Wirewound Resistors, Industrial Power, Silicone Coated, Fixed Edgewound Tubular

FEATURES

- High temperature silicone coating
- Complete welded construction
- 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
FSE0050	FSE-50	50	1.0 to 3.8	1.0 to 3.8	18
FSE0090	FSE-90	90	0.10 to 5.7	0.10 to 5.7	36
FSE0100	FSE-100	100	1.0 to 6.1	0.15 to 6.1	41
FSE0110	FSE-110	110	1.0 to 7.4	0.20 to 7.4	49
FSE0120	FSE-120	120	1.0 to 8.6	0.1 to 8.6	54
FSE0155	FSE-155	155	1.0 to 12.5	0.1 to 12.5	129
FSE0240	FSE-240	240	1.0 to 18	0.1 to 18	186
FSE0300	FSE-300	300	1.0 to 25	0.15 to 25	236
FSE0375	FSE-375	375	1.0 to 32	0.20 to 32	286
FSE0420	FSE-420	420	1.0 to 35.8	0.25 to 35.8	320
FSE0500	FSE-500	500	1.0 to 46.2	0.30 to 46.2	381
FSE0750	FSE-750	750	1.0 to 81.3	0.35 to 81.3	654
FSE1000	FSE-1000	1000	1.0 to 101.6	0.40 to 101.6	817
FSE1500	FSE-1500	1500	1.0 to 135.5	0.15 to 135.5	1090

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: FSE050021E15R0JE (visit www.vishay.net Vishay Dale parts numbering manual for all options)

F	S	E	0	5	0	0	2	1	E	1	5	R	0	J	E		

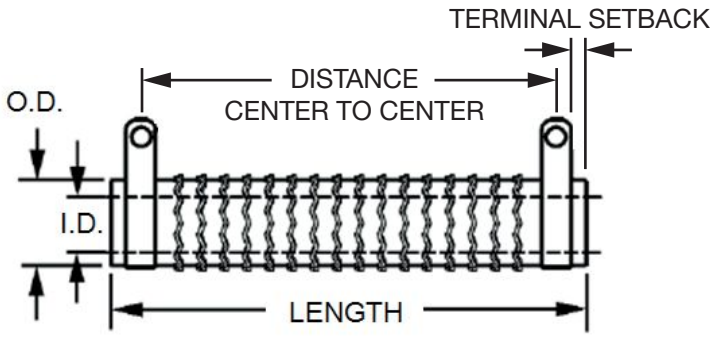
GLOBAL MODEL (7 digits)	TERMINAL DESIGNATION (2 digits)	TERMINAL FINISH (1 digit)	VALUE (4 digits)	TOLERANCE (1 digit)	PACKAGING CODE (1 digit)	SPECIAL (up to 2 digits)
(See Standard Electrical Specifications Global Model column for options)	**06** **15** **20** **21** **22**	**E** = Lead (Pb)-free	**R** = 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 BKT **92** = 200 style BKT **93** = 300 style BKT

Historical Part Number example: FSE-500-15-5 %

FSE-500	15 Ω	5 %	
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE	SPECIAL

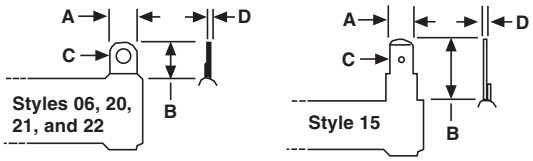
For technical questions, contact: ww2dresistors@vishay.com

DIMENSIONS in inches [millimeters]



MODEL	CORE DIMENSIONS			TERMINAL SETBACK	DISTANCE CENTER TO CENTER (REF.)	TERMINAL DESIGNATION	
	LENGTH ± 0.062 [± 1.57]	O.D. ± 0.031 [± 0.79]	I.D. ± 0.031 [± 0.79]			STANDARD	OPTIONAL (QUICK CONNECT)
FSE0050	2.000 [50.8]	0.750 [19.05]	0.500 [12.70]	0.094 [2.39	1.562 [39.67]	06	15
FSE0090	4.000 [101.6]	0.563 [14.30]	0.313 [7.95]	0.094 [2.39]	3.562 [90.47]	06	15
FSE0100	3.500 [88.90]	0.750 [19.05]	0.500 [12.70]	0.079 [2.01]	3.092 [78.54]	06	15
FSE0110	4.000 [101.6]	0.750 [19.05]	0.500 [12.70]	0.125 [3.18]	3.500 [88.90]	06	15
FSE0120	4.500 [114.3]	0.750 [19.05]	0.547 [13.89]	0.125 [3.18]	4.000 [101.60]	06	15
FSE0155	4.500 [114.3]	1.125 [28.58]	0.750 [19.05]	0.282 [7.16]	3.311 [84.10]	20	15
FSE0240	6.500 [165.1]	1.125 [28.58]	0.750 [19.05]	0.250 [6.35]	5.561 [141.25]	20	15
FSE0300	8.500 [215.9]	1.125 [28.58]	0.750 [19.05]	0.267 [6.78]	7.591 [192.81]	20	15
FSE0375	10.500 [266.7]	1.125 [28.58]	0.750 [19.05]	0.266 [6.76]	9.591 [243.61]	20	15
FSE0420	11.750 [288.9]	1.125 [28.58]	0.750 [19.05]	0.266 [6.76]	10.843 [275.41]	20	15
FSE0500	10.500 [266.7]	1.625 [41.275]	1.125 [28.58]	0.266 [6.76]	9.468 [240.49]	21	-
FSE0750	12.000 [304.8]	2.500 [63.50]	1.750 [44.45]	0.508 [12.90]	10.484 [266.29]	22	-
FSE1000	15.000 [381.0]	2.500 [63.50]	1.750 [44.45]	0.508 [12.90]	13.484 [342.49]	22	-
FSE1500	20.000 [508.0]	2.500 [63.50]	1.750 [44.45]	0.508 [12.90]	18.484 [469.49]	22	-

