Wirewound Resistors, Industrial Power, Silicone Coated, Adjustable 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

e3

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
AST010	AST-10	12	1.0 to 10.6K	1.0 to 10.6K	6.69
AST012	AST-12	12	1.0 to 10.6K	1.0 to 10.6K	6.69
AST020	AST-20	20	1.0 to 18K	1.0 to 18K	12.57
AST20A	HLA-15	15	1.0 to 60K	0.10 to 60K	8.64
AST025	AST-25	25	1.0 to 26K	1.0 to 26K	20.72
AST25A	AST-25A	30	1.0 to 30K	1.0 to 30K	20.72
AST25B	AST-25B	30	1.0 to 24K	1.0 to 24K	14.25
AST050	AST-50	50	1.0 to 54K	1.0 to 54K	42.08
AST50A	AST-50A	60	1.0 to 75K	1.0 to 75K	65.64
AST50B	AST-50B	70	1.0 to 84.3K	1.0 to 84.3K	64.82
AST075	AST-75	75	1.0 to 85.5K	1.0 to 85.5K	106.37
AST75A	AST-75A	90	1.0 to 114K	1.0 to 114K	183.82
AST080	HLA-80	80	1.0 to 111K	-	121.58
AST100	AST-100	100	1.0 to 131K	1.0 to 131K	91.37
AST130	AST-130	130	1.0 to 192K	1.0 to 192K	192.36
AST160	AST-160	175	1.0 to 398K	1.0 to 398K	250.8
AST175	HLA-175	175	1.0 to 398K	1.0 to 398K	250.8
AST200	AST-200	225	1.0 to 337K	1.0 to 337K	309.97
AST225	AST-225	225	1.0 to 337K	1.0 to 337K	309.97

GLOBAL PART NUMBER INFORMATION

Global Part Numbering Example: AST0250625R00JE (visit www.vishay.net SAP parts manual for all options)

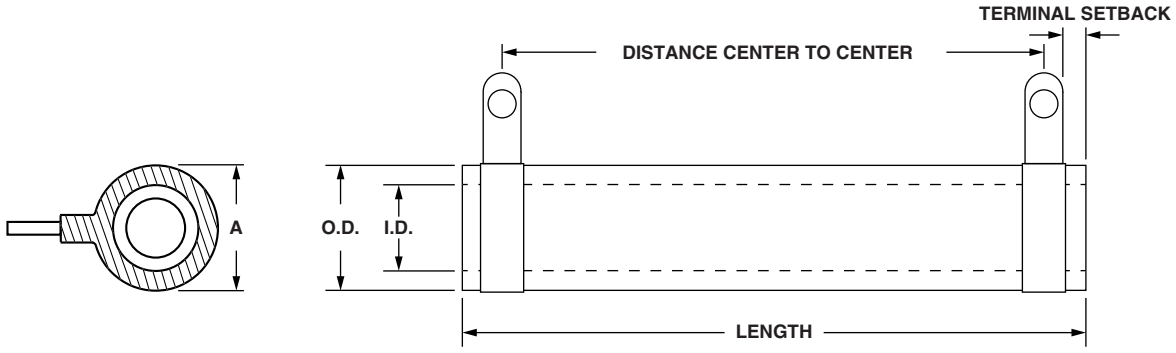
A	S	T	0	2	5	0	6	E	2	5	R	0	0	J	E		

GLOBAL MODEL (6 digits)	TERMINAL DESIGNATION (2 digits)	TERMINAL FINISH (1 digit)	VALUE (5 digits)	TOLERANCE (1 digit)	PACKAGING CODE (1 digit)	SPECIAL (up to 2 digits)
(see Standard Electrical Specifications Global Model column for options)	**05** **06** **14** **15** **20** **FC** = ferrule cap	**E** = lead (Pb)-free	**R** = decimal **K** = thousand **1R500** = 1.5 Ω **1K500** = 1.5 kΩ	**J** = ± 5 % **K** = ± 10 %	**E** = lead (Pb)-free cell and bulk pack	(dash number) from **1** to **99** as applicable **91** = 100 style horizontal high bracket **92** = 200 style push-in bracket **93** = 300 style thru-bolt bracket **CT** = center tap **NI** = non-inductive **NP** = non-inductive + 92 style push-in bracket **NH** = non-inductive + 91 style horizontal bracket **NV** = non-inductive + style vertical bracket

Historical Part Number Example: AST-25-25-5 %

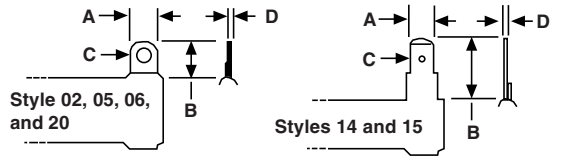
AST-25	25 Ω	5 %	
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE	SPECIAL

DIMENSIONS in inches (millimeters)



