# Wirewound Resistors, Industrial Power, Silicone Coated, Adjustable Edgewound Tubular

## FEATURES

- High temperature silicone coating
- Complete welded construction
- Tight tolerance of 5 % for values above 1 Ω
- Excellent stability in operation (< 3 % change in resistance)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

RoHS COMPLIANT

HALOGEN FREE

GREEN (5-2008)

## STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | HISTORICAL MODEL | POWER RATING $P_{25\,°C}$ W | RESISTANCE RANGE Ω ± 5 % | RESISTANCE RANGE Ω ± 10 % | WEIGHT (typical) g |
|---|---|---|---|---|---|
| ASE0050 | ASE-50 | 50 | 1.0 to 3.8 | 1.0 to 3.8 | 18 |
| ASE0090 | ASE-90 | 90 | 0.10 to 5.7 | 0.10 to 5.7 | 36 |
| ASE0100 | ASE-100 | 100 | 1.0 to 6.1 | 0.15 to 6.1 | 41 |
| ASE0110 | ASE-110 | 110 | 1.0 to 7.4 | 0.20 to 7.4 | 49 |
| ASE0120 | ASE-120 | 120 | 1.0 to 8.6 | 0.1 to 8.6 | 54 |
| ASE0140 | HLZ-140 | 140 | 0.08 to 9.0 | 0.08 to 9.0 | 109 |
| ASE0155 | ASE-155 | 155 | 1.0 to 12.5 | 0.1 to 12.5 | 129 |
| ASE0165 | HLZ-165 | 165 | 0.35 to 13.0 | 0.35 to 13.0 | 91 |
| ASE0180 | HLZ-165 | 180 | 0.35 to 13.0 | 0.35 to 13.0 | 91 |
| ASE0240 | ASE-240 | 240 | 1.0 to 18 | 0.1 to 18 | 186 |
| ASE0300 | ASE-300 | 300 | 1.0 to 25 | 0.15 to 25 | 236 |
| ASE0375 | ASE-375 | 375 | 1.0 to 32 | 0.20 to 32 | 286 |
| ASE0420 | ASE-420 | 420 | 1.0 to 35.8 | 0.25 to 35.8 | 320 |
| ASE0500 | ASE-500 | 500 | 0.30 to 46.2 | 0.30 to 46.2 | 381 |
| ASE0750 | ASE-750 | 750 | 0.35 to 81.3 | 0.35 to 81.3 | 654 |
| ASE1000 | ASE-1000 | 1000 | 0.40 to 101.6 | 0.40 to 101.6 | 817 |
| ASE1500 | ASE-1500 | 1500 | 0.45 to 135.5 | 0.45 to 135.5 | 1090 |

## GLOBAL PART NUMBER INFORMATION

**Global Part Numbering example: ASE030020E15R0JE92** (visit www.vishay.net SAP parts manual for all options)

| A | S | E | 0 | 3 | 0 | 0 | 2 | 0 | E | 1 | 5 | R | 0 | J | E | 9 | 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| GLOBAL MODEL (7 digits) | TERMINAL DESIGNATION (2 digits) | TERMINAL FINISH (1 digit) | VALUE (4 digits) | TOLERANCE (1 digit) | PACKAGING CODE (1 digit) | SPECIAL (up to 2 digits) |
|---|---|---|---|---|---|---|
| (see Standard Electrical Specifications Global Model column for options) | **06**<br>**15**<br>**20**<br>**21**<br>**22** | **E** = lead (Pb)-free | **R** = decimal<br>**1R50** = 1.5 Ω | **J** = ± 5 %<br>**K** = ± 10 % | **E** = lead (Pb)-free cell and bulk pack | (dash number) from **1** to **99** as applicable<br>**91** = 100 style horizontal thru-bolt bracket<br>**92** = 200 style push-in bracket<br>**93** = 300 style vertical thru-bolt bracket |

