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## Flexible cable 1/75 S (75 vmtx type)



### P/N: C291 055 076

**APPLICATION NOTE**

Due to its 75 ohms characteristic impedance, this cable is best suited for TV/Video applications.
The very small outer diameter and bending moment allow very easy routing during installation.
Its very light weight makes it perfect to be used in all miniature, space saving and dynamic applications.
Suitable for severe thermal conditions.

### CONSTRUCTION / DIMENSIONS

| | Material | mm | Inches |
|---|---|---|---|
| Center conductor | Solid SPCCS[1] | 0.10 | 0.004 |
| Dielectric | Solid PTFE[2] | 0.57 | 0.022 |
| Inner shield | SPC[3] braid | 0.80 | 0.031 |
| Outer shield | - | - | - |
| Jacket | White FEP[4] | 1.22 | 0.048 |

### ELECTRICAL CHARACTERISTICS

| | | |
|---|---|---|
| Characteristic impedance | 80Ω ± 8Ω | |
| Operating frequency range | DC - 2 GHz | |
| Shielding effectiveness | 40 dB | |
| Voltage withstanding | 2 600 V rms | |
| Peak power | 0.9 kW | |
| Capacitance | 60 pF / m | 18.3 pF / ft |
| Velocity of propagation | 69 % (4.8 ns / m) | |

### MECHANICAL CHARACTERISTICS

| | | |
|---|---|---|
| Recommended minimum bending radius | 6.1 mm | 0.240 inch |
| Weight | 3 g / m | 0.002 lbs / ft |

### ENVIRONMENTAL CHARACTERISTICS

| | | |
|---|---|---|
| Operating temperature range | -90 / +200 °C | -130 / +392 °F |
| Fire resistance | Yes (UL94V0) | |
| Halogen free | No | |

### FREQUENCY / ATTENUATION (typ.) / CW MAX POWER (sea level / 40 °C)

| GHz | dB / m | dB / ft | Watts |
|---|---|---|---|
| 0.1 | 0.70 | 0.21 | 86 |
| 0.2 | 0.99 | 0.30 | 64 |
| 0.3 | 1.21 | 0.37 | 50 |
| 0.4 | 1.40 | 0.42 | 41 |
| 0.5 | 1.57 | 0.47 | 38 |
| 0.6 | 1.71 | 0.52 | 35 |
| 0.8 | 1.98 | 0.60 | 30 |
| 1.0 | 2.22 | 0.67 | 26 |
| 1.5 | 2.71 | 0.82 | 21 |
| 2.0 | 3.14 | 0.95 | 18 |
| Attenuation calculation (dB/m) | (2.21 x √f GHz) + (0.005 x f GHz) | | |

[1] SPCCS = Silver Plated Copper covered steel
[2] PTFE = PolyTetraFluoroEthylene
[3] SPC = Silver Plated Copper
[4] FEP = Fluorinated Ethylene Propylene

**Note:**
Typical attenuation for a couple of connectors (dB) = 0.045 x √f (GHz)

## Flexible cable 2/50 S (RG178 - KX21A)



### P/N: C291 145 007 (MIL-C-17/93-RG178)

### P/N: C291 145 017 (NF-C-93/550-KX21A)

**APPLICATION NOTE**

Due to its small diameter and its stranded inner conductor, RG 178 / KX21A is used for applications requiring high flexibility.

Its very low bending moment allows an easy routing during installation.

The insulation and jacket materials allow this cable to be used in severe thermal conditions.

### CONSTRUCTION / DIMENSIONS

| | Material | mm | Inches |
|---|---|---|---|
| Center conductor | Stranded SPCCS[1] | 0.30 | 0.012 |
| Dielectric | Solid PTFE[2] | 0.84 | 0.033 |
| Inner shield | SPC[3] braid | 1.30 | 0.051 |
| Outer shield | - | - | - |
| Jacket | Brown FEP[4] | 1.78 | 0.07 |

### ELECTRICAL CHARACTERISTICS

| | | |
|---|---|---|
| Characteristic impedance | 50Ω ± 3Ω | |
| Operating frequency range | DC - 3 GHz | |
| Shielding effectiveness | 40 dB | |
| Voltage withstanding | 2 000 V rms | |
| Peak power | 1 kW | |
| Capacitance | 96 pF / m | 29 pF / ft |
| Velocity of propagation | 70 % (4.8 ns / m) | |

### MECHANICAL CHARACTERISTICS

| | | |
|---|---|---|
| Recommended minimum bending radius | 7 mm | 0.275 inch |
| Weight | 8 g / m | 0.0053 lbs / ft |

### ENVIRONMENTAL CHARACTERISTICS

| | | |
|---|---|---|
| Operating temperature range | -55 / +200 °C | -67 / +392 °F |
| Fire resistance | Yes (CSA FT6 / IEC 332-2) | |
| Halogen free | No | |

### FREQUENCY / ATTENUATION (typ.) / CW MAX POWER (sea level / 25 °C)

| GHz | dB / m | dB / ft | Watts |
|---|---|---|---|
| 0.1 | 0.48 | 0.14 | 190 |
| 0.2 | 0.68 | 0.21 | 134 |
| 0.3 | 0.83 | 0.25 | 110 |
| 0.5 | 1.08 | 0.33 | 85 |
| 1.0 | 1.54 | 0.47 | 60 |
| 1.5 | 1.90 | 0.57 | 49 |
| 2.0 | 2.20 | 0.67 | 42 |
| 2.5 | 2.47 | 0.75 | 38 |
| 3.0 | 2.72 | 0.82 | 35 |
| Attenuation calculation (dB/m) | (1.50 x √f GHz) + (0.04 x f GHz) | | |
| Power calculation (W) | 60 / √f GHz | | |

[1] SPCCS = Silver Plated Copper covered steel
[2] PTFE = PolyTetraFluoroEthylene
[3] SPC = Silver Plated Copper
[4] FEP = Fluorinated Ethylene Propylene

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