MODEL	A (MAX.)	CORE DIMENSIONS			TERMINAL SETBACK ± 0.031 (0.79)	DISTANCE BETWEEN TERMINALS (REF.)	DISTANCE CENTER TO CENTER QUICK CONNECT (REF.)	TERMINAL DESIGNATION		SLIDER MODEL NUMBER
		LENGTH	O.D. ± 0.031 (0.79)	I.D. ± 0.031 (0.79)				STANDARD	OPTIONAL (QUICK CONNECT)	
AST010 AST012	0.406 (10.31)	1.750 (44.45)	0.313 (7.95)	0.188 (4.78)	0.094 (2.39)	1.375 (34.93)	1.312 (33.32)	05	14	70
AST020	0.563 (14.30)	2.000 (50.8)	0.438 (11.13)	0.260 (6.60)	0.094 (2.39)	1.625 (41.28)	1.562 (39.67)	02	14	70
AST20A	0.563 (14.30)	2.000 (50.8)	0.438 (11.11)	0.313 (7.94)	0.094 (2.38)	1.625 (41.28)	1.625 (41.28)	02	14	70
AST025	0.668 (17.48)	2.000 (50.8)	0.563 (14.30)	0.313 (7.95)	0.094 (2.39)	1.562 (39.67)	1.500 (38.10)	06	15	71
AST25A	0.906 (23.01)	2.000 (50.8)	0.750 (19.05)	0.500 (12.7)	0.094 (2.39)	1.562 (39.67)	1.500 (38.10)	06	15	72
AST25B	0.770 (19.56)	2.000 (50.8)	0.625 (15.88)	0.453 (11.51)	0.094 (2.39)	1.562 (39.67)	-	06	15	71
AST050	0.688 (17.48)	4.000 (101.6)	0.563 (14.30)	0.313 (7.95)	0.094 (2.39)	3.562 (90.47)	3.500 (88.90)	06	15	71
AST50A	0.906 (23.01)	4.000 (101.6)	0.750 (19.05)	0.500 (12.70)	0.062 (1.57)	3.626 (92.10)	3.563 (90.51)	06	15	71
AST50B	0.906 (23.01)	4.500 (114.3)	0.750 (19.05)	0.547 (13.89)	0.125 (3.18)	4.000 (101.60)	3.938 (100.01)	06	15	72
AST075	0.688 (17.48)	6.000 (152.4)	0.563 (14.30)	0.313 (7.95)	0.094 (2.39)	5.562 (141.27)	4.500 (114.29)	06	15	71
AST75A	0.906 (23.01)	6.000 (152.4)	0.750 (19.05)	0.500 (12.70)	0.094 (2.39)	5.562 (141.27)	5.500 (139.70)	06	15	72
AST080	1.313 (33.34)	4.000 (101.6)	1.125 (28.58)	0.750 (19.05)	0.219 (5.56)	3.187 (80.95)	3.250 (82.54)	20	15	73
AST100	0.906 (23.01)	6.500 (165.1)	0.750 (19.05)	0.500 (12.70)	0.125 (3.18)	6.000 (152.40)	5.938 (150.81)	06	15	72
AST130	1.313 (33.35)	6.500 (165.1)	1.125 (28.58)	0.750 (19.05)	0.282 (7.16)	5.561 (141.25)	5.624 (142.84)	20	15	73
AST160	1.313 (33.35)	8.500 (215.9)	1.125 (28.58)	0.750 (19.05)	0.267 (6.78)	7.593 (192.86)	4.656 (118.25)	20	15	73
AST175	1.313 (33.34)	8.500 (215.9)	1.125 (28.58)	0.750 (19.05)	0.219 (5.56)	7.687 (195.25)	7.750 (196.85)	20	15	73
AST200 AST225	1.313 (33.35)	10.500 (266.7)	1.125 (28.58)	0.750 (19.05)	0.266 (6.76)	9.593 (243.66)	9.656 (245.26)	20	15	73

TERMINAL DIMENSIONS in inches (millimeters)

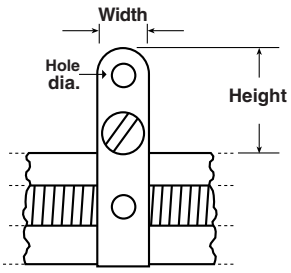


DIMENSIONS	TERMINAL STYLE					
	20	02	05	06	14	15
WIDTH A	0.375 (9.53)	0.188 (4.76)	0.188 (4.76)	0.250 (6.35)	0.188 (4.76)	0.250 (6.35)
HEIGHT B	0.594 (15.09)	0.413 (10.49)	0.583 (14.81)	0.500 (12.70)	0.583 (14.81)	0.657 (16.69)
DIAMETER C	0.204 (5.18)	0.133 (3.38)	0.133 (3.38)	0.172 (4.36)	0.050 (1.27)	0.065 (1.65)
THICKNESS D	0.032 (0.81)	0.020 (0.51)	0.020 (0.51)	0.020 (0.51)	0.020 (0.51)	0.032 (0.81)

Note

- Dimensions are for reference only. Dimensions indicated are without coating

AVT SLIDERS-DIMENSIONS in inches (millimeters)

