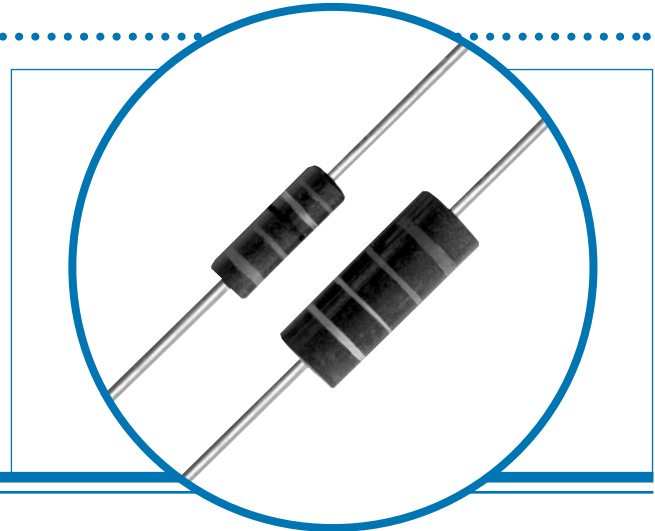


General-Purpose Failsafe Moulded Wirewound Resistors

SPH/SPF Series

- **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 standard (custom TC's available)**
- **Weldable and solderable leads**

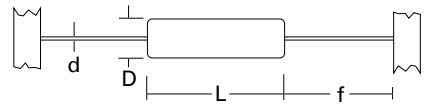


Electrical Data

| Type | | SPH | SPF |
|---------------------------------------|-------|---------------------------------------------------|-----------|
| EIA RS-344 Style | | CRU2 | |
| MIL-R-11 Style | | RC32/RC42 | |
| Resistance | ohms | OR1 to 2k4 | OR1 to 1k |
| Tolerance | % | ±5, ±10 | |
| Power rating | watts | 2 at 70°C 1 at 115°C Derating to 0 at 160°C | |
| Maximum continuous working voltage | | \sqrt{PR} | |
| Minimum insulation resistance | dry | 10,000 Meg | |
| | wet | 100 Meg | |
| Minimum dielectric withstanding volts | ATM | 1000V | |
| Reduced pressure | RMS | 625V | |
| Hotspot temperature rise | watts | 145°C at 2 watts | |
| Current noise | | Negligible | |

Physical Data

| Dimensions (mm) | | | | |
|-----------------|------------|------------|-------------|-----------|
| Type | L | D | d | f |
| SPH | 14.3 ±0.25 | 5.72 ±0.20 | 0.813 ±0.05 | 38.1 ±3.2 |
| SPF | 14.3 ±0.25 | 5.72 ±0.20 | 0.813 ±0.05 | 38.1 ±3.2 |



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.

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.

Encapsulation

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

Marking

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

General Note

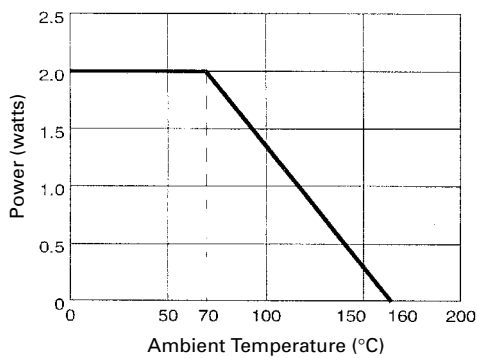
Welwyn Components reserves the right to make changes in product specification without notice or liability. All information is subject to Welwyn's own data and is considered accurate at time of going to print.

Performance Data

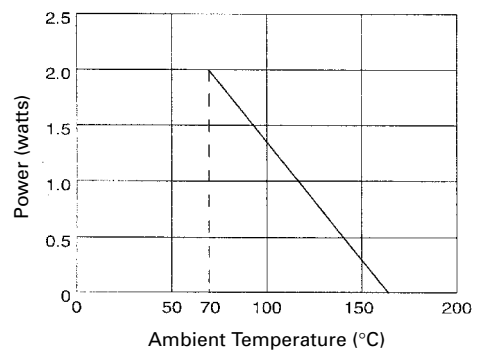
| | | SPH | SPF |
|---------------------------------|------|---------------------------------------------------------|-------------------------------------------------------------------------|
| Temperature coefficient (ppm)* | ohms | 0.1 - 0.16 ±1000 0.18 - 0.68 ±800 0.75 -2400 ±400 | 0.10 ±1700 0.11 - 0.16 ±1000 0.18 - 0.68 ±800 0.75 - 1000 ±400 |
| Dielectric withstanding voltage | RMS | 1000V | |
| Momentary overload | % | 5 | |
| Low temperature operation | % | 5 | |
| Temperature cycle | % | 5 | |
| Humidity | % | 5 | |
| Load life | % | 5 | |
| Terminal strength | % | 5 | |
| Resistance to solder heat | % | 5 | |

*All ppm levels listed are maximum

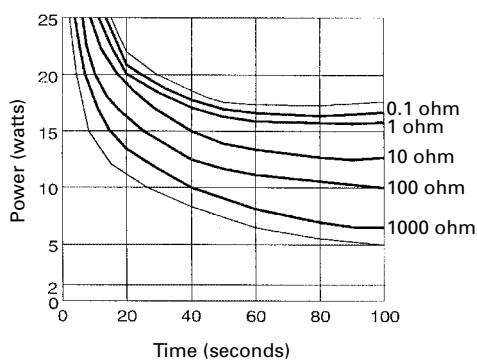
SPH Power Derating



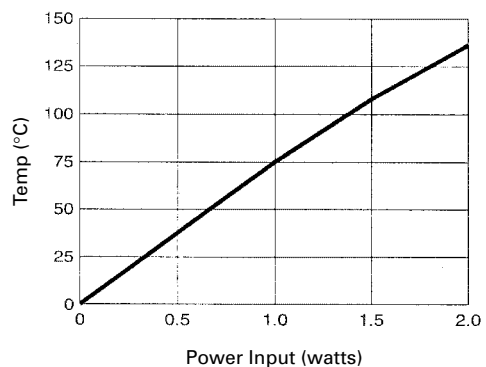
SPF Power Derating



SPF Typical Fusing



SPH & SFF Temperature Rise



General-Purpose Failsafe Moulded Wirewound Resistors

SPH/SPF Series



Ordering Procedure

Example: SPH at 10 ohms and 5% tolerance tape packed on a reel of 1250 pieces –

