Wirewound Resistors, Industrial Power, Silicone Coated, Printed Circuit Board Mount



FEATURES

- High temperature silicone coating
- Eliminates lead forming to keep parts off of PC board
- Built in standoffs provide PC board heat protection and opposing feet to avoid rocking
- Available in non-inductive style (special "NI") with Ayrton-Perry winding
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{25\,°C}$ W	RESISTANCE RANGE Ω ± 5 %	RESISTANCE RANGE Ω ± 10 %	WEIGHT (typical) g
FS-003	FS-3	3	1.0 to 6K	0.1 to 6K	1.16
FS-05A	FS-5A	5	1.0 to 15K	0.1 to 15K	2.12
FS-005	FS-5	7	1.0 to 17.5K	0.1 to 17.5K	3.36
FS-05S	FS-5S	8	1.0 to 20.5K	0.1 to 20.5K	4.60
FS-010	FS-10	10	1.0 to 29K	0.1 to 29K	6.24
FS-10S	FS-10S	12	1.0 to 58K	0.1 to 58K	6.60
FS-020	FS-20	20	1.0 to 60K	0.1 to 60K	8.82
FS-20S	FS-20S	20	1.0 to 95K	0.1 to 95K	11.36

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	FS RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 260 for 20 Ω and above, ± 400 for 1 Ω to 19.99 Ω, special TC's available please contact factory
Short Time Overload	-	10 x rated power for 5 s
Dielectric Withstanding Voltage	V_{AC}	1000, from terminal to mounting hardware
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Operating Temperature Range	°C	-55 to +350

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: FS-010CBE1K000JE (visit www.vishay.net SAP parts manual for all options)

F	S	-	0	1	0	C	B	E	1	K	0	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)	**CB**	**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 **NI** = non-inductive

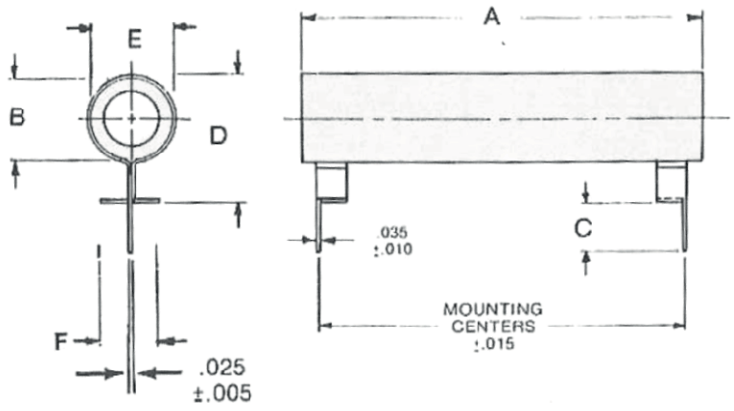
Historical Part Number example: FS-10-1K-5 %

FS-10	1K Ω	5 %	
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE	SPECIAL

For technical questions, contact: ww2dresistors@vishay.com

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DIMENSIONS in inches [millimeters]



Note

- Recommended mounting hole is 0.078 diameter.

MODEL	DIMENSIONS in inches [millimeters]						
	CORE		C ± 0.062 [± 1.57]	D MAX.	E MAX.	F MAX.	STANDARD MOUNTING CENTERS ± 0.015 [± 0.381]
	A ± 0.062 [± 1.57]	B ± 0.031 [± 0.78]					
FS-003 FS-002	1.000 [25.4]	0.200 [5.08]	0.360 [9.14]	0.450 [11.43]	0.281 [7.14]	0.400 [10.16]	0.600 [15.24]
FS-05A	1.125 [28.58]	0.200 [5.08]	0.360 [9.14]	0.450 [11.43]	0.281 [7.14]	0.400 [10.16]	0.900 [22.86]
FS-005 FS-006	1.000 [25.4]	0.312 [7.94]	0.360 [9.14]	0.600 [15.24]	0.410 [10.41]	0.500 [12.7]	0.600 [15.24]
FS-05S	1.125 [28.58]	0.312 [7.94]	0.360 [9.14]	0.600 [15.24]	0.410 [10.41]	0.500 [12.7]	0.900 [22.86]
FS-010	1.750 [44.45]	0.312 [7.94]	0.360 [9.14]	0.600 [15.24]	0.410 [10.41]	0.500 [12.7]	1.300 [33.02]
FS-10S	2.125 [53.98]	0.312 [7.94]	0.360 [9.14]	0.600 [15.24]	0.410 [10.41]	0.500 [12.7]	1.700 [43.18]
FS-015 FS-020	2.000 [50.8]	0.437 [11.11]	0.19 [4.82]	0.725 [18.41]	0.531 [13.49]	0.531 [13.49]	1.700 [43.18]
FS-20S	2.375 [9.53]	0.437 [11.11]	0.19 [4.82]	0.725 [18.41]	0.531 [13.49]	0.531 [13.49]	2.200 [55.88]

Notes

- The pin configuration on the terminals for the FS-10S and smaller products is on the center of the terminal.
- The pin configuration on the terminals for the FS-015 and larger products is on the edge of the terminal

MATERIAL SPECIFICATIONS

Element: Copper-nickel alloy or nickel-chrome alloy, depending on resistance value

Core: Ceramic, steatite

Coating: Special high temperature silicone

Standard Terminals: Tinned alloy 42

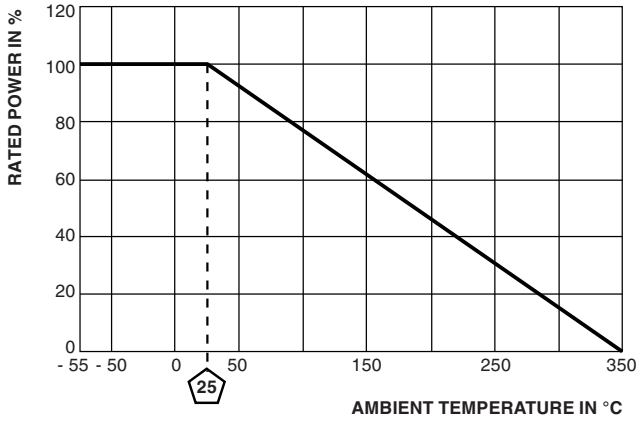
Terminal Bands: Alloy 42

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 one-half the standard part.

DERATING



For technical questions, contact: ww2dresistors@vishay.com

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