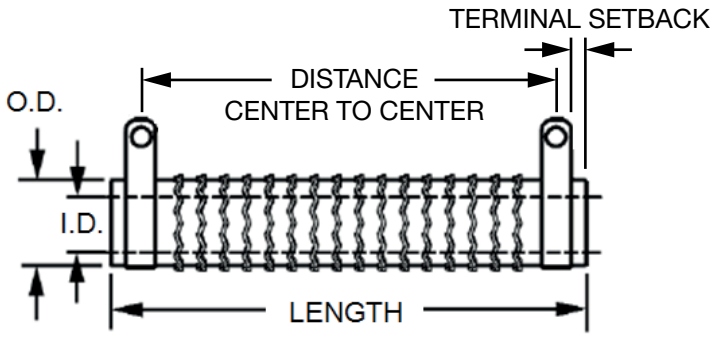
**Historical Part Number example: ASE-300-15-10%-BKTS**

| ASE-300 | 15 Ω | 10 % | BKTS |
|---|---|---|---|
| HISTORICAL MODEL | RESISTANCE VALUE | TOLERANCE | SPECIAL |



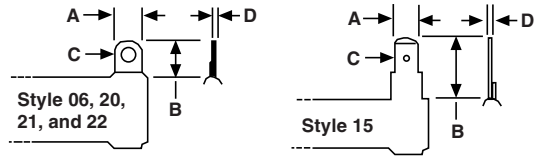
For technical questions, contact: ww2dresistors@vishay.com

## DIMENSIONS in inches [millimeters]



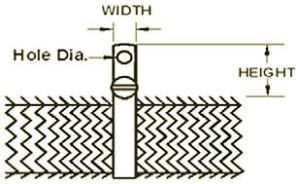

| MODEL | CORE DIMENSIONS | | | TERMINAL SETBACK | DISTANCE CENTER TO CENTER (REF.) | TERMINAL DESIGNATION | | SLIDER MODEL NUMBER |
|---|---|---|---|---|---|---|---|---|
| | LENGTH | O.D. ± 0.031 [± 0.79] | I.D. ± 0.031 [± 0.79] | | | STANDARD | OPTIONAL (QUICK CONNECT) | |
| ASE0050 | 2.000 [50.8] | 0.750 [19.05] | 0.500 [12.70] | 0.094 [2.38] | 1.562 [39.67] | 06 | 15 | 71 |
| ASE0090 | 4.000 [101.6] | 0.563 [14.30] | 0.312 [7.95] | 0.094 [2.39] | 3.562 [90.47] | 06 | 15 | 71 |
| ASE0100 | 3.500 [88.90] | 0.750 [19.05] | 0.500 [12.70] | 0.079 [2.39] | 3.092 [78.54] | 06 | 15 | 74 |
| ASE0110 | 4.000 [101.6] | 0.750 [19.05] | 0.500 [12.70] | 0.125 [3.18] | 3.500 [88.90] | 06 | 15 | 74 |
| ASE0120 | 4.500 [114.3] | 0.750 [19.05] | 0.547 [13.89] | 0.125 [3.18] | 3.400 [101.60] | 06 | 15 | 74 |
| ASE0140 | 4.000 [101.6] | 1.125 [28.58] | 0.750 [19.05] | 0.219 [5.56] | 2.812 [71.42] | 20 | 15 | 74 |
| ASE0155 | 4.250 [107.95] | 1.125 [28.58] | 0.750 [19.05] | 0.282 [7.16] | 3.311 [84.10] | 20 | 15 | 74 |
| ASE0165 ASE0180 | 6.500 [165.1] | 0.750 [19.05] | 0.750 [19.05] | 0.125 [3.18] | 5.75 [146.05] | 20 | 15 | 74 |
| ASE0240 | 6.500 [165.1] | 1.125 [28.58] | 0.750 [19.05] | 0.282 [7.16] | 5.561 [141.25] | 20 | 15 | 75 |
| ASE0300 | 8.500 [215.9] | 1.125 [28.58] | 0.750 [19.05] | 0.267 [6.78] | 7.591 [192.81] | 20 | 15 | 75 |
| ASE0375 | 10.500 [266.7] | 1.125 [28.58] | 0.750 [19.05] | 0.266 [6.76] | 9.591 [243.61] | 20 | 15 | 75 |
| ASE0420 | 11.750 [298.45] | 1.125 [28.58] | 0.750 [19.05] | 0.266 [6.76] | 10.843 [275.41] | 20 | 15 | 76 |
| ASE0500 | 10.500 [266.7] | 1.625 [41.28] | 1.125 [28.58] | 0.266 [6.76] | 9.468 [240.49] | 21 | - | 78 |
| ASE0750 | 12.000 [304.8] | 2.500 [63.5] | 1.750 [44.45] | 0.508 [12.90] | 10.484 [266.29] | 21 | - | 77 |
| ASE1000 | 15.000 [381.0] | 2.500 [63.50] | 1.750 [44.45] | 0.508 [12.90] | 13.484 [342.49] | 22 | - | 78 |
| ASE1500 | 20.000 [508.0] | 2.500 [63.50] | 1.750 [44.45] | 0.508 [12.90] | 18.484 [469.49] | 22 | - | 78 |

