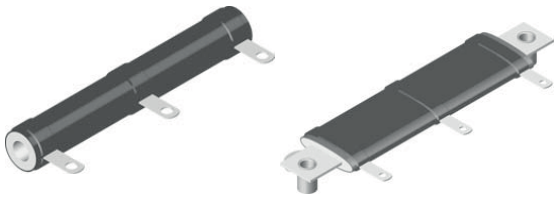
# Wirewound Resistors, Industrial Power, Tapped Tubular



## FEATURES

- Fixed taps for voltage dividers
- High temperature silicon coating
- Complete welded construction
- Excellent stability in operation (< 3 % change in resistance)
- Can be used as multi-tap resistor
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

e3

RoHS* Available

HALOGEN FREE Available

GREEN (5-2008) Available

**Note**

* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details.

## STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | HISTORICAL MODEL | POWER RATING $P_{25\,°C}$ W | RESISTANCE RANGE TOTAL RESISTANCE WITH ONE TAP Ω | TOLERANCE ± % | WEIGHT (typical) g |
|---|---|---|---|---|---|
| HLT015 | HLT-15 | 15 | 0.1 to 18K | 10 | 8.64 |
| HLT020 | HLT-20 | 20 | 0.1 to 31K | 10 | 12.57 |
| HLT025 | HLT-25 | 25 | 0.1 to 34K | 10 | 20.72 |
| HLT026 | HLT-26 | 26 | 0.1 to 59K | 10 | 15.34 |
| HLT050 | HLT-50 | 50 | 0.1 to 104K | 10 | 42.08 |
| HLT051 | HLT-51 | 51 | 0.1 to 112K | 10 | 51.96 |
| HLT055 | HLT-55 | 55 | 0.1 to 49K | 10 | 60.48 |
| HLT060 | HLT-60 | 60 | 0.1 to 136K | 10 | 65.64 |
| HLT065 | HLT-65 | 65 | 0.1 to 159K | 10 | 64.82 |
| HLT070 | HLT-70 | 70 | 0.1 to 72K | 10 | 60.48 |
| HLT080 | HLT-80 | 80 | 0.1 to 164K | 10 | 121.58 |
| HLT095 | HLT-95 | 95 | 0.1 to 96K | 10 | 76.51 |
| HLT100 | HLT-100 | 100 | 0.1 to 253K | 10 | 91.37 |
| HLT120 | HLT-120 | 120 | 0.1 to 305K | 10 | 183.82 |
| HLT130 | HLT-130 | 130 | 0.1 to 358K | 10 | 192.36 |
| HLT160 | HLT-160 | 160 | 0.1 to 446K | 10 | 245.86 |
| HLT175 | HLT-175 | 175 | 0.1 to 481K | 10 | 250.80 |
| HLT225 | HLT-225 | 225 | 0.1 to 622K | 10 | 309.97 |

## TECHNICAL SPECIFICATIONS

| PARAMETER | UNIT | HLT RESISTOR CHARACTERISTICS |
|---|---|---|
| Temperature Coefficient | ppm/°C | ± 30 for 10 Ω and above; ± 50 for 1.0 Ω to 9.9 Ω; ± 90 for 0.1 Ω to 0.99 Ω |
| Dielectric Withstanding Voltage | $V_{AC}$ | 1000, from terminal to mounting hardware |
| Short Time Overload | - | 10 x rated power for 5 s |
| Maximum Working Voltage | V | $(P \times R)^{1/2}$ |
| Insulation Resistance | Ω | 1000 MΩ minimum dry, 100 MΩ minimum after moisture test |
| Operating Temperature Range | °C | -55 to +350 |

## GLOBAL PART NUMBER INFORMATION

**Global Part Numbering example: HLT12007Z150R0KJ**

| H | L | T | 1 | 2 | 0 | 0 | 7 | Z | 1 | 5 | 0 | R | 0 | K | J | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| GLOBAL MODEL | TERMINAL DESIGNATION | TERMINAL FINISH | RESISTANCE VALUE | TOLERANCE | PACKAGING CODE | SPECIAL |
|---|---|---|---|---|---|---|
| **HLT120** (see "Standard Electrical Specifications" table above for additional P/N's) | **02**<br>**06**<br>**07**<br>**09**<br>**14**<br>**15**<br>**16** | **E** = lead (Pb)-free<br>**Z** = tin / lead<br>**N** = nickel | **R** = decimal<br>**K** = thousand<br>**10R00** = 10.0 Ω<br>**1K000** = 1 kΩ | **K** = ± 10.0 % | **E** = lead (Pb)-free skin pack<br>**J** [1] = skin pack (J01) | (dash number) (up to 2 digits) from **1 to 99** as applicable |

