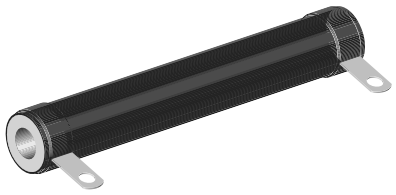
Wirewound Resistor, Industrial Power, Vitreous Coated, Fixed Tubular



FEATURES

- High temperature vitreous coating
- Complete welded construction
- Available in non-inductive style (special “NI”) with Ayrton-Perry winding
- Tight tolerance of 5 % for values above 1 Ω
- Excellent stability in operation (< 3 % change 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
FVT005	FVT-5	5	1.0 to 20.5K	0.1 to 20.5K	4.60
FVT005...NI	FVT-5-...-NI	5	1.0 to 750	1.0 to 750	4.60
FVT010	FVT-10	12	1.0 to 58K	0.1 to 58K	6.7
FVT010...NI	FVT-10-...-NI	12	1.0 to 3.9K	1.0 to 3.9K	6.7
FVT020	FVT-20	20	1.0 to 95K	0.1 to 95K	12.57
FVT020...NI	FVT-20-...-NI	20	1.0 to 6.8K	1.0 to 6.8K	12.57
FVT20A	-	15	1.0 to 60K	0.10 to 60K	8.64
FVT025	FVT-25	25	1.0 to 115K	0.1 to 115K	20.7
FVT025...NI	FVT-25-...-NI	25	1.0 to 8.8K	1.0 to 8.8K	20.7
FVT25A	FVT-25A	30	1.0 to 56K	0.1 to 56K	20.7
FVT25A...NI	FVT-25A-...-NI	30	1.0 to 7.25K	1.0 to 7.25K	20.7
FVT25B	FVT-25B	30	1.0 to 49K	0.1 to 49K	14.5
FVT25B...NI	FVT-25B-...-NI	30	1.0 to 6.8K	1.0 to 6.8K	14.5
FVT050	FVT-50	50	1.0 to 112K	0.1 to 112K	42.1
FVT050...NI	FVT-50-...-NI	50	1.0 to 21.5K	1.0 to 21.5K	42.1
FVT50A	FVT-50A	60	1.0 to 145K	0.1 to 145K	65.6
FVT50A...NI	FVT-50A-...-NI	60	1.0 to 27.2K	1.0 to 27.2K	65.6
FVT50B	FVT-50B	70	1.0 to 170K	0.1 to 170K	60.0
FVT50B...NI	FVT-50B-...-NI	70	1.0 to 31.4K	1.0 to 31.4K	60.0
FVT075	FVT-75	75	1.0 to 276K	0.1 to 276K	98.5
FVT075...NI	FVT-75-...-NI	75	1.0 to 35K	1.0 to 35K	98.5
FVT75A	FVT-75A	90	1.0 to 238K	0.1 to 238K	64.8
FVT75A...NI	FVT-75A-...-NI	90	1.0 to 31K	1.0 to 31K	64.8
FVT080	-	80	1.0 to 190K	0.10 to 190K	121.58
FVT100	FVT-100	100	1.0 to 260K	0.1 to 260K	91.4
FVT100...NI	FVT-100-...-NI	100	1.0 to 48.5K	1.0 to 48.5K	91.4
FVT130	FVT-130	130	1.0 to 380K	0.1 to 380K	192.4
FVT130...NI	FVT-130-...-NI	130	1.0 to 70.2K	1.0 to 70.2K	192.4
FVT160	FVT-160	175	1.0 to 470K	0.1 to 470K	250.8
FVT160...NI	FVT-160-...-NI	175	1.0 to 105K	1.0 to 105K	250.8
FVT175	-	175	1.0 to 500K	0.10 to 500K	250.8
FVT200	FVT-200	225	1.0 to 645K	0.1 to 645K	310.0
FVT200...NI	FVT-200-...-NI	225	1.0 to 121K	1.0 to 121K	310.0
FVT225	FVT-225	225	1.0 to 645K	0.1 to 645K	310.0
FVT225...NI	FVT-225-...-NI	225	1.0 to 121K	1.0 to 121K	310.0

For technical questions, contact: ww2dresistors@vishay.com

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GLOBAL PART NUMBER INFORMATION

Global Part Numbering Example: FVT02506E25R00JE (visit www.vishay.net SAP parts manual for all options)

F	V	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)	**02, 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 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 **NI** = non-inductive **NP** = non-inductive + 92 style push-in bracket **NH** = non-inductive + 91 style horizontal bracket **NV** = non-inductive + style vertical bracket