## TERMINAL DIMENSIONS in inches [millimeters]




| DIMENSIONS | TERMINAL STYLE | | | | |
|---|---|---|---|---|---|
| | 06 | 15 | 20 | 21 | 22 |
| A | 0.250 [6.35] | 0.250 [6.35] | 0.375 [9.53] | 0.500 [12.70] | 0.500 [12.70] |
| B | 0.500 [12.70] | 0.594 [15.08] | 0.5625 [14.28] | 0.625 [15.87] | 0.925 [23.49] |
| C (HOLE DIAMETER) | 0.173 [4.39] | 0.065 [1.65] | 0.204 [5.18] | 0.264 [6.70] | 0.264 [6.70] |
| D | 0.020 [0.51] | 0.031 [0.79] | 0.032 [0.812] | 0.025 [0.64] | 0.025 [0.64] |

## ASE SLIDERS-DIMENSIONS in inches [millimeters]



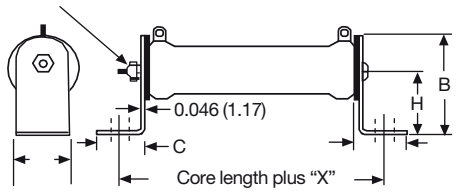

| GLOBAL PART NUMBER (1) (RoHS COMPLIANT) | GLOBAL MODEL (OF RESISTOR) | SLIDER MODEL NUMBER | DIMENSIONS | | |
|---|---|---|---|---|---|
| | | | WIDTH | HEIGHT | HOLE DIAMETER |
| 75008603E29 | ASE0050, ASE0090 | 71 | 0.250 [6.35] | 0.719 [18.26] | 0.141 [3.58] |
| 75025201E29 | ASE0100, ASE0110, ASE0120, ASE0155 | 74 | 0.312 [7.92] | 0.891 [22.63] | 0.196 [4.98] |
| 75025203E29 | ASE0240, ASE0300, ASE0375 | 75 | 0.500 [12.70] | 0.891 [22.63] | 0.265 [6.73] |
| 75025204E29 | ASE0500, ASE1000, ASE1500, ASE2000 | 78 | 0.500 [12.70] | 0.891 [22.63] | 0.265 [6.73] |
| 75025206E29 | ASE0420 | 76 | 0.312 [7.92] | 0.891 [22.63] | 0.196 [4.98] |
| 75025207E29 | ASE0750 | 77 | 0.500 [12.70] | 0.891 [22.63] | 0.265 [6.73] |

**Note**

(1) Order HEI slider with global part number.

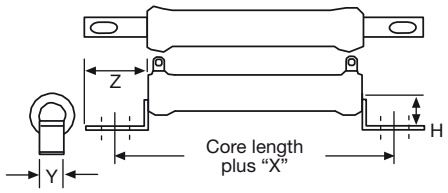
## MOUNTING HARDWARE FOR ASE PRODUCTS - Dimensions in inches (millimeters)

### 91 = 100 Style Horizontal 1 High Bracket



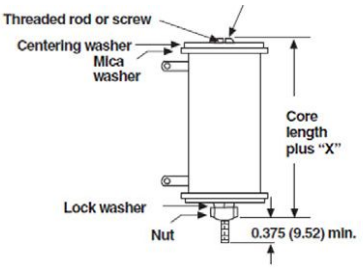

| BRACKET TYPE | X | Y | Z | H | MOUNTING SLOT | C | B |
|---|---|---|---|---|---|---|---|
| 102 | 1.063 (26.99) | 0.750 (19.05) | 0.859 (21.83) | 1.250 (31.75) | 0.219 x 0.438 (5.56 x 11.11) | 0.750 (19.05) | 1.750 (44.75) |
| 103 | 1.063 (26.99) | 1.250 (31.75) | 1.000 (25.40) | 1.500 (38.10) | 0.281 x 0.563 (7.14 x 14.29) | 0.927 (23.55) | 2.125 (53.98) |

### 92 = 200 Style Push-In Bracket




| BRACKET TYPE | X | H | Y | Z | HOLE (DIA.) |
|---|---|---|---|---|---|
| 204 | 0.700 (17.78) | 0.578 (14.68) | 0.250 (6.35) | 0.500 (12.70) | 0.156 (3.96) |
| 206 | 0.846 (21.49) | 0.800 (20.62) | 0.375 (9.53) | 0.600 (15.24) | 0.343 x 0.213 (8.71 x 5.46) |
| 207 | 0.700 (17.78) | 1.125 (28.58) | 0.500 (12.70) | 0.687 (17.45) | 0.250 x 0.188 (6.35 x 4.78) |

