

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



RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{25^{\circ}\text{C}}$ W	RESISTANCE RANGE Ω $\pm 5\%$	RESISTANCE RANGE Ω $\pm 10\%$	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

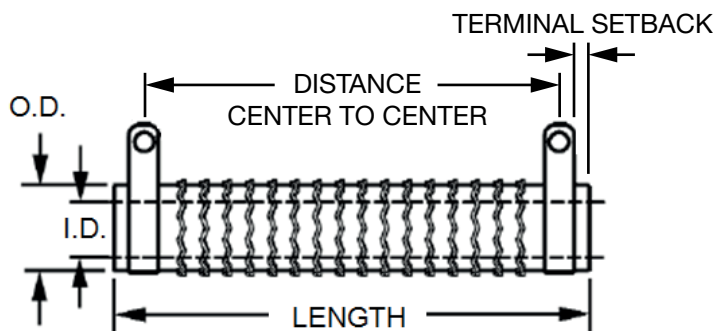
GLOBAL PART NUMBER INFORMATION

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 15 20 21 22		E = lead (Pb)-free		R = decimal 1R50 = 1.5 Ω		J = ± 5 % K = ± 10 %		E = lead (Pb)-free cell and bulk pack		(dash number) from 1 to 99 as applicable 91 = 100 style horizontal thru-bolt bracket 92 = 200 style push-in bracket 93 = 300 style vertical thru-bolt bracket						

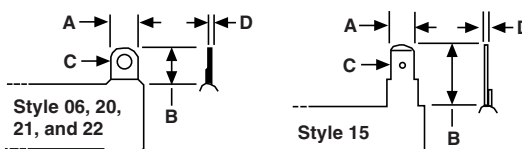
Historical Part Number example: ASE-300-15-10%-BKTS

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

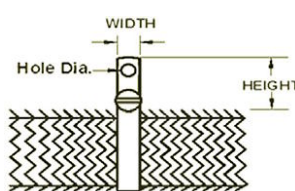
DIMENSIONS in inches [millimeters]


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 [86.10]	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]

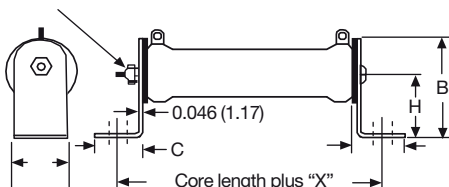
	DIMENSIONS	TERMINAL STYLE				
		06	15	20	21	22
 Style 06, 20, 21, and 22 Style 15	A	0.250 [6.35]	0.250 [6.35]	0.375 [9.53]	0.500 [12.70]	0.500 [12.70]
	B	0.500 [12.70]	0.594 [15.08]	0.5625 [14.28]	0.625 [15.87]	0.925 [23.49]
	C (HOLE DIAMETER)	0.173 [4.39]	0.065 [1.65]	0.204 [5.18]	0.264 [6.70]	0.264 [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]

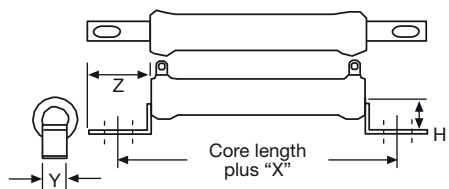
	GLOBAL PART NUMBER ⁽¹⁾ (RoHS COMPLIANT)	GLOBAL MODEL (OF RESISTOR)	SLIDER MODEL NUMBER	DIMENSIONS		
				WIDTH	HEIGHT	HOLE DIAMETER
	75008603E29	ASE0050, ASE0090	71	0.250 [6.35]	0.719 [18.26]	0.141 [3.58]
	75025201E29	ASE0100, ASE0110, ASE0120, ASE0155	74	0.312 [7.92]	0.891 [22.63]	0.196 [4.98]
	75025203E29	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.

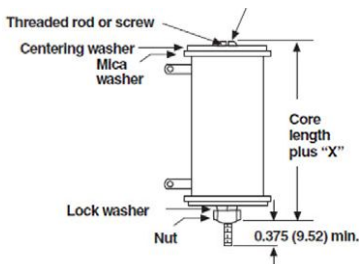
MOUNTING HARDWARE FOR ASE PRODUCTS - Dimensions in inches (millimeters)

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

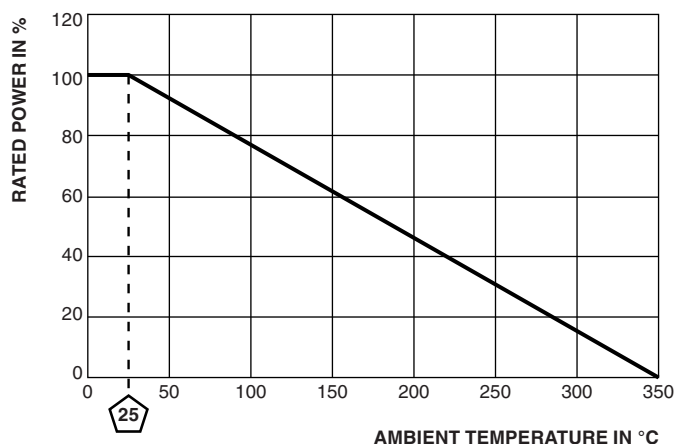
GLOBAL MODEL	AVAILABLE BRACKET TYPES BY MODEL		
	91 = 100 STYLE HORIZONTAL 1 HIGH BRACKET	92 = 200 STYLE PUSH-IN BRACKET	93 = 300 STYLE THRU-BOLT BRACKET
ASE0050	102	206	302
ASE0090	102	204	302
ASE0100	102	206	302
ASE0110	102	206	302
AVE0120	102	206	302
ASE0140	103	205	303
ASE0155	103	207	302
ASE0165	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	-	$(P \times R)^{0.5}$
Insulation 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	μ H	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



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.