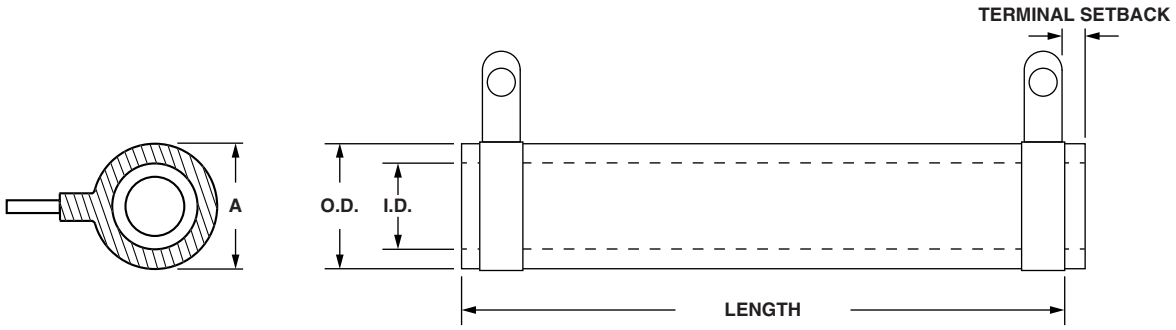
**Note**

[1] Tin / lead for type "Z", lead (Pb)-free for type "N"

**Historical Part Numbering example: HLT-120-07Z 150 Ω 10 % J01**

| HLT-120 | 07Z | 150 Ω | 10 % | J01 |
|---|---|---|---|---|
| HISTORICAL MODEL | TERMINAL/FINISH | RESISTANCE VALUE | TOLERANCE | PACKAGING |

## DIMENSIONS




| MODEL | DIMENSIONS in inches [millimeters] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A (max.) | CORE DIMENSIONS | | | TERMINAL SETBACK ± 0.031 [± 0.79] | DISTANCE BETWEEN TERMINALS (ref.) | TERMINAL DESIGNATION | | BRACKET TYPE (2) |
| | | LENGTH ± 0.062 [± 1.59] | O.D. | I.D. ± 0.031 [± 0.79] | | | STANDARD | OPTIONAL | |
| HLT015 | 0.563 [14.29] | 1.500 [38.10] | 0.438 [11.11] | 0.313 [7.94] | 0.094 [2.38] | 0.937 [23.80] | 02Z | 14N | 101, 203, 301 |
| HLT020 | 0.563 [14.29] | 2.000 [50.80] | 0.438 [11.11] | 0.313 [7.94] | 0.094 [2.38] | 1.437 [36.50] | 02Z | 14N | 101, 203, 301 |
| HLT025 | 0.688 [17.46] | 2.000 [50.80] | 0.563 [14.29] | 0.313 [7.94] | 0.094 [2.38] | 1.312 [33.32] | 06Z | 15N | 101, 203, 301 |
| HLT026 | 0.563 [14.29] | 3.000 [76.20] | 0.438 [11.11] | 0.313 [7.94] | 0.094 [2.38] | 2.437 [61.90] | 02Z | 14N | 101, 203, 301 |
| HLT050 | 0.688 [17.46] | 4.000 [101.60] | 0.563 [14.29] | 0.313 [7.94] | 0.094 [2.38] | 3.312 [84.12] | 06Z | 15N | 101, 203, 301 |
| HLT051 | 0.906 [23.02] | 3.500 [88.90] | 0.750 [19.05] | 0.500 [12.70] | 0.125 [3.18] | 2.75 [69.85] | 06Z | 15N | 102, 206, 303 |
| HLT055 | (1) | 3.500 [88.90] | (1) | (1) | (1) | 2.968 [75.39] | 09Z | 16N | (1) |
| HLT060 | 0.906 [23.02] | 4.000 [101.60] | 0.750 [19.05] | 0.500 [12.70] | 0.125 [3.18] | 3.250 [82.55] | 06Z | 15N | 102, 206, 303 |
| HLT065 | 0.906 [23.02] | 4.500 [114.30] | 0.750 [19.05] | 0.500 [12.70] | 0.125 [3.18] | 3.750 [95.25] | 06Z | 15N | 102, 206, 303 |
| HLT070 | (1) | 4.750 [120.65] | (1) | (1) | (1) | 4.218 [107.14] | 09Z | 16N | (1) |
| HLT080 | 1.313 [33.34] | 4.000 [101.60] | 1.125 [28.58] | 0.750 [19.05] | 0.219 [5.56] | 2.812 [71.42] | 07Z | 15N | 103, 205, 303 |
| HLT095 | (1) | 6.000 [152.40] | (1) | (1) | (1) | 5.468 [138.89] | 09Z | 16N | (1) |
| HLT100 | 0.906 [23.02] | 6.500 [165.10] | 0.750 [19.05] | 0.500 [12.70] | 0.125 [3.18] | 5.750 [146.05] | 06Z | 15N | 102, 206, 303 |
| HLT120 | 1.313 [33.34] | 6.000 [152.40] | 1.125 [28.58] | 0.750 [19.05] | 0.219 [5.56] | 4.812 [122.23] | 07Z | 15N | 103, 205, 303 |
| HLT130 | 1.313 [33.34] | 6.500 [165.10] | 1.125 [28.58] | 0.750 [19.05] | 0.219 [5.56] | 5.312 [134.93] | 07Z | 15N | 103, 205, 303 |
| HLT160 | 1.313 [33.34] | 8.000 [203.20] | 1.125 [28.58] | 0.750 [19.05] | 0.219 [5.56] | 6.812 [173.03] | 07Z | 15N | 103, 205, 303 |
| HLT175 | 1.313 [33.34] | 8.500 [215.90] | 1.125 [28.58] | 0.750 [19.05] | 0.219 [5.56] | 7.312 [185.73] | 07Z | 15N | 103, 205, 303 |
| HLT225 | 1.313 [33.34] | 10.500 [266.70] | 1.125 [28.58] | 0.750 [19.05] | 0.219 [5.56] | 9.312 [236.53] | 07Z | 15N | 103, 205, 303 |