### 93 = 300 Style Thru-Bolt Bracket




| BRACKET TYPE | X (APPROXIMATE) | THREAD |
|---|---|---|
| 302 | 0.271 (6.88) | 10-32 |
| 303 | 0.463 (11.76) | 1/4-20 |

| MOUNTING HARDWARE | | | |
|---|---|---|---|
| GLOBAL MODEL | AVAILABLE BRACKET TYPES BY MODEL | | |
| | 91 = 100 STYLE HORIZONTAL 1 HIGH BRACKET | 92 = 200 STYLE PUSH-IN BRACKET | 93 = 300 STYLE THRU-BOLT BRACKET |
| ASE0050 | 102 | 206 | 302 |
| ASE0090 | 102 | 204 | 302 |
| ASE0100 | 102 | 206 | 302 |
| ASE0110 | 102 | 206 | 302 |
| AVE0120 | 102 | 206 | 302 |
| ASE0140 | 103 | 205 | 303 |
| ASE0155 | 103 | 207 | 302 |
| ASE0165 | 102 | 206 | 303 |
| ASE0180 | 102 | 206 | 303 |
| ASE0240 | 103 | 207 | 302 |
| ASE0300 | 103 | 207 | 303 |
| ASE0375 | 103 | 207 | 303 |
| ASE0420 | 103 | 207 | 303 |
| ASE0500 | 103 | - | 302 |

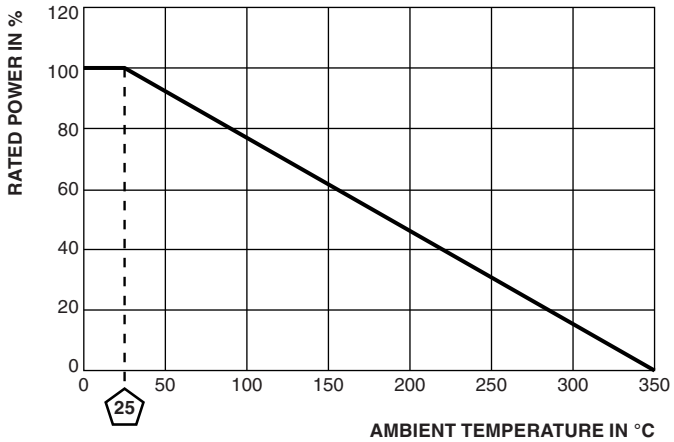
## TECHNICAL SPECIFICATIONS

| PARAMETER | UNIT | RESISTOR CHARACTERISTICS |
|---|---|---|
| Power Rating | W | 50 to 1500 |
| Resistance Range | Ω | 0.10 to 135.5 |
| Resistance Tolerance | % | 10 |
| Temperature Coefficient | ppm/°C | ± 260 for 20 Ω and above, ± 400 for 1 Ω to 19.99 Ω |
| Operating Temperature | °C | -55 °C to 350 °C |
| Temperature Rise | °C | 325 °C above an ambient of 25 °C |
| Maximum Altitude | f.a.s.l. | 10 000 |
| Short-Term Overload | - | 10x rated power for 5 s |
| Surge Windings | - | Available |
| Maximum Working Voltage | - | $(P \times R)^{0.5}$ |
| Insultation Resistance | Ω | 1M |
| Dielectric Voltage | $V_{RMS}$ | 1000 $V_{AC}$ |
| Creepage | - | Varies by wattage, see “Terminal Setback” in Dimensions table |
| Terminal Sleeves | - | n/a |
| Inductance | µH | Varies by wattage and resistance |
| Non-Inductive Winding | - | n/a |
| Terminal Strength | lb | 10 lbs |
| Electrical or Mechanical Customization | - | Contact factory: ww2dresistors@vishay.com |

## MATERIAL SPECIFICATIONS

| | |
|---|---|
| Element | Copper-nickel alloy or nickel-chrome alloy, depending on resistance value |
| Core | Cordierite, steatite |
| Coating | Special high temperature silicone |
| Standard Terminals | Tinned alloy 42 |
| Optional Terminals | Alloy 42 |
| Terminal Bands | Alloy 42 |
| Part Marking | HEI, model, wattage, value, tolerance, date code |

## DERATING



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