

## Semi-Precision Power Wirewound Resistor

### (N)AS Series

- 0.25 to 10 watts
- Tolerance down to  $\pm 0.5\%$
- 0.1 ohm to 150K ohms
- Resistance wire TCR  $\pm 20$  ppm/ $^{\circ}\text{C}$
- Non inductive (NAS) option
- Pb-free option is RoHS compliant



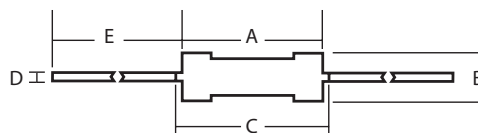
 All Pb-free parts comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

## Electrical Data

| Type      | Equivalent MIL-R-26 Style | Power Rating (watts)   |                       | AS Standard Range (ohms) |      | NAS Non-inductive Range (ohms) |      | Available Tolerance (%) |                   |
|-----------|---------------------------|------------------------|-----------------------|--------------------------|------|--------------------------------|------|-------------------------|-------------------|
|           |                           | 125 $^{\circ}\text{C}$ | 25 $^{\circ}\text{C}$ | Min.                     | Max. | Min.                           | Max. | <1R0                    | $\geq 1\text{R}0$ |
| (N)AS-1/4 | RW81                      | 0.25                   | 1                     | 0R2                      | 4K0  | 1R0                            | 500R | 3, 5                    | 0.5, 1, 3, 5      |
| (N)AS-1/2 |                           | 0.5                    | 1                     | 0R24                     | 6K0  | 1R0                            | 3K0  |                         |                   |
| (N)AS-1   | RW70U                     | 1                      | 2                     | 0R1                      | 7K5  | 0R1                            | 3K8  |                         |                   |
| (N)AS-1C  |                           | 1                      | 2                     | R05                      | 2K0  | 10R                            | 1K0  |                         |                   |
| (N)AS-2   | RW79U                     | 2                      | 3                     | 0R1                      | 20K  | 0R5                            | 10K  |                         |                   |
| (N)AS-2B  |                           | 3                      | 4                     | 0R1                      | 33K  | 0R5                            | 12K  |                         |                   |
| (N)AS-2C  |                           | 2                      | 3                     | 0R1                      | 18K  | 0R2                            | 7K5  |                         |                   |
| (N)AS-3   |                           | 3                      | 5                     | 0R1                      | 30K  | 0R5                            | 15K  |                         |                   |
| (N)AS-5   | RW74U                     | 5                      | 7                     | 0R1                      | 60K  | 0R8                            | 30K  |                         |                   |
| (N)AS-7   |                           | 7                      | 9                     | 0R1                      | 90K  | 1R0                            | 45K  |                         |                   |
| (N)AS-10  | RW78U                     | 10                     | 14                    | 0R1                      | 150K | 0R3                            | 51K  |                         |                   |

## Physical Data

| Dimensions Inches (mm) |                      |             |              |              |             |
|------------------------|----------------------|-------------|--------------|--------------|-------------|
| Type                   | A $\pm 0.032$ (0.81) | B (max)     | C (max)      | D (nom)      | E (min)     |
| (N)AS-1/4              | 0.250 (6.4)          | 0.094 (2.4) | 0.312 (7.9)  | 0.020 (0.5)  | 1.50 (38.1) |
| (N)AS-1/2              | 0.312 (7.9)          | 0.094 (2.4) | 0.375 (9.5)  | 0.020 (0.5)  | 1.50 (38.1) |
| (N)AS-1                | 0.367 (9.3)          | 0.125 (3.2) | 0.429 (10.9) | 0.020 (0.5)  | 1.50 (38.1) |
| (N)AS-1C               | 0.256 (6.5)          | 0.115 (2.9) | 0.303 (7.7)  | 0.025 (0.64) | 1.50 (38.1) |
| (N)AS-2                | 0.480 (12.2)         | 0.250 (6.3) | 0.600 (15.2) | 0.032 (0.8)  | 1.50 (38.1) |
| (N)AS-2B               | 0.540 (13.7)         | 0.219 (5.6) | 0.663 (16.6) | 0.032 (0.8)  | 1.30 (33.0) |
| (N)AS-2C               | 0.489 (11.0)         | 0.157 (4.0) | 0.594 (15.1) | 0.032 (0.8)  | 1.30 (33.0) |
| (N)AS-3                | 0.687 (17.5)         | 0.282 (7.2) | 0.812 (20.6) | 0.040 (1.0)  | 1.50 (38.1) |
| (N)AS-5                | 0.875 (22.2)         | 0.344 (8.8) | 0.980 (24.9) | 0.040 (1.0)  | 1.50 (38.1) |
| (N)AS-7                | 1.250 (31.8)         | 0.344 (8.8) | 1.375 (35.0) | 0.040 (1.0)  | 1.50 (38.1) |
| (N)AS-10               | 1.812 (46.0)         | 0.385 (9.8) | 1.937 (49.2) | 0.040 (1.0)  | 1.50 (38.1) |



