

## Wirewound Resistors, Industrial Power, Vitreous Coated, Fixed Edgewound Tubular


**FEATURES**

- High temperature vitreous coating
- Complete welded construction
- Excellent stability in operation (< 3 % change resistance)
- Material categorization:  
for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



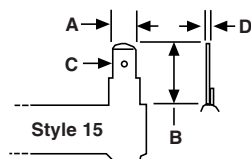
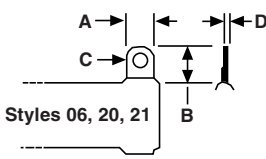
**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

STANDARD ELECTRICAL SPECIFICATIONS					
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{25^{\circ}\text{C}}$ W	RESISTANCE RANGE $\Omega$ $\pm 5\%$	RESISTANCE RANGE $\Omega$ $\pm 10\%$	WEIGHT (typical) g
FVE0050	FVE-50	50	1.0 to 3.8	1.0 to 3.8	18
FVE0090	FVE-90	90	0.10 to 5.7	0.10 to 5.7	36
FVE0100	FVE-100	100	1.0 to 6.1	0.15 to 6.1	41
FVE0110	FVE-110	110	1.0 to 7.4	0.20 to 7.4	49
FVE0120	FVE-120	120	1.0 to 8.6	0.1 to 8.6	54
FVE0140	HLZ-140	140	0.08 to 9.0	0.08 to 9.0	109
FVE0155	FVE-155	155	1.0 to 12.5	0.1 to 12.5	129
FVE0165	FVE-165	165	0.35 to 13.0	0.35 to 13.0	91
FVE0180	HLZ-165	165	0.35 to 13.0	0.35 to 13.0	91
FVE0240	FVE-240	240	1.0 to 18	0.1 to 18	186
FVE0300	FVE-300	300	1.0 to 25	0.15 to 25	236
FVE0375	FVE-375	375	1.0 to 32	0.20 to 32	286
FVE0420	FVE-420	420	1.0 to 35.8	0.25 to 35.8	320
FVE0500	FVE-500	500	1.0 to 46.2	0.30 to 46.2	381

GLOBAL PART NUMBER INFORMATION						
Global Part Numbering example: <b>FVE030020E15R0JE</b> (visit <a href="http://www.vishay.net">www.vishay.net</a> Vishay Dale parts numbering manual for all options)						
F	V	E	0	3	0	0
2	0	E	1	5	R	0
J	E					
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)	<b>06</b> <b>15</b> <b>20</b>	<b>E</b> = lead (Pb)-free	<b>R</b> = decimal <b>1R50</b> = 1.5 $\Omega$	<b>J</b> = $\pm 5\%$ <b>K</b> = $\pm 10\%$	<b>E</b> = lead (Pb)-free bulk pack	(dash number) from <b>1</b> to <b>99</b> as applicable <b>91</b> = 100 style BKT <b>92</b> = 200 style BKT <b>93</b> = 300 style BKT
Historical Part Number example: <b>FVE-300-15-5 %</b>						
FVE-300	15 $\Omega$	5 %				
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE				SPECIAL

