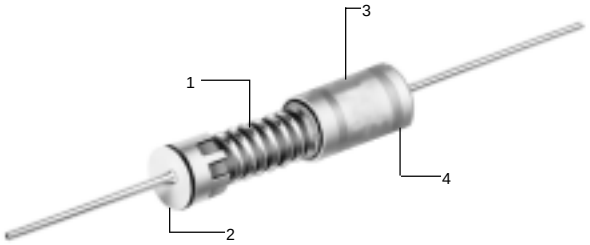
GENERAL-PURPOSE FAILSAFE MOLDED WIREWOUND RESISTOR

ISO-9001 Registered

SPH/SPF SERIES



See notes below

- Drop-in replacement for BWH/BWF
- 2 watt rated with 1 watt dimensions
- ±5%, ±10% tolerance
- 0.1 ohm to 2400 ohms
- TCR's as low as ±150 ppm/°C std (custom TC's available)
- Weldable and solderable leads

SPECIFICATIONS:

IRC Type	SPH	SPF
EIA RS-344 Style	CRU 2	CRU 2
MIL-R-11 Style	RC32/RC42	RC32/RC42
Resistance - Std.	0.1Ω to 2400Ω	0.1Ω to 1000Ω
Tolerance - Std.	±5%, ±10%	±5%, ±10%
Power Rating	2 watt @ 70°C 1 watt @ 115°C Derating to 0 @ 160°C	2 watt @ 70°C 1 watt @ 115°C Derating to 0 @ 160°C
Max. Continuous Working Voltage	$\sqrt{PR}$	$\sqrt{PR}$
Min. Insulation Resistance Dry	10,000 Meg	10,000 Meg
Min. Insulation Resistance Wet	100 Meg	100 Meg
Min. Dielectric Withstanding Volts (RMS) ATM	1000 V	1000 V
Min. Dielectric Withstanding Volts (RMS) Reduced Pressure	625V	625V
Hotspot Temperature Rise	145°C @ 2 watts	145°C @ 2 watts
Typical Load Life	5%	5%
Current Noise	Negligible	Negligible

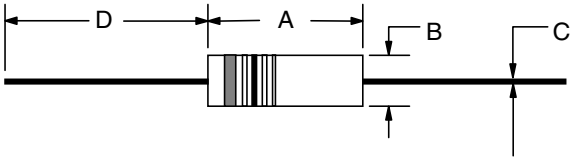
1. Resistive Element
All resistor types have resistance alloy winding on a braided fiberglass substrate. Intermediate silicone coatings are used to enhance processibility and to provide protection to the resistive element.

2. Termination
The SPH and SPF resistors are terminated using an alloy coated copper flashed steel lead welded to a cap of the same material. This termination assembly is mechanically crimped, utilizing an improved crimp design, to the resistive element.

3. Encapsulation
The SPH and SPF are encapsulated utilizing a compression molded phenolic plastic material. The SPF has a flame-resistance coating applied over the resistive element to provide flammability protection when destructive overloads may occur.

4. Marking
All products are marked utilizing heat and solvent resistant color code bands consistent with EIA/MIL requirements. The first band is double width to designate wirewound construction. A fifth band, blue in color, is used for flameproof identification.

DIMENSIONS (Inches and (mm)):



IRC TYPE	A	B	C	D
SPH	0.562±0.010 (14.3±0.25)	0.225±0.008 (5.72±0.20)	0.032±0.002 (0.813±0.05)	1.50±0.126 (38.1±3.2)
SPF	0.562±0.010 (14.3±0.25)	0.225±0.008 (5.72±0.20)	0.032±0.002 (0.813±0.05)	1.50±0.126 (38.1±3.2)

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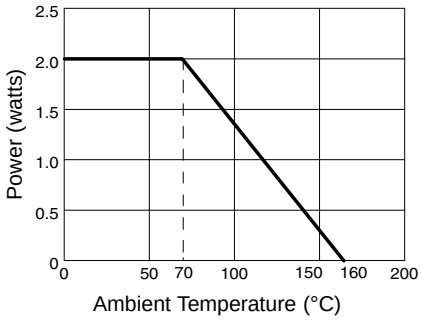
SPH/SPF CHARACTERISTICS (TYPICAL PERFORMANCE):

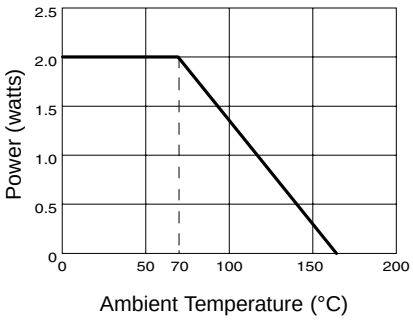
Test	SPH	SPF
Temperature Coefficient (ppm)*	0.1Ω - 0.16Ω ±1000 0.18Ω - 0.68Ω ±800 0.75Ω - 2400Ω ±400	0.10Ω ±1700 0.11Ω - 0.16Ω ±1000 0.18Ω - 0.68Ω ±800 0.75Ω - 1000Ω ±400
Dielectric Withstanding Voltage (RMS)	1000V	1000V
Momentary Overload	5%	5%
Low Temperature Operation	5%	5%
Temperature Cycle	5%	5%
Humidity	5%	5%
Load Life	5%	5%
Terminal Strength	5%	5%
Resistance to Solder Heat	5%	5%
Solderability	No Failures	No Failures

*All ppm levels listed are maximum.

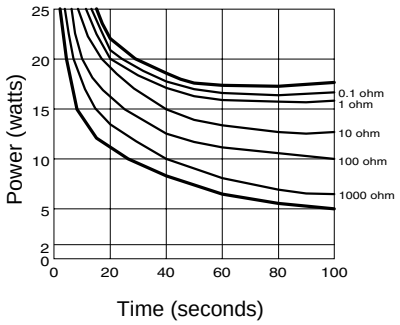
SPH POWER DERATING:



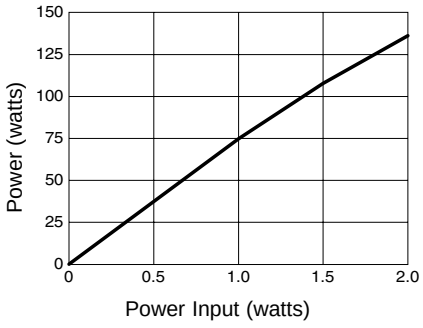
SPF POWER DERATING:



SPF TYPICAL FUSING:



SPH AND SPF TEMPERATURE RISE:



HOW TO ORDER:

Sample Part No.:

SPH 150Ω 5%

IRC Type

Resistance Range

Tolerance

WIREWOUND AND FILM TECHNOLOGIES DIVISION
736 Greenway Road • Boone, North Carolina 28607-1860 • Tel: 828-264-8861 • Fax: 828-264-8866 • www.irctt.com