CABLE ASSEMBLIES

## Flexible cable 2/75 S (296775 type)



### P/N: C291147060

**APPLICATION NOTE**

Due to its 75 ohms characteristic impedance, this cable is is best suited for TV/Video and networks applications.
Its small diameter and light weight make it perfect to be used in all miniature, space saving and dymamic applications.

### CONSTRUCTION / DIMENSIONS

| | Material | mm | Inches |
|---|---|---|---|
| Center conductor | Solid SPCCS[1] | 0.17 | 0.007 |
| Dielectric | Solid PE[2] | 1.00 | 0.039 |
| Inner shield | SPC[3] braid | 1.32 | 0.052 |
| Outer shield | - | - | - |
| Jacket | Black LSZH PE[4] | 1.90 | 0.075 |

### ELECTRICAL CHARACTERISTICS

| | | |
|---|---|---|
| Characteristic impedance | 75Ω ± 5Ω | |
| Operating frequency range | DC - 3 GHz | |
| Shielding effectiveness | 50 dB min | |
| Voltage withstanding | 8 000 V rms | |
| Peak power | 400 W | |
| Capacitance | 67 pF / m | 20.1 pF / ft |
| Velocity of propagation | 66 % (5 ns / m) | |

### MECHANICAL CHARACTERISTICS

| | | |
|---|---|---|
| Recommended minimum bending radius | 10 mm | 0.394 inch |
| Weight | 6.6 g / m | 0.0044 lbs / ft |

### ENVIRONMENTAL CHARACTERISTICS

| | | |
|---|---|---|
| Operating temperature range | -60 / +85 °C | -40 / +185 °F |
| Fire resistance | No | |
| Halogen free | Yes (IEC 754-2) | |

### FREQUENCY / ATTENUATION (typ. / 25 °C) / CW MAX POWER (sea level / 40 °C)

| GHz | dB / m | dB / ft | Watts |
|---|---|---|---|
| 0.1 | 0.42 | 0.13 | 41 |
| 0.2 | 0.60 | 0.18 | 29 |
| 0.3 | 0.74 | 0.22 | 23 |
| 0.4 | 0.86 | 0.26 | 20 |
| 0.6 | 1.06 | 0.32 | 16 |
| 1.0 | 1.38 | 0.42 | 12 |
| 1.5 | 1.70 | 0.52 | 10 |
| 2.0 | 1.98 | 0.60 | 8 |
| 2.5 | 2.23 | 0.68 | 7 |
| 3.0 | 2.46 | 0.75 | 6 |
| Attenuation calculation (dB/m) | (1.317 x √f GHz) + (0.06 x f GHz) | | |

[1] SPCCS = Silver Plated Copper covered steel
[2] PE = PolyEthylene
[3] SPC = Silver Plated Copper
[4] LSZH PE = Low Smoke Zero Halogen PolyEthylene

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

## Flexible cable 2.6/50 S (RG174 - KX3B)



Cost effective solution

### P/N: C291150000 (MIL-C-17/119-RG174)

### P/N: C291150010 (NF-C-93/550-KX3B)

**APPLICATION NOTE**

For cost savings in low frequency applications, RG174 may be used instead of RG316 when environmental conditions like operating temperature allow it.
This cable is compatible with a large range of connector series.

### CONSTRUCTION / DIMENSIONS

| | Material | mm | Inches |
|---|---|---|---|
| Center conductor | Stranded CCS[1] | 0.48 | 0.019 |
| Dielectric | Solid PE[2] | 1.52 | 0.060 |
| Inner shield | TC[3] braid | 2.21 | 0.087 |
| Outer shield | - | - | - |
| Jacket | Black PVC[4] | 2.79 | 0.110 |

### ELECTRICAL CHARACTERISTICS

| | | |
|---|---|---|
| Characteristic impedance | 50Ω ± 2Ω | |
| Operating frequency range | DC - 1 GHz | |
| Shielding effectiveness | 40 dB | |
| Voltage withstanding | 2 000 V rms | |
| Peak power | 1.4 kW | |
| Capacitance | 97.5 pF / m | 29.5 pF / ft |
| Velocity of propagation | 66 % (5 ns / m) | |

### MECHANICAL CHARACTERISTICS

| | | |
|---|---|---|
| Recommended minimum bending radius | 10 mm | 0.394 inch |
| Weight | 13 g / m | 0.0088 lbs / ft |

### ENVIRONMENTAL CHARACTERISTICS

| | | |
|---|---|---|
| Operating temperature range | -40 / +85 °C | -40 / +185 °F |
| Fire resistance | No | |
| Halogen free | No | |

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

| GHz | dB / m | dB / ft | Watts |
|---|---|---|---|
| 0.05 | 0.23 | 0.07 | 72 |
| 0.1 | 0.33 | 0.10 | 51 |
| 0.2 | 0.47 | 0.14 | 36 |
| 0.3 | 0.58 | 0.17 | 29 |
| 0.5 | 0.75 | 0.23 | 23 |
| 0.6 | 0.82 | 0.25 | 21 |
| 0.7 | 0.89 | 0.27 | 19 |
| 0.8 | 0.95 | 0.29 | 18 |
| 1.0 | 1.07 | 0.32 | 16 |
| Attenuation calculation (dB/m) | (1.03 x √f GHz) + (0.04 x f GHz) | | |
| Power calculation (W) | 16 / √f GHz | | |

[1] CCS = Copper Covered Steel
[2] PE = PolyEthylene
[3] TC = Tinned Copper
[4] PVC = PolyVinyl Chloride