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Vishay Huntington

Wirewound Resistors, Industrial Power, Flat



LINKS TO ADDITIONAL RESOURCES



FEATURES

- High temperature silicon coating
- · Mounting accommodations ideally suited to high density packaging
- · Self-stacking hardware for horizontal or vertical placement
- Withstands high vibrations without loosening
- · Mounting hardware functions as a heat sink allowing greater heat dissipation and less derating of stacked units



e3

RoHS COMPLIANT

· Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

STANDARD ELECTRICAL SPECIFICATIONS								
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING P _{25 °C} W	$\begin{array}{c} \textbf{RESISTANCE} \\ \textbf{RANGE} \ \Omega \end{array}$	$\begin{array}{c} \textbf{RESISTANCE} \\ \textbf{RANGE} \ \Omega \end{array}$	WEIGHT (typical)			
			± 5 %	± 10 %	g			
FSOT10	FSOT-10	10	1.0 to 15K	0.10 to 15K	0.41			
FSOT10-NI	FSOT-10-NI	10	1.0 to 1.8K	1.0 to 1.8K				
FSOT15	FSOT-15	15	1.0 to 26K	0.10 to 26K	0.47			
FSOT15-NI	FSOT-15-NI	15	1.0 to 3.6K	1.0 to 3.6K				
FSOT20	FSOT-20	20	1.0 to 71K	0.10 to 71K	0.74			
FSOT20-NI	FSOT-20-NI	20	1.0 to 9.8K	1.0 to 9.8K				
FSOT3014 / FSOT3016	HL-24-09 / HL-24-16	30	1.0 to 11K	0.10 to 11K	20.14			
FSOT3015 / FSOT3017	NHL-24-09 / NHL-24-16	30	1.0 to 1.2K	1.0 to 1.2K				
FSOT4014 / FSOT4016	HL-40-09 / HL-40-16	40	1.0 to 26K	0.10 to 26K	30.07			
FSOT4015 / FSOT4017	NHL-40-09 / NHL-40-16	40	1.0 to 3K	1.0 to 3K				
FSOT5514 / FSOT5516	HL-55-09 / HL-55-16	55	1.0 to 54K	0.10 to 54K	51.25			
FSOT5515 / FSOT5517	NHL-55-09 / NHL-55-16	55	1.0 to 6.8K	1.0 to 6.8K				
FSOT7014 / FSOT7016	HL-70-09 / HL-70-16	70	1.0 to 77K	0.10 to 77K	60.48			
FSOT7015 / FSOT7017	NHL-70-09 / NHL-70-16	70	1.0 to 9.4K	1.0 to 9.4K				
FSOT9514 / FSOT9516	HL-95-09 / HL-95-16	95	1.0 to 99.9K	0.10 to 99.9K	76.51			
FSOT9515 / FSOT9517	NHL-95-09 / NHL-95-16	95	1.0 to12.4K	1.0 to 12.4K	70.01			

TECHNICAL SPECIFICATIONS				
PARAMETER	UNIT	FSOT, FSOTXX FLAT RESISTOR CHARACTERISTICS		
Temperature coefficient	ppm/°C	\pm 90 for 0.1 Ω to 0.99 $\Omega;$ \pm 50 for 1 Ω to 9.9 $\Omega;$ \pm 30 for 10 Ω and above		
Dielectric withstanding voltage	V _{AC}	1000, from terminal to mounting hardware		
Short time overload	-	10 x rated power for 5 s		
Maximum working voltage	V	(P x R) ^{1/2}		
Insulation resistance	Ω	1000 M Ω minimum dry, 100 M Ω minimum after moisture test		
Operating temperature range	°C	-55 to +350		