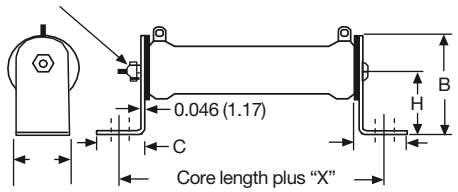
TERMINAL DIMENSIONS in inches [millimeters]



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]

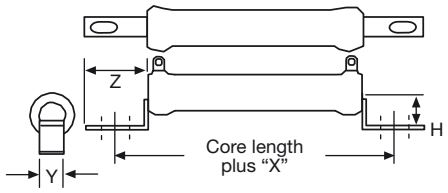
MOUNTING HARDWARE FOR AVT PRODUCTS - Dimensions in inches [millimeters]

91 = 100 Style Horizontal 1 High Bracket



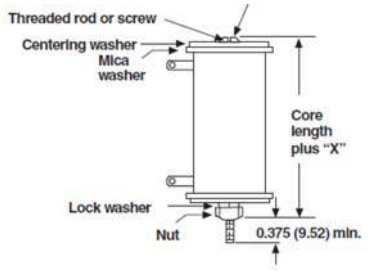
BRACKET TYPE	X	Y	Z	H	MOUNTING SLOT	C	B
102	1.063 [26.99]	0.750 [19.05]	0.859 [21.83]	1.250 [31.75]	0.219 x 0.438 [5.56 x 11.11]	0.750 [19.05]	1.750 [44.75]
103	1.063 [26.99]	1.250 [31.75]	1.000 [25.40]	1.500 [38.10]	0.281 x 0.563 [7.14 x 14.29]	0.927 [23.55]	2.125 [53.98]
104	1.952 [49.58]	2.500 [63.50]	1.478 [37.54]	3.000 [76.20]	open slot x 0.406 [10.31]	1.375 [34.93]	4.25 [107.25]

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
FSE0050	102	206	302
FSE0090	102	204	302
FSE0100	102	206	302
FSE0110	102	206	302
FSE0120	102	206	302
FSE0155	103	207	302
FSE0240	103	207	302
FSE0300	103	207	303
FSE0375	103	207	303
FSE0420	103	207	303
FSE0500	103	-	302
FSE0750	104	-	302
FSE1000	104	-	302
FSE1500	104	-	303

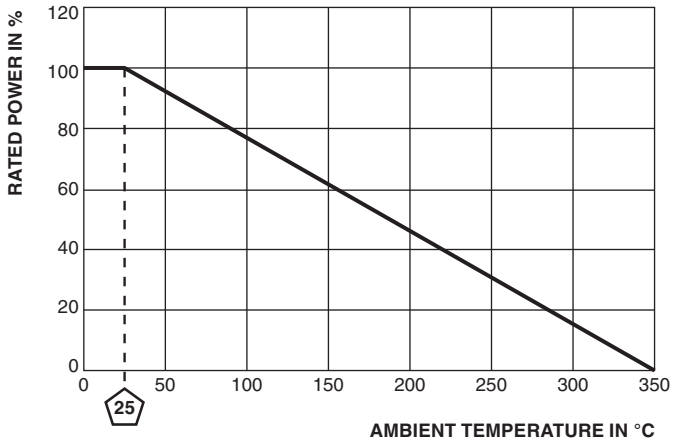
TECHNICAL SPECIFICATIONS

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



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.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.

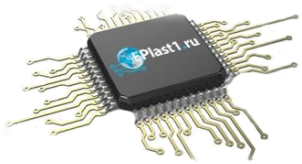
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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