

**RG142 LSFH, 50 Ohm, 8 GHz, 105°C, ø5.34 mm, RADOX® jacket**

RADOX\_RF\_142

**Properties**

- Halogen free alternative to RG\_142
- Suitable for use in applications up to 8 GHz
- Low smoke
- Ozone, UV and weathering resistance
- Railway qualified
- HUBER+SUHNER RADOX® jacket material



| Construction     |                          |               |                     |
|------------------|--------------------------|---------------|---------------------|
| Component        | Material                 | Detail        | Diameter            |
| Centre conductor | Copper, Silver plated    | Wire          | 0.95 mm             |
| Dielectric       | SPEX (Crosslink Foam PE) |               | 2.98 mm             |
| Outer conductor  | Copper, Silver plated    | Braid, 97%    | 3.58 mm             |
| Outer conductor  | Copper, Silver plated    | Braid, 95%    | 4.18 mm             |
| Jacket           | RADOX EM104              | RAL 9005 - bk | 5.34 mm +/- 0.06 mm |

| Electrical data                  |                                        |
|----------------------------------|----------------------------------------|
| Impedance                        | 50 Ω +/-2Ω                             |
| Operating frequency              | ≤ 8 GHz                                |
| Capacitance                      | 94.5 pF/m                              |
| Velocity of signal propagation   | 70.9 %                                 |
| Signal delay                     | 4.7 ns/m                               |
| Screening effectiveness          | ≥ 75 dB at frequency 0.01 GHz ... 5GHz |
| Insulation resistance            | 10000000 MΩ*m                          |
| Operating Voltage (at sea level) | ≤ 2.5 kVrms                            |
| Test voltage (50 Hz/1 min)       | ≤ 5 kVrms                              |

| Mechanical data         |                |
|-------------------------|----------------|
| Weight                  | approx. 57 g/m |
| Static bending radius   | ≥ 30 mm        |
| Repeated bending radius | 50 mm          |

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| Environmental data         |                                            |
|----------------------------|--------------------------------------------|
| Operation temperature      | -40 °C ... 105 °C                          |
| Installation temperature   | -20 °C ... 60 °C                           |
| Flame propagation standard | EN 60332-1-2<br>EN 50305, 9.1.2            |
| Fire characteristics       | free of halogenes, acc. standard IEC 60754 |
| Smoke test                 | EN 61034-2                                 |
| UV resistance              | ISO 4892-2A                                |

### Additional Information

EN 45545 compliant Hazard level for indoor cables: HL3 An operating temperature of -55°C is feasible for static applications. Extended to 8GHz, to support typical WiFi6E applications.

### Suitable connectors

|             |    |
|-------------|----|
| Cable group | U9 |
|-------------|----|

### Ordering information

| Item number | Item description | Available as assembly only |
|-------------|------------------|----------------------------|
| 85023684    | RADOX_RF_142     | No                         |

### Power Matrix

Calculation: typical Attenuation [ formula:  $(a \cdot f^{0.5} + b \cdot f)$  ] and maximum Power CW [ formula:  $(p/f^{0.5})$  ]

| a coefficient typical = | <b>0.365</b>                       | b coefficient typical =            | <b>0.142</b>                       |
|-------------------------|------------------------------------|------------------------------------|------------------------------------|
| fmax =                  | <b>8</b>                           | P at 1 GHz =                       | <b>225</b>                         |
| Frequency<br>GHz        | Nom. attenuation<br>(dB/m)         | Nom. attenuation<br>(dB/ft)        | CW power<br>(W)                    |
|                         | sea level 25°C ambient temperature | sea level 25°C ambient temperature | sea level 40°C ambient temperature |
| 0.10                    | 0.130                              | 0.040                              | 712                                |
| 0.20                    | 0.192                              | 0.058                              | 503                                |
| 0.30                    | 0.243                              | 0.074                              | 411                                |
| 0.40                    | 0.288                              | 0.088                              | 356                                |
| 0.60                    | 0.368                              | 0.112                              | 290                                |
| 0.80                    | 0.440                              | 0.134                              | 252                                |
| 1.00                    | 0.507                              | 0.155                              | 225                                |
| 1.20                    | 0.570                              | 0.174                              | 205                                |
| 1.40                    | 0.631                              | 0.192                              | 190                                |
| 1.60                    | 0.689                              | 0.210                              | 178                                |
| 1.80                    | 0.745                              | 0.227                              | 168                                |
| 2.00                    | 0.800                              | 0.244                              | 159                                |
| 2.50                    | 0.932                              | 0.284                              | 142                                |
| 3.00                    | 1.058                              | 0.323                              | 130                                |
| 3.50                    | 1.180                              | 0.360                              | 120                                |
| 4.00                    | 1.298                              | 0.396                              | 112                                |
| 5.00                    | 1.526                              | 0.465                              | 101                                |
| 6.00                    | 1.746                              | 0.532                              | 92                                 |
| 7.00                    | 1.960                              | 0.597                              | 85                                 |
| 8.00                    | 2.168                              | 0.661                              | 80                                 |

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