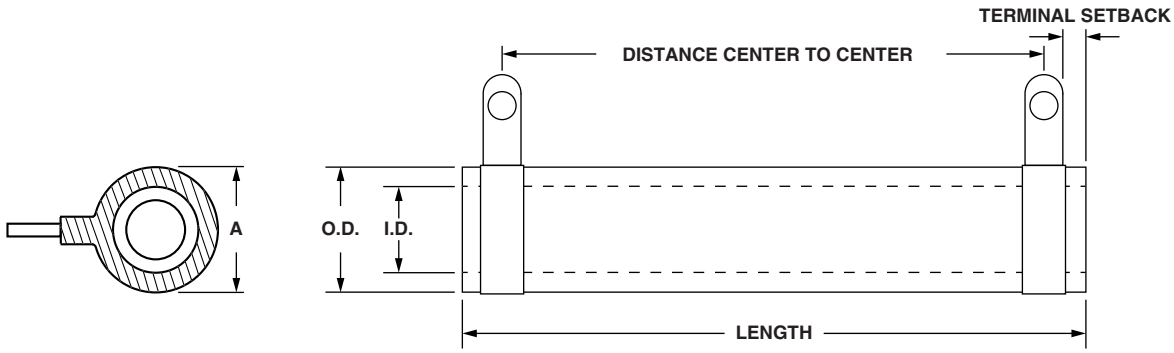
Historical Part Number Example: FVT-25-25-5 %

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

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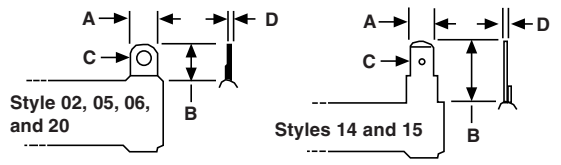
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DIMENSIONS in inches (millimeters)



MODEL	A MAX.	CORE DIMENSIONS			TERMINAL SETBACK ± 0.031 (0.79)	DISTANCE CENTER TO CENTER (REF.)	TERMINAL DESIGNATION	
		LENGTH	O.D. ± 0.031 (0.79)	I.D. ± 0.031 (0.79)			STANDARD	OPTIONAL (QUICK CONNECT)
FVT005	0.406 (10.31)	1.000 (25.40)	0.313 (7.95)	0.188 (4.78)	0.094 (2.39)	0.625 (15.88)	05	14
FVT010	0.406 (10.31)	1.750 (44.45)	0.313 (7.95)	0.188 (4.78)	0.094 (2.39)	1.375 (34.93)	05	14
FVT020	0.563 (14.30)	2.000 (50.8)	0.438 (11.13)	0.260 (6.60)	0.094 (2.39)	1.625 (41.28)	02	14
FVT20A	0.563 (14.30)	2.000 (50.8)	0.438 (11.11)	0.313 (7.94)	0.094 (2.38)	1.625 (41.28)	02	14
FVT025	0.688 (17.48)	2.000 (50.8)	0.563 (14.30)	0.313 (7.95)	0.094 (2.39)	1.562 (39.67)	06	15
FVT25A	0.906 (23.01)	2.000 (50.8)	0.750 (19.05)	0.500 (12.70)	0.094 (2.39)	1.562 (39.67)	06	15
FVT25B	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
FVT050	0.688 (17.48)	4.000 (101.6)	0.563 (14.30)	0.313 (7.95)	0.094 (2.39)	3.562 (90.47)	06	15
FVT50A	0.906 (23.01)	4.000 (101.6)	0.750 (19.05)	0.500 (12.70)	0.062 (1.57)	3.626 (92.10)	06	15
FVT50B	0.906 (23.01)	4.500 (114.3)	0.750 (19.05)	0.547 (13.89)	0.125 (3.18)	4.000 (101.60)	06	15
FVT075	0.688 (17.48)	6.000 (152.4)	0.563 (14.30)	0.313 (7.95)	0.094 (2.39)	5.562 (141.27)	06	15
FVT75A	0.906 (23.01)	6.000 (152.4)	0.750 (19.05)	0.500 (12.70)	0.094 (2.39)	5.562 (141.27)	06	15
FVT080	1.313 (33.34)	4.000 (101.6)	1.125 (28.58)	0.750 (19.05)	0.219 (5.56)	2.812 (71.42)	20	15
FVT100	0.906 (23.01)	6.500 (165.1)	0.750 (19.05)	0.500 (12.70)	0.125 (3.18)	6.000 (152.40)	06	15
FVT130	1.313 (33.35)	6.500 (165.1)	1.125 (28.58)	0.750 (19.05)	0.282 (7.16)	5.374 (136.50)	20	15
FVT160	1.313 (33.35)	8.500 (215.9)	1.125 (28.58)	0.750 (19.05)	0.267 (6.78)	7.404 (188.06)	20	15
FVT175	1.313 (33.34)	8.500 (215.9)	1.125 (28.58)	0.750 (19.05)	0.219 (5.56)	7.312 (185.72)	20	15
FVT200 FVT225	1.313 (33.35)	10.500 (266.7)	1.125 (28.58)	0.750 (19.05)	0.266 (6.76)	9.406 (238.91)	20	15

