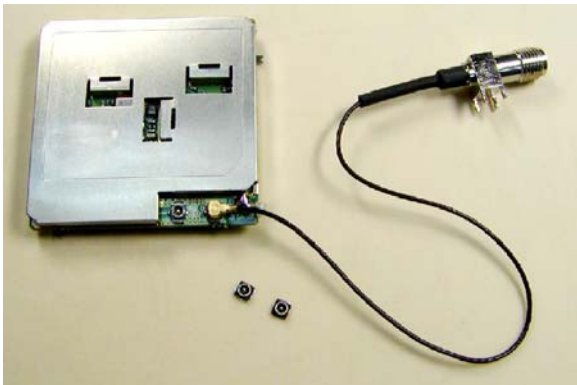


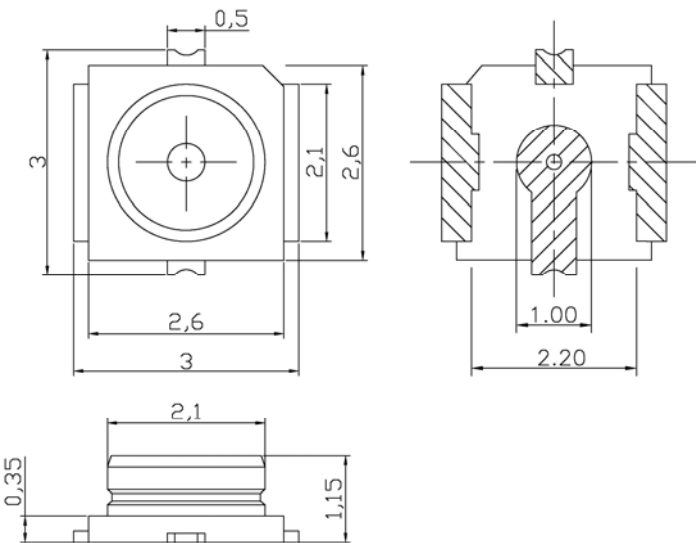
Sunridge MCF Series – 2.0mm Mated Height Miniature Coaxial Interconnect

Sunridge MCF series coaxial product fulfills the rigorous requirements of high frequency RF signal transmission in digital world. In a miniature form factor of 3.0mm x 3.0mm PCB foot print by 2.0mm mated height, MCF features an advanced design that makes for optimal mechanical application, i.e., easy insertion and sturdy engagement among mating pair, and delivers a supreme performance of low insertion loss and low VSWR at 50 OHM impedance over a working frequency range from DC to 6.0 GHz. MCF offers a practical and reliable solution for interconnection from board to board or from board to panel.



Typical Application:
Smart cell phone, portable info or tracking device, monitoring base station. Particularly, widely used in Telecommunication modules.

PCB Connector Pn: MCF-ST-00T



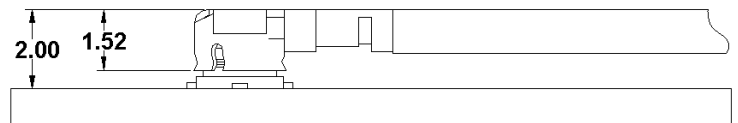
Material Spec

- Outer Contact:** Copper Alloy, Gold Plated.
- Center Contact:** Copper Alloy, Gold Plated.
- Insulator:** Engineering Plastic.
- Cable:** Silver plated center conductor with Teflon dielectric and jacket.

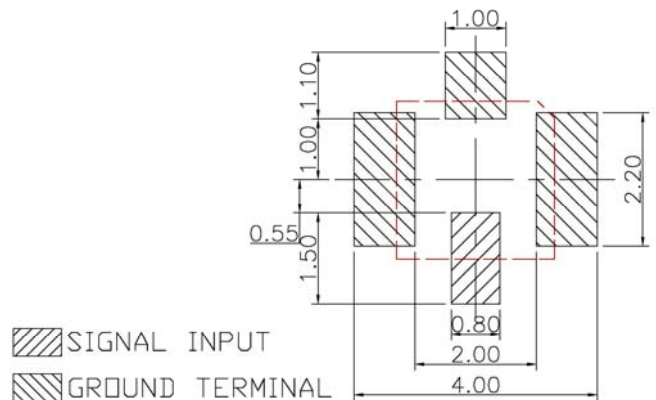
Features

- Space Economy: 3.0mm x 3.0mm footprint, mated height 2.0 mm
- Cable Conn: durable cable crimp and sturdy mating with PCB socket
- Teflon Cable: three options offered --
#68 cable of 0.81mm OD - for flexibility;
#62 of 0.91mm OD for low insertion-loss and flexibility;
#59 of 1.13mm OD.- for low insertion-loss and robust structure.
- Versatility: Custom design for virtually any MCF-to-RF cable assembly
- PCB socket: Molded-in construction. High temp plastic for IR reflow.
- Strength: Lead-in and interlock features make for easy insertion and sturdy mating.
- Accessory: Assembly tool to guide insertion and extraction. MCF-SMA adapter for connection to network analyzer.

Form Factor



Recommended PCB Layout

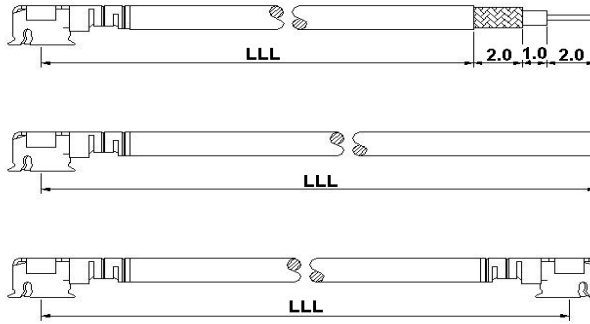
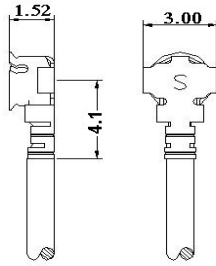


| Characteristics | |
|-----------------------|----------------|
| Frequency Range | DC to 6GHz |
| Nominal Impedance | 50 ohm |
| Temperature Range | -40°C to +90°C |
| Contact Resistance | 25m ohm max |
| Withstanding Voltage | AC 200Vrms |
| Insulation Resistance | 500M ohm min |
| Durability | 20 Cycles |

(dimension: mm)



MCF Cable Assembly



Pn: MCF-SH-XX-LLL-T

Pn: MCF-SH-XX-LLL-F

Pn: MCF-DH-XX-LLL

P/N Designation