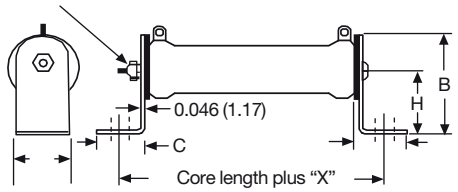


GLOBAL PART NUMBER (1) (RoHS-COMPLIANT)	GLOBAL PART NUMBER FOR EXTRA SLIDERS	SLIDER MODEL TYPE	DIMENSIONS		
			WIDTH	HEIGHT	HOLE DIAMETER
75008602E29	AST010, AST020	70	0.187 (4.75)	0.516 (13.11)	0.125 (3.18)
75008603E29	AST025, AST25B, AST050, AST50A, AST075	71	0.250 (6.35)	0.719 (18.26)	0.141 (3.58)
75008604E29	AST25A, AST50B, AST75A, AST100	72	0.250 (6.35)	0.844 (21.44)	0.141 (3.58)
75008605E29	AST130, AST160, AST200, AST225	73	0.312 (7.92)	0.797 (20.24)	0.170 (4.32)

Note
(1) Order HEI slider with global part number

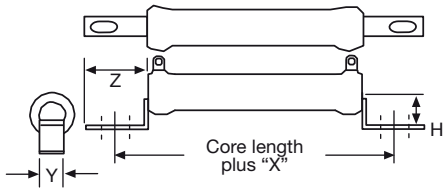
MOUNTING HARDWARE FOR AVT PRODUCTS - Dimensions in inches (millimeters)

91 = 100 Style Horizontal 1 High Bracket



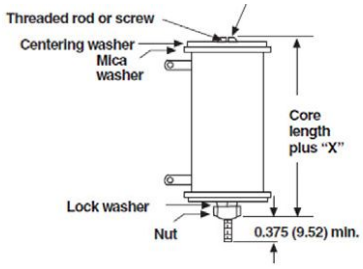
BRACKET TYPE	X	Y	Z	H	MOUNTING SLOT	C	B
101	1.063 (26.99)	0.500 (12.70)	0.950 (24.13)	1.000 (25.40)	0.219 x 0.438 (5.56 x 11.11)	0.750 (19.05)	1.375 (34.93)
102	1.063 (26.99)	0.750 (19.05)	0.859 (21.83)	1.250 (31.75)	0.219 x 0.438 (5.56 x 11.11)	0.750 (19.05)	1.750 (44.45)
103	1.063 (26.99)	1.250 (31.75)	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.)
202	0.478 (12.14)	0.250 (6.35)	0.125 (3.175)	0.375 (9.53)	0.170 (4.32)
203	0.583 (14.80)	0.580 (14.73)	0.188 (4.78)	0.460 (11.68)	0.115 (2.92)
204	0.700 (17.78)	0.578 (14.68)	0.250 (6.35)	0.500 (12.70)	0.156 (3.96)
205	0.846 (21.49)	0.800 (20.32)	0.375 (9.53)	0.600 (15.24)	0.343 x 0.213 (8.71 x 5.46)
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)
208	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)

93 = 300 Style Thru-Bolt Bracket



BRACKET TYPE	X (APPROXIMATE)	THREAD
301	0.373 (9.47)	8 to 32
302	0.271 (6.88)	10 to 32
303	0.463 (11.76)	1/4 to 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
AST010	101	202	301
AST012	101	202	301
AST020	101	N/A	301
AST20A	101	203	301
AST025	102	204	301
AST25A	102	206	302
AST25B	102	205	301
AST050	102	204	302
AST50A	102	206	302
AST50B	102	208	302
AST075	102	204	301
AST75A	102	206	302
AST080	103	207	303
AST100	102	206	302
AST130	103	207	302
AST160	103	207	303
AST175	103	207	303
AST200	103	207	303
AST225	103	207	303

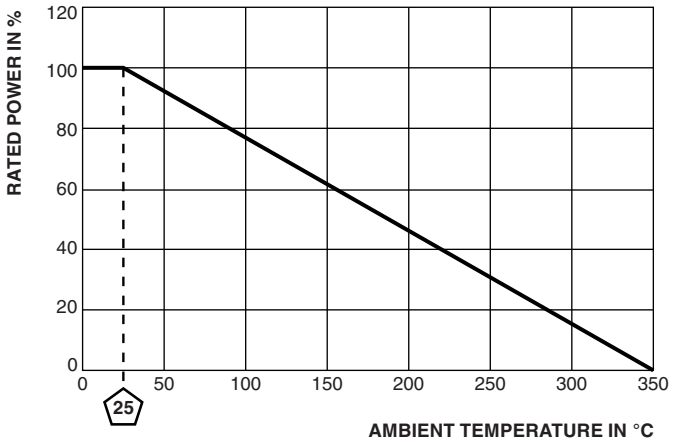
TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Power Rating	W	12 to 225
Resistance Range	Ω	1 to 398K
Resistance Tolerance	%	5, 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} from terminal to mounting hardware
Creepage		Varies by wattage, see “Terminal Setback” in Dimensions table
Terminal Sleeves		n/a
Inductance	µH	Varies by wattage and resistance
Non-Inductive Winding		Available
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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