

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


RoHS
COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{25^\circ\text{C}}$ W	RESISTANCE RANGE Ω $\pm 5\%$	RESISTANCE RANGE Ω $\pm 10\%$	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)

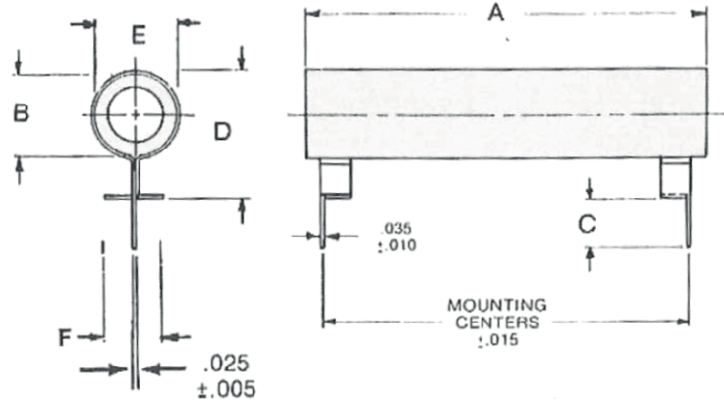
F	S	-	0	1	0	C	B	E	1	K	0	0	0	J	E		
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GLOBAL MODEL (6 digits)	TERMINAL DESIGNATION (2 digits)	TERMINAL FINISH (1 digit)	VALUE (5 digits)	TOLERANCE (1 digit)	PACKAGING CODE (1 digit)	SPECIAL (up to 2 digits)
(see Standard Electrical Specifications Global Model column for options)	CB	E = lead (Pb)-free	R = decimal K = thousand 1R500 = 1.5 Ω 1K500 = 1.5 k Ω	J = $\pm 5\%$ K = $\pm 10\%$	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

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	1.000	0.200	0.360	0.450	0.281	0.400	0.600
FS-002	[25.4]	[5.08]	[9.14]	[11.43]	[7.14]	[10.16]	[15.24]
FS-05A	1.125	0.200	0.360	0.450	0.281	0.400	0.900
	[28.58]	[5.08]	[9.14]	[11.43]	[7.14]	[10.16]	[22.86]
FS-005	1.000	0.312	0.360	0.600	0.410	0.500	0.600
FS-006	[25.4]	[7.94]	[9.14]	[15.24]	[10.41]	[12.7]	[15.24]
FS-05S	1.125	0.312	0.360	0.600	0.410	0.500	0.900
	[28.58]	[7.94]	[9.14]	[15.24]	[10.41]	[12.7]	[22.86]
FS-010	1.750	0.312	0.360	0.600	0.410	0.500	1.300
	[44.45]	[7.94]	[9.14]	[15.24]	[10.41]	[12.7]	[33.02]
FS-10S	2.125	0.312	0.360	0.600	0.410	0.500	1.700
	[53.98]	[7.94]	[9.14]	[15.24]	[10.41]	[12.7]	[43.18]
FS-015	2.000	0.437	0.19	0.725	0.531	0.531	1.700
FS-020	[50.8]	[11.11]	[4.82]	[18.41]	[13.49]	[13.49]	[43.18]
FS-20S	2.375	0.437	0.19	0.725	0.531	0.531	2.200
	[60.325]	[11.11]	[4.82]	[18.41]	[13.49]	[13.49]	[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

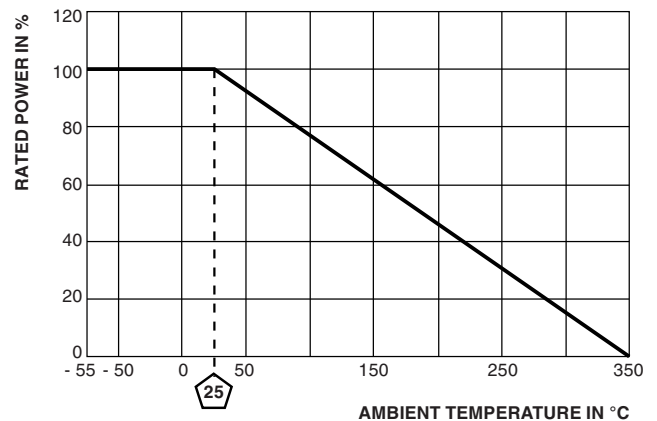
Terminal Bands: alloy 42

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





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