

**RG316, 50 Ohm, 3 GHz, 200°C, Ø2.5 mm, FEP jacket**

RG\_316\_/U

**Properties**

- Mil standard RG cable
- Excellent RF performance for precision applications
- Suitable for use in applications up to 3 GHz
- Extended temperature range



| Construction     |                                      |               |                   |
|------------------|--------------------------------------|---------------|-------------------|
| Component        | Material                             | Detail        | Diameter          |
| Centre conductor | Steel, Copper + Silver plated        | Strand-07     | 0.54 mm           |
| Dielectric       | PTFE (Polytetrafluoroethylene)       |               | 1.55 mm           |
| Outer conductor  | Copper, Silver plated                | Braid, 95%    | 2 mm              |
| Jacket           | FEP (Fluorinated ethylene propylene) | RAL 8015 - br | 2.5 mm +/- 0.1 mm |

| Electrical data                  |                                        |
|----------------------------------|----------------------------------------|
| Impedance                        | 50 Ω +/-2Ω                             |
| Operating frequency              | ≤ 3 GHz                                |
| Capacitance                      | 97 pF/m                                |
| Velocity of signal propagation   | 69 %                                   |
| Signal delay                     | 4.86 ns/m                              |
| Screening effectiveness          | 38 dB at frequency 0.0001 GHz ... 1GHz |
| Insulation resistance            | 100000000 MΩ*m                         |
| Inner conductor resistance       | 235 Ω/km                               |
| Operating Voltage (at sea level) | ≤ 1.5 kVrms                            |
| Test voltage (50 Hz/1 min)       | ≤ 3 kVrms                              |

| Mechanical data         |                |
|-------------------------|----------------|
| Weight                  | approx. 16 g/m |
| Static bending radius   | ≥ 15 mm        |
| Repeated bending radius | 25 mm          |
| Dynamic bending radius  | < 37.5 mm      |

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| Environmental data         |                   |
|----------------------------|-------------------|
| Operation temperature      | -65 °C ... 200 °C |
| Installation temperature   | -20 °C ... 60°C   |
| Flame propagation standard | IEC 60332-3       |
| Fire characteristics       | contains halogene |

| Additional Information       |
|------------------------------|
| MIL reference: M17/113-RG316 |

| Suitable connectors |    |
|---------------------|----|
| Cable group         | U2 |

| Ordering information |                  |                            |
|----------------------|------------------|----------------------------|
| Item number          | Item description | Available as assembly only |
| 22510079             | RG_316_/U        | 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 =                                                                                  | 0.7727                             | b coefficient typical =            | 0.0972                             |
| fmax =                                                                                                   | 3.0                                | P at 1 GHz =                       | 135.0                              |
| 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 |
| 0.20                                                                                                     | 0.365                              | 0.111                              | 302                                |
| 0.40                                                                                                     | 0.528                              | 0.161                              | 213                                |
| 0.60                                                                                                     | 0.657                              | 0.200                              | 174                                |
| 0.80                                                                                                     | 0.769                              | 0.234                              | 151                                |
| 1.00                                                                                                     | 0.870                              | 0.265                              | 135                                |
| 1.20                                                                                                     | 0.963                              | 0.294                              | 123                                |
| 1.40                                                                                                     | 1.050                              | 0.320                              | 114                                |
| 1.60                                                                                                     | 1.133                              | 0.345                              | 107                                |
| 1.80                                                                                                     | 1.212                              | 0.369                              | 101                                |
| 2.00                                                                                                     | 1.287                              | 0.392                              | 95                                 |
| 3.00                                                                                                     | 1.630                              | 0.497                              | 78                                 |

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