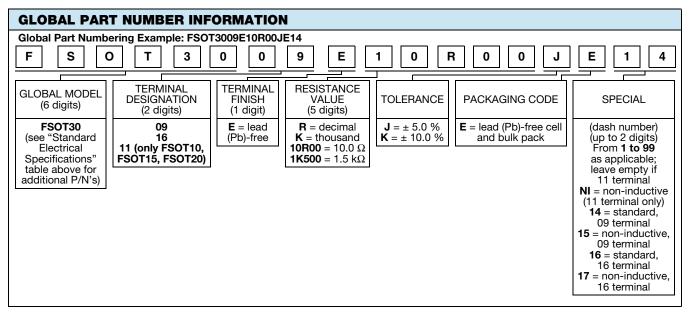
Revision: 15-Nov-2022

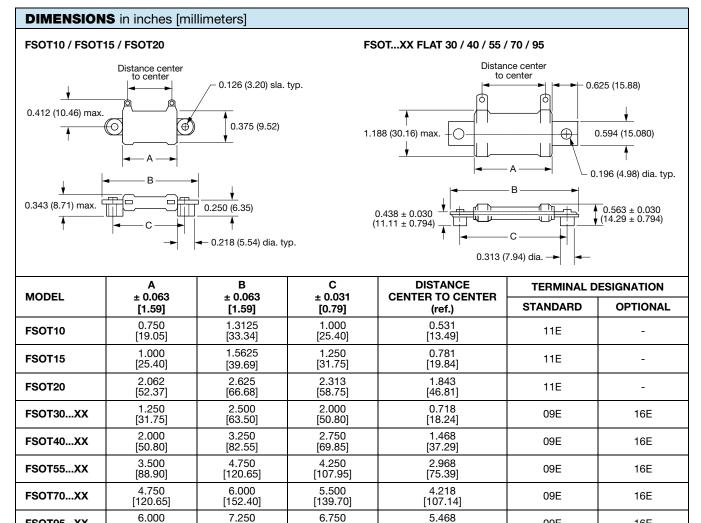
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FSOT, FSOT...XX Flat



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FSOT95...XX

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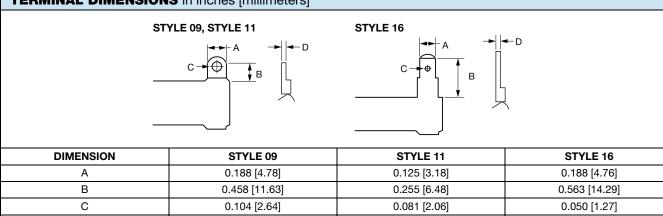
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0.020 [0.51]

TERMINAL DIMENSIONS in inches [millimeters]



0.020 [0.51]

POWER RATING

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Vishay FSOT flat resistor wattage ratings are based on mounting horizontally to $10^{\circ} \times 10^{\circ} \times 0.04^{\circ}$ [254.0 mm x 254.0 mm x 1.02 mm] steel plate in 25 °C ambient with no air flow.

EXCLUSIVE BRACKET DESIGN

Mounting strap fits snugly through resistor core and is bound against unit by two eccentric spacers. The bracket eliminates expensive cements and improves heat transfer and power handling capabilities.

MATERIAL SPECIFICATIONS

Element: copper-nickel alloy of nickel-chrome alloy, depending on resistance value

Core: ceramic, steatite

Coating: special high temperature silicone

Standard Terminals: model "E" terminals are tinned steel

Terminal Bands: steel

Part Marking: HEI, model, wattage, value, tolerance, date code

TERMINAL FINISH

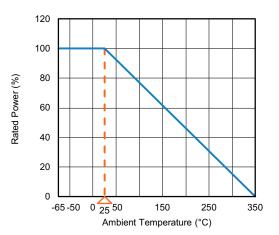
"E" finish - 100 % Sn coated steel.

NON-INDUCTIVE

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Models of equivalent physical and electrical specifications are available with non-inductive (Aryton-Perry) winding. For non-inductive models, maximum resistance values are lower, see Standard Electrical Specifications table.

DERATING



Derating is required for ambient temperatures above 25 °C per the above graph.

PERFORMANCE						
TEST	CONDITIONS OF TEST	TEST LIMITS				
Thermal shock	Rated power applied until thermally stable, then a minimum of 15 min at -55 $^\circ\mathrm{C}$	\pm (2.0 % + 0.05 $\Omega) \Delta R$				
Short time overload	10 x rated power for 5 s	\pm (2.0 % + 0.05 $\Omega) \Delta R$				
Dielectric withstanding voltage	1000 V _{RMS} , 1 min	\pm (0.1 % + 0.05 $\Omega)$ ΔR				
Low temperature storage	-55 °C for 24 h	\pm (2.0 % + 0.05 $\Omega) \Delta R$				
High temperature exposure	250 h at +350 °C	\pm (2.0 % + 0.05 $\Omega) \Delta R$				
Moisture resistance	MIL-STD-202 method 106, 7b not applicable	\pm (2.0 % + 0.05 $\Omega) \Delta R$				
Shock, specified pulse	MIL-STD-202 method 213, 100 g's for 6 ms, 10 shocks	\pm (0.2 % + 0.05 $\Omega)$ ΔR				
Vibration, high frequency	Frequency varied 10 Hz to 2000 Hz, 20 g peak, 2 directions 6 h each	\pm (0.2 % + 0.05 $\Omega)$ ΔR				
Load life	1000 h at rated power, +25 °C, 1.5 h "ON", 0.5 h "OFF"	\pm (3.0 % + 0.05 $\Omega) \Delta R$				

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