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	0.562 (14.07)	0.393 (9.98)	0.393 (9.98)	0.500 (12.70)	0.563 (14.29)	0.594 (15.08)
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	0.020 (0.51)	0.020 (0.51)	0.020 (0.51)	0.020 (0.51)	0.020 (0.51)	0.031 (0.79)

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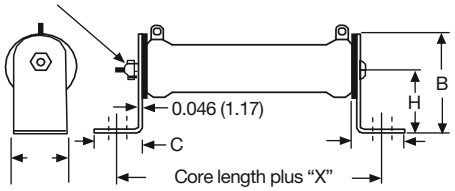
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MOUNTING HARDWARE

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
FVT005	n/a	202	n/a
FVT010	101	202	301
FVT020	101	203	301
FVT20A	101	203	301
FVT025	102	204	301
FVT25A	102	206	302
FVT25B	102	205	301
FVT050	102	204	302
FVT50A	102	206	302
FVT50B	102	208	302
FVT075	102	204	301
FVT75A	102	206	302
FVT100	102	206	302
FVT130	103	207	302
FVT175	103	207	303
FVT200	103	207	303
FVT225	103	207	303

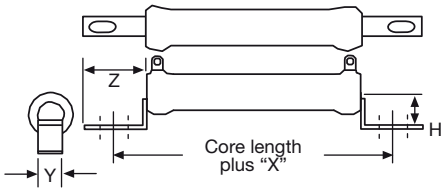
DIMENSIONS in inches (millimeters)

91 = 100 Style Horizontal 1 High Bracket



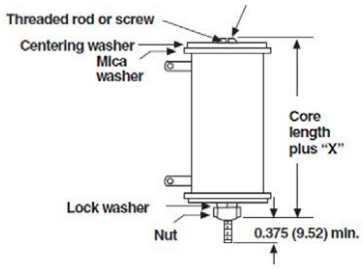
BRACKET TYPE	X	Y	Z	H	MOUNTING SLOT	C	B
101	1.063 (26.99)	0.500 (12.70)	0.950 (24.13)	1.000 (25.40)	0.219 x 0.438 (5.56 x 11.11)	0.750 (19.05)	1.375 (34.93)
102	1.063 (26.99)	0.750 (19.05)	0.859 (21.83)	1.250 (31.75)	0.219 x 0.438 (5.56 x 11.11)	0.750 (19.05)	1.750 (44.45)
103	1.063 (26.99)	1.250 (31.75)	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)	8 to 32
303	0.463 (11.76)	1/4 to 20

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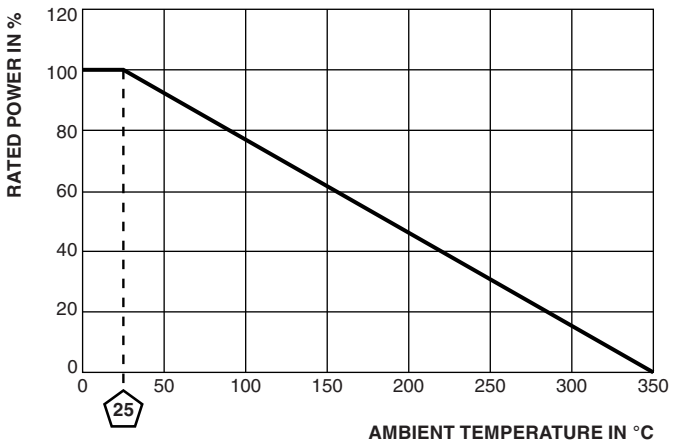
TECHNICAL SPECIFICATIONS		
PARAMETER	**UNIT**	**RESISTOR CHARACTERISTICS**
Power Rating	W	5 to 225
Resistance Range	Ω	0.1 to 645K
Resistance Tolerance	%	5
Temperature Coefficient	ppm/°C	± 260 for 20 Ω and above, ± 400 for 1 Ω to 19.99 Ω
Operating Temperature	°C	-55 °C to 350°C
Temperature Rise	°C	325 °C above an ambient of 25 °C
Maximum Altitude	f.a.s.l.	10 000
Short-Term Overload	-	10 x 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		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 vitreous enamel
Standard Terminals	Tinned alloy 42
Optional Terminals	Alloy 42
Terminal Bands	Alloy 42
Part Marking	HEI, model, wattage, value, tolerance, date code

NON-INDUCTIVE

Models of equivalent physical and electrical specifications are available with non-inductive (Ayrton-Perry) winding. They are identified by adding the letters “NI” to the end of the part number in the special section. For non-inductive models the maximum resistance values are lower, see Standard Electrical Specifications table.

DERATING



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