

**RG174D alternative, 50 Ohm, 6 GHz, 85°C, ø3.1 mm, PVC jacket**

G\_02232\_D

**Properties**

- Custom version of RG\_174
- Suitable for use in applications up to 6 GHz
- 3.1 mm diameter



| Construction     |                        |                          |                   |
|------------------|------------------------|--------------------------|-------------------|
| Component        | Material               | Detail                   | Diameter          |
| Centre conductor | Copper                 | Strand-07, RAL 9005 - bk | 0.49 mm - 0.1 mm  |
| Dielectric       | PE (Polyethylene)      |                          | 1.5 mm            |
| Outer conductor  | Copper                 | Braid, 96%               | 2 mm              |
| Outer conductor  | Copper                 | Braid, 93%               | 2.5 mm            |
| Jacket           | PVC II (low migration) | RAL 9005 - bk            | 3.1 mm +/- 0.1 mm |

| Electrical data                  |                                       |
|----------------------------------|---------------------------------------|
| Impedance                        | 50 Ω +/- 2Ω                           |
| Operating frequency              | ≤ 6 GHz                               |
| Capacitance                      | 101 pF/m                              |
| Velocity of signal propagation   | 66 %                                  |
| Signal delay                     | 5.03 ns/m                             |
| Screening effectiveness          | 78 dB at frequency 0.001 GHz ... 1GHz |
| Insulation resistance            | 100000000 MΩ*m                        |
| Inner conductor resistance       | 121.6 Ω/km                            |
| Operating Voltage (at sea level) | ≤ 1.5 kVrms                           |
| Test voltage (50 Hz/1 min)       | ≤ 3 kVrms                             |
| Noise level                      | 10 mV                                 |

| Mechanical data         |                |
|-------------------------|----------------|
| Weight                  | approx. 21 g/m |
| Static bending radius   | ≥ 15 mm        |
| Repeated bending radius | 30 mm          |

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| Environmental data       |                   |
|--------------------------|-------------------|
| Operation temperature    | -25 °C ... 85 °C  |
| Installation temperature | -20 °C ... 60 °C  |
| Fire characteristics     | contains halogene |

| Suitable connectors |    |
|---------------------|----|
| Cable group         | U4 |

| Ordering information |                  |                            |
|----------------------|------------------|----------------------------|
| Item number          | Item description | Available as assembly only |
| 22510112             | G_02232_D        | No                         |

| Power Matrix                                                                                              |                                    |                                    |                                    |
|-----------------------------------------------------------------------------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Calculation: typical Attenuation [ formula: (a*f^0.5 + b*f) ] and maximum Power CW [ formula: (p/f^0.5) ] |                                    |                                    |                                    |
| a coefficient typical =                                                                                   | <b>0.7616</b>                      | b coefficient typical =            | <b>0.1325</b>                      |
| fmax =                                                                                                    | <b>6</b>                           | P at 1 GHz =                       | <b>38</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                                                                                                      | 0.254                              | 0.077                              | 120                                |
| 0.20                                                                                                      | 0.367                              | 0.112                              | 85                                 |
| 0.30                                                                                                      | 0.457                              | 0.139                              | 69                                 |
| 0.40                                                                                                      | 0.535                              | 0.163                              | 60                                 |
| 0.60                                                                                                      | 0.669                              | 0.204                              | 49                                 |
| 0.80                                                                                                      | 0.787                              | 0.240                              | 42                                 |
| 1.00                                                                                                      | 0.894                              | 0.273                              | 38                                 |
| 1.20                                                                                                      | 0.993                              | 0.303                              | 35                                 |
| 1.40                                                                                                      | 1.087                              | 0.331                              | 32                                 |
| 1.60                                                                                                      | 1.175                              | 0.358                              | 30                                 |
| 1.80                                                                                                      | 1.260                              | 0.384                              | 28                                 |
| 2.00                                                                                                      | 1.342                              | 0.409                              | 27                                 |
| 2.50                                                                                                      | 1.535                              | 0.468                              | 24                                 |
| 3.00                                                                                                      | 1.717                              | 0.523                              | 22                                 |
| 3.50                                                                                                      | 1.889                              | 0.576                              | 20                                 |
| 4.00                                                                                                      | 2.053                              | 0.626                              | 19                                 |
| 4.50                                                                                                      | 2.212                              | 0.674                              | 18                                 |
| 5.00                                                                                                      | 2.365                              | 0.721                              | 17                                 |
| 5.50                                                                                                      | 2.515                              | 0.767                              | 16                                 |
| 6.00                                                                                                      | 2.661                              | 0.811                              | 16                                 |

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