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|-----------------------------------------|-------------------|-------------------------------------------------------------------------------------|
| <b>2170007</b>                          | <b>DATA SHEET</b> |  |
| <b>valid from:</b><br><b>30.04.2020</b> | <b>RG-223 /U</b>  |                                                                                     |

## Application

RG-223 /U are coaxial cables for radio and computer systems, as well as applications related to commercial radio-frequency (high frequency) technology and electronics.

They allow distortion-free and low-attenuation transmission of signals with a high bandwidth over shorter distances and were designed for operating frequencies up to 12,4 GHz.

The cable is intended for limited movements and for fixed installation in dry and damp interiors and outdoors. It meets the requirements concerning high ambient temperatures and chemical stress.

## Design

|              |                                                                                                                                   |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Design       | Cable design and electrical properties of M17/84-RG215 to MIL-C-17.<br>Designation in accordance with MIL-DTL-17 H: M17/194-00001 |
| Conductor    | Inner conductor:<br>Solid silver plated copper wire<br>$\varnothing: 0.89 \pm 0.025 \text{ mm}$ ( $0.64 \text{ mm}^2$ )           |
| Insulation   | PE, 2.95 mm $\varnothing$                                                                                                         |
| Screen       | Outer conductor:<br>two braids of silvered copper wires (double screened)<br>coverage each: 95 % (nominal value)                  |
| Outer sheath | PVC, black<br>Outer diameter: $5.4 \pm 0.1 \text{ mm}$                                                                            |

## Electrical properties at 20°C

|                          |                                                                                                                                                                                                                                                                                                      |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conductor resistance     | Inner conductor: max. $29.4 \Omega/\text{km}$                                                                                                                                                                                                                                                        |
| Insulation resistance    | min. $5 \text{ G}\Omega \times \text{km}$                                                                                                                                                                                                                                                            |
| Mutual capacitance       | max. $101 \text{ pF/m}$ (1 kHz)                                                                                                                                                                                                                                                                      |
| Characteristic impedance | $50 \pm 2 \Omega$                                                                                                                                                                                                                                                                                    |
| Attenuation              | max. $20 \text{ dB}/100 \text{ m}$ (200 MHz)<br>max. $29 \text{ dB}/100 \text{ m}$ (400 MHz)<br>max. $48 \text{ dB}/100 \text{ m}$ (1000 MHz)<br>max. $100 \text{ dB}/100 \text{ m}$ (3000 MHz)<br>max. $180 \text{ dB}/100 \text{ m}$ (5000 MHz)<br>max. $302 \text{ dB}/100 \text{ m}$ (12400 MHz) |
| Velocity of propagation  | 0,66 c                                                                                                                                                                                                                                                                                               |
| Peak operating voltage   | max. 1.9 kV (HF voltage)                                                                                                                                                                                                                                                                             |
| Rated voltage            | max. 1,4 kV (RMS)                                                                                                                                                                                                                                                                                    |
| Test voltage             | 5 kV                                                                                                                                                                                                                                                                                                 |

## Mechanical and thermal properties

|                           |                                                                                                                       |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Minimum bending radius    | occasional flexing: $10 \times \text{cable } \varnothing$<br>fixed installation: $6 \times \text{cable } \varnothing$ |
| Temperature range         | fixed installation: $-40^\circ\text{C}$ up to $80^\circ\text{C}$                                                      |
| Flammability              | flame retardant acc. to IEC 60332-1-2                                                                                 |
| General requirements      | This cable is conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).  |
| Environmental information | These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).                          |

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| Creator: KIOS / PDC  | Document: DB2170007EN | Page 1 of 1 |
| Released: ALTE / PDC | Version: 06           |             |