**DIMENSIONS** in inches (millimeters)


MODEL	CORE DIMENSIONS			TERMINAL SETBACK	DISTANCE CENTER TO CENTER (REF.)	TERMINAL DESIGNATION	
	LENGTH	O.D. ± 0.031 (± 0.79)	I.D. ± 0.031 (± 0.79)			STANDARD	OPTIONAL (QUICK CONNECT)
FVE0050	2.000 (50.8)	0.750 (19.05)	0.500 (12.70)	0.094 (2.18)	1.562 (39.67)	06	15
FVE0090	4.000 (101.6)	0.563 (14.30)	0.313 (7.95)	0.094 (2.39)	3.562 (90.47)	06	15
FVE0100	3.500 (88.90)	0.750 (19.05)	0.500 (12.70)	0.079 (2.01)	3.092 (78.54)	06	15
FVE0110	4.000 (101.6)	0.750 (19.05)	0.500 (12.70)	0.125 (3.18)	3.500 (88.90)	06	15
FVE0120	4.500 (114.3)	0.750 (19.05)	0.547 (13.89)	0.125 (3.18)	3.400 (101.60)	06	15
FVE0140	4.000 (101.6)	1.125 (28.58)	0.750 (19.05)	0.219 (5.56)	2.812 (71.42)	20	15
FVE0155	4.250 (107.95)	1.125 (28.58)	0.750 (19.05)	0.282 (7.16)	3.311 (84.10)	20	15
FVE0165	6.500 (165.1)	0.750 (19.05)	0.750 (19.05)	0.125 (3.18)	5.75 (146.05)	20	15
FVE0180	6.500 (165.1)	0.750 (19.05)	0.750 (19.05)	0.125 (3.18)	5.75 (146.05)	20	15
FVE0240	6.500 (165.1)	1.125 (28.58)	0.750 (19.05)	0.250 (6.35)	5.625 (142.88)	20	15
FVE0300	8.500 (215.9)	1.125 (28.58)	0.750 (19.05)	0.267 (6.78)	7.591 (192.81)	20	15
FVE0375	10.500 (266.7)	1.125 (28.58)	0.750 (19.05)	0.266 (6.76)	9.593 (243.66)	20	15
FVE0420	11.750 (298.45)	1.125 (28.58)	0.750 (19.05)	0.266 (6.76)	10.843 (275.41)	20	15
FVE0500	10.500 (266.7)	1.625 (41.28)	1.125 (28.58)	0.267 (6.78)	9.466 (240.44)	21	-

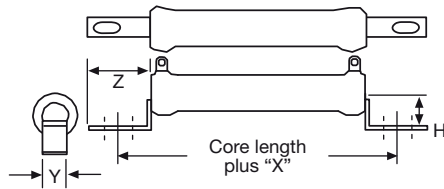
**TERMINAL DIMENSIONS** in inches (millimeters)


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

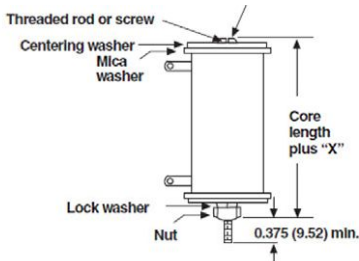
**MOUNTING HARDWARE FOR FVE PRODUCTS** - Dimensions in inches (millimeters)

**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
FVE0050	102	206	302
FVE0090	102	204	302
FVE0100	102	206	302
FVE0110	102	206	302
FVE0120	102	206	302
FVE0140	103	205	303
FVE0155	103	207	302
FVE0165	102	206	303
FVE0180	102	206	303
FVE0240	103	207	302
FVE0300	103	207	303
FVE0375	103	207	303
FVE0420	103	207	303
FVE0500	103	-	302



TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Power Rating	W	50 to 500
Resistance Range	$\Omega$	0.10 to 46.2
Resistance Tolerance	%	10
Temperature Coefficient	ppm/ $^{\circ}$ C	$\pm 260$ for 20 $\Omega$ and above, $\pm 400$ for 1 $\Omega$ to 19.99 $\Omega$
Operating Temperature	$^{\circ}$ C	-55 $^{\circ}$ C to 350 $^{\circ}$ C
Temperature Rise	$^{\circ}$ C	325 $^{\circ}$ C above an ambient of 25 $^{\circ}$ 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	$\Omega$	1M
Dielectric Voltage	V <sub>RMS</sub>	1000 V <sub>AC</sub>
Creepage	-	Varies by wattage, see "Terminal Setback" in Dimensions table
Terminal Sleeves	-	n/a
Inductance	$\mu$ H	Varies by wattage and resistance
Non-Inductive Winding	-	n/a
Terminal Strength	lb	10 lbs
Electrical or Mechanical Customization	-	Contact factory: <a href="mailto:ww2dresistors@vishay.com">ww2dresistors@vishay.com</a>

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





## 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.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. 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.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.