

**RG214, 50 Ohm, 6 GHz, 85°C, Ø10.8 mm, PVC jacket**

RG\_214\_HIFLEX

**Properties**

- Highly flexible version of RG\_214
- Excellent RF performance for precision applications
- Suitable for use in application up to 6 GHz



| Construction     |                        |                |                     |
|------------------|------------------------|----------------|---------------------|
| Component        | Material               | Detail         | Diameter            |
| Centre conductor | Copper, Silver plated  | Strand-19, 93% | 2.25 mm - 0.15 mm   |
| Dielectric       | TPO (Olefine TPE)      |                | 7.3 mm              |
| Outer conductor  | Copper, Silver plated  | Braid, 93%     | 8 mm                |
| Outer conductor  | Copper, Silver plated  | Braid, 95%     | 8.7 mm              |
| Jacket           | PVC II (low migration) | RAL 9005 - bk  | 10.8 mm +/- 0.15 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          | 70 dB at frequency 0.001 GHz ... 1GHz |
| Insulation resistance            | 100000000 MΩ*m                        |
| Operating Voltage (at sea level) | ≤ 5 kVrms                             |
| Phase vs temperature             | 16200 ppm at temperature -40 ... 80°C |
| Phase vs bending                 | 5 °/GHz                               |
| Test voltage (50 Hz/1 min)       | ≤ 10 kVrms                            |

| Mechanical data         |                 |
|-------------------------|-----------------|
| Weight                  | approx. 185 g/m |
| Static bending radius   | ≥ 15 mm         |
| Repeated bending radius | 60 mm           |
| Dynamic bending radius  | < 100 mm        |

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| Environmental data         |                   |
|----------------------------|-------------------|
| Operation temperature      | -25 °C ... 85 °C  |
| Installation temperature   | -20 °C ... 60 °C  |
| Flame propagation standard | IEC 60332-1       |
| Fire characteristics       | contains halogene |

### Additional Information

MIL reference: M17/190-00001 (former reference: M17/75-RG214)

### Suitable connectors

Cable group U32

### Ordering information

| Item number | Item description | Available as assembly only |
|-------------|------------------|----------------------------|
| 22512156    | RG_214_HIFLEX    | 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>0.285</b> | b coefficient typical = | <b>0.0679</b> |
| fmax =                  | <b>6.0</b>   | P at 1 GHz =            | <b>320.0</b>  |

| Frequency<br>GHz | Nom. attenuation<br>(dB/m)            | Nom. attenuation<br>(dB/ft)           | CW power<br>(W)                       |
|------------------|---------------------------------------|---------------------------------------|---------------------------------------|
|                  | sea level 25°C ambient<br>temperature | sea level 25°C ambient<br>temperature | sea level 40°C ambient<br>temperature |
| 0.10             | 0.097                                 | 0.030                                 | 1012                                  |
| 0.20             | 0.141                                 | 0.043                                 | 716                                   |
| 0.30             | 0.176                                 | 0.054                                 | 584                                   |
| 0.40             | 0.207                                 | 0.063                                 | 506                                   |
| 0.60             | 0.262                                 | 0.080                                 | 413                                   |
| 0.80             | 0.309                                 | 0.094                                 | 358                                   |
| 1.00             | 0.353                                 | 0.108                                 | 320                                   |
| 1.20             | 0.394                                 | 0.120                                 | 292                                   |
| 1.40             | 0.432                                 | 0.132                                 | 270                                   |
| 1.60             | 0.469                                 | 0.143                                 | 253                                   |
| 1.80             | 0.505                                 | 0.154                                 | 239                                   |
| 2.00             | 0.539                                 | 0.164                                 | 226                                   |
| 2.50             | 0.620                                 | 0.189                                 | 202                                   |
| 3.00             | 0.697                                 | 0.212                                 | 185                                   |
| 3.50             | 0.771                                 | 0.235                                 | 171                                   |
| 4.00             | 0.842                                 | 0.257                                 | 160                                   |
| 4.50             | 0.910                                 | 0.277                                 | 151                                   |
| 5.00             | 0.977                                 | 0.298                                 | 143                                   |
| 5.50             | 1.042                                 | 0.318                                 | 136                                   |
| 6.00             | 1.106                                 | 0.337                                 | 131                                   |

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