**Notes**

(1) HLT055, HLT070, and HLT095 are HL Flat style, see HL Flat datasheet for detail dimensions.

(2) Brackets are available for mounting HLT series resistors - see Mounting Hardware section below.

## TERMINAL DIMENSIONS


| DIMENSION | TERMINAL STYLE | | | | | | |
|---|---|---|---|---|---|---|---|
| | 02 | 06 | 07 | 09 | 14 | 15 | 16 |
| A | 0.188 [4.76] | 0.250 [6.35] | 0.375 [9.53] | 0.188 [4.76] | 0.188 [4.76] | 0.250 [6.35] | 0.188 [4.76] |
| B | 0.406 [10.32] | 0.563 [14.29] | 0.625 [15.88] | 0.500 [12.70] | 0.563 [14.29] | 0.594 [15.08] | 0.563 [14.29] |
| C | 0.093 [2.36] | 0.166 [4.22] | 0.173 [4.39] | 0.104 [2.64] | 0.050 [1.27] | 0.065 [1.65] | 0.050 [1.27] |
| D | 0.020 [0.51] | 0.020 [0.51] | 0.020 [0.51] | 0.020 [0.51] | 0.020 [0.51] | 0.031 [0.79] | 0.020 [0.51] |

## MOUNTING HARDWARE

Mounting hardware is available for HLT resistors, see “HL Brackets and Sliders” datasheet for more information (www.vishay.com/doc?30279).

## MATERIAL SPECIFICATIONS

**Element:** copper-nickel alloy or nickel-chrome alloy, depending on resistance value

**Core:** ceramic, steatite

**Coating:** special high temperature silicone

**Standard Terminals:** model “E” terminals are tinned steel

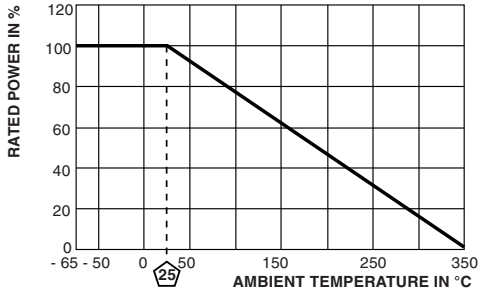
**Terminal Bands:** steel

**Part Marking:** Dale, model, wattage, value, tolerance, date code

## TERMINAL FINISH

“E” Finish - 100 % Sn coated steel. “Z” Finish - 60/40 Sn/Pb coated steel. “N” Finish - Nickel coated steel. Finish for terminal style 14 and 15 is limited to nickel plated steel (N).

## DERATING



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