



CELLFLEX® 7/8" low loss flexible cable

#### FEATURES / BENEFITS

- **Ultra Low Attenuation**

The reduced attenuation of CELLFLEX® coaxial cable results in extremely efficient signal transfer in your RF system, especially at high frequencies.

- **Complete Shielding**

The solid outer conductor of CELLFLEX® coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.

- **Low VSWR**

Special low VSWR versions of CELLFLEX® coaxial cables contribute to low system noise.

- **Outstanding Intermodulation Performance**

CELLFLEX® coaxial cable's solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS factory.

- **High Power Rating**

Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric materials, CELLFLEX® cable provides safe long term operating life at high transmit power levels.

- **Wide Range of Application**

Typical areas of application are: feedlines for broadcast and terrestrial microwave antennas, wireless cellular, PCS and ESMR base stations, cabling of antenna arrays, and radio equipment interconnects



## Technical features

#### INFORMATION

|              |  |                                            |
|--------------|--|--------------------------------------------|
| Applications |  | Main feed line, intended for outdoor usage |
|--------------|--|--------------------------------------------|

#### STRUCTURE

|                          |         |                    |
|--------------------------|---------|--------------------|
| Size                     |         | 7/8                |
| Inner Conductor Diameter | mm (in) | 9.1 (0.358)        |
| Inner Conductor Material |         | Copper Tube        |
| Dielectric Diameter      | mm (in) | 21.5 (0.846)       |
| Dielectric Material      |         | Foam Polyethylene  |
| Outer Conductor Diameter | mm (in) | 25.2 (0.992)       |
| Outer Conductor Material |         | Corrugated Copper  |
| Jacket Diameter          | mm (in) | 27.8 (1.094)       |
| Jacket Material          |         | Black Polyethylene |

#### TESTING AND ENVIRONMENTAL

|                          |         |                                                                                                                                                                   |
|--------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Phase Stabilized         |         | Phase stabilized and phase matched cables and assemblies are available upon request.                                                                              |
| Compliance               |         | DIN EN ISO 9001:2015<br>ISO 14001:2015<br>RoHS 2011/65/EU - China RoHS SJ/T 11364-2006<br>REACH (EC 1907/2006)<br>UL1581 - UV Resistance Jacket<br>IEC 60754-1/-2 |
| Installation Temperature | °C(°F)  | -40 to 60 (-40 to 140)                                                                                                                                            |
| Storage Temperature      | °C (°F) | -70 to 85 (-94 to 185)                                                                                                                                            |
| Operation Temperature    | °C(°F)  | -50 to 85 (-58 to 185)                                                                                                                                            |



## LCF78-50JA

7/8" CELLFLEX® Premium Attenuation Low-Loss Foam-Dielectric Coaxial Cable

## ELECTRICAL SPECIFICATIONS

|                                |                                          |                                                                                |
|--------------------------------|------------------------------------------|--------------------------------------------------------------------------------|
| Impedance                      | $\Omega$                                 | 50 +/- 1                                                                       |
| Maximum Frequency              | GHz                                      | 5                                                                              |
| Velocity                       | %                                        | 88                                                                             |
| Capacitance                    | pF/m (pF/ft)                             | 74 (22.5)                                                                      |
| Inductance                     | $\mu$ H/m ( $\mu$ H/ft)                  | 0.185 (0.056)                                                                  |
| Peak Power Rating              | kW                                       | 85                                                                             |
| RF Peak Voltage                | Volts                                    | 2920                                                                           |
| Jacket Spark                   | Volt RMS                                 | 8000                                                                           |
| Inner Conductor dc Resistance  | $\Omega$ /1000 m<br>( $\Omega$ /1000 ft) | 2.04 (0.62)                                                                    |
| Outer Conductor dc Resistance  | $\Omega$ /1000 m<br>( $\Omega$ /1000 ft) | 1.55 (0.472)                                                                   |
| Passive Intermodulation PIM    | typ. dBc                                 | -160                                                                           |
| Return Loss (VSWR) Performance |                                          | Standard 20dB (1.222) / Premium 23/24dB (1.152/1.135) on specified frequencies |