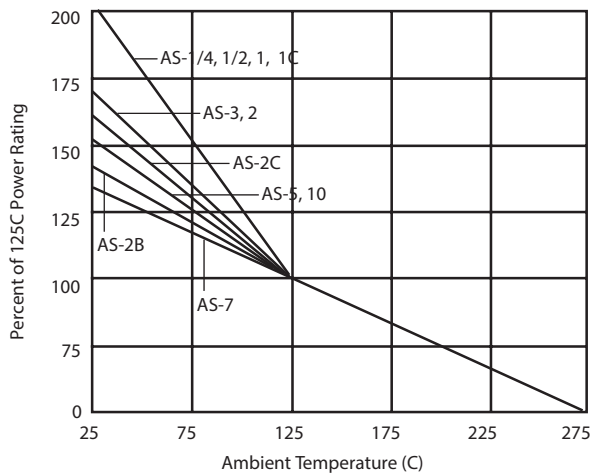
### General Note

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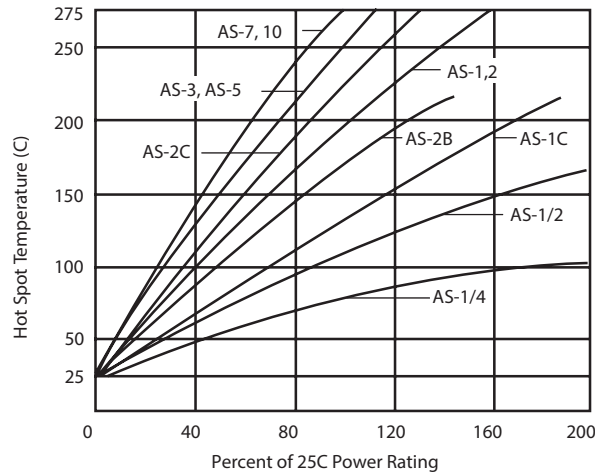
(N)AS Series