## MECHANICAL SPECIFICATIONS

|                                        |              |                       |
|----------------------------------------|--------------|-----------------------|
| Cable Weight, Nominal                  | kg/m (lb/ft) | 0.39 (0.262)          |
| Minimum Bending Radius, Single Bend    | mm (in)      | 120 (5)               |
| Minimum Bending Radius, Repeated Bends | mm (in)      | 250 (10)              |
| Bending Moment                         | Nm (lb-ft)   | 13 (10)               |
| Tensile Strength                       | N (lb)       | 1440 (324)            |
| Recommended / Maximum Clamp Spacing    | m (ft)       | 0.8 / 1 (2.75 / 3.25) |

## ATTENUATION @ 20°C (68°F) AND POWER RATING @ 40°C (104°F)

| Frequency, MHz | dB per 100m | dB per 100ft | Power, kW |
|----------------|-------------|--------------|-----------|
| 1              | 0.11        | 0.03         | 87,96     |
| 100            | 1.17        | 0.36         | 8.5       |
| 200            | 1.68        | 0.51         | 5.92      |
| 450            | 2.58        | 0.79         | 3.85      |
| 700            | 3.28        | 1.00         | 3.03      |
| 800            | 3.53        | 1.08         | 2.82      |
| 900            | 3.76        | 1.15         | 2.64      |
| 1800           | 5.55        | 1.70         | 1.79      |
| 2000           | 5.89        | 1.80         | 1.69      |
| 2200           | 6.23        | 1.90         | 1.60      |
| 2400           | 6.55        | 2.0          | 1.52      |
| 2700           | 7.01        | 2.14         | 1.42      |
| 3000           | 7.46        | 2.28         | 1.33      |
| 3500           | 8.17        | 2.49         | 1.22      |
| 4000           | 8.84        | 2.70         | 1.12      |
| 5000           | 10.11       | 3.09         | 0.98      |

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**RELATED PRODUCTS**

| Connector Interface               | Standard Connector Series C03                                   | Premium Connector Series E01                                 | Premium Connector Series D01<br>*only on request |
|-----------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------|
| N Male                            | NM-LCF78-C03                                                    | NM-LCF78-E01                                                 | NM-LCF78-D01                                     |
| N Female                          | NF-LCF78-C03                                                    | NF-LCF78-E01                                                 | NF-LCF78-D01                                     |
| 4.3-10 Male                       | 43M-LCF78-C03                                                   | 43M-LCF78-E01                                                | 43M-LCF78-D01                                    |
| 4.3-10 Female                     | 43F-LCF78-C03                                                   | 43F-LCF78-E01                                                | 43F-LCF78-D01                                    |
| 7/16 Male                         | 716M-LCF78-C03                                                  | 716M-LCF78-E01                                               | 716M-LCF78-D01                                   |
| 7/16 Female                       | 716F-LCF78-C03                                                  | 716F-LCF78-E01                                               | 716F-LCF78-D01                                   |
| Mandatory Tool                    | TRIM-SET-L78-C02                                                | TRIM-SET-L78-D01                                             |                                                  |
| Tool Information                  | Universal Trimming Tool For *-C02<br>And *-C03 Connector Series | Universal Trimming Tool For *-D01 And *-E01 Connector Series |                                                  |
| Installation Video                | **~LCF78-C03                                                    | **~LCF78-E01                                                 | **~LCF78-D01                                     |
| General Accessories               |                                                                 |                                                              |                                                  |
| Hand Tool Kit                     | TRIM-T01                                                        |                                                              |                                                  |
| Stripping Tool For Grounding Kits | JSTRIP-78-2                                                     |                                                              |                                                  |
| Grounding Kit                     | GKSPEED20-78P                                                   |                                                              |                                                  |

**External Document Links**[CELLFLEX Drum Selection Guide](#)**Notes**

- Notes LCF78-50JTC: TC cables (temperature cycled) are cables that are aged in order to reduce hysteresis effects. Available upon request.
- Europe ordering code:
  - LCF78-50JA-1-50: LCF78-50J, 50m length, Carton
  - LCF78-50JA-1-250: LCF78-50J, 250m length, Drum 11-077-X
  - LCF78-50JA-1-500: LCF78-50J, 500m length, Drum 11-077-X
  - LCF78-50JA-3-500: LCF78-50J, CoO China, 500m length, Drum standard