Performance Data

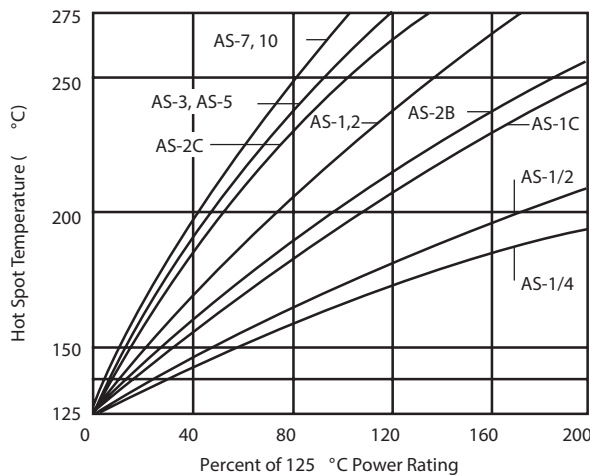
Power Derating



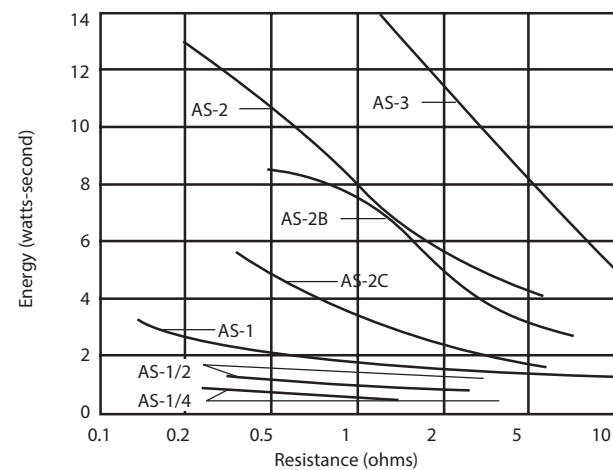
Temperature Rise @ 25°C



Temperature Rise @ 125°C



Selected Pulse-Handling Capability @ 125°C



Environmental Testing

| Test Condition            | Max ΔR |
|---------------------------|--------|
| Load Life 1000 hours      | 1.0%   |
| Moisture Resistance       | 1.0%   |
| Temperature Cycle         | 0.5%   |
| Short Time Overload       | 0.5%   |
| Low Temperature Operation | 0.5%   |
| Solder Heat               | 0.25%  |
| Shock                     | 0.5%   |
| Vibration                 | 0.5%   |

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(N)AS Series

Ordering Procedure

This product has two valid part numbers:

European (Welwyn) Part Number: AS3-27KFI (AS3, 27 kilohms ±1%, Pb-free)

|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
|   | A | S | 3 | - | 2 | 7 | K | F | I |
| 1 | 2 | 3 | 4 | 5 |   |   |   |   |   |

| 1                 | 2                                                                     | 3                                               | 4         | 5                                   |          |
|-------------------|-----------------------------------------------------------------------|-------------------------------------------------|-----------|-------------------------------------|----------|
| Winding           | Type                                                                  | Value                                           | Tolerance | Termination & Packing               |          |
| Omit for standard | AS1/4, AS1/2<br>AS1, AS1C<br>AS2, AS2B<br>AS2C, AS3<br>AS5, AS7, AS10 | E24 = 3/4 characters<br>R = ohms<br>K = kilohms | D = ±0.5% | I = Pb-free, Standard packing bulk* |          |
| N = non-inductive |                                                                       |                                                 | F = ±1%   | AS1/4, 1/2, 1, 1C, 2, 2B, 2C, 3, 5  | 1000/box |
|                   |                                                                       |                                                 | H = ±3%   |                                     |          |
|                   |                                                                       |                                                 | J = ±5%   | AS7, 10                             | 500/box  |

\* Tape and reel available on request

USA (IRC) Part Number: AS32702FLF (AS3, 27 kilohms ±1%, Pb-free)

|   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|
|   | A | S | 3 | 2 | 7 | 0 | 2 | F | L | F |
| 1 | 2 | 3 | 4 | 5 |   |   |   |   |   |   |

| 1                 | 2                                                                     | 3                             | 4         | 5                                 |          |
|-------------------|-----------------------------------------------------------------------|-------------------------------|-----------|-----------------------------------|----------|
| Winding           | Type                                                                  | Value                         | Tolerance | Termination & Packing             |          |
| Omit for standard | AS1/4, AS1/2<br>AS1, AS1C<br>AS2, AS2B<br>AS2C, AS3<br>AS5, AS7, AS10 | 3 digits + multiplier         | D = ±0.5% | LF=Pb-free, Omit for SnPb         |          |
| N = non-inductive |                                                                       |                               | F = ±1%   | Standard packing bulk*            |          |
|                   |                                                                       | R = ohms for values <100 ohms | H = ±3%   | AS1/4, 1/2, 1, 1C, 2, 2B 2C, 3, 5 | 1000/box |
|                   |                                                                       |                               | J = ±5%   |                                   |          |
|                   |                                                                       |                               |           | AS7, 10                           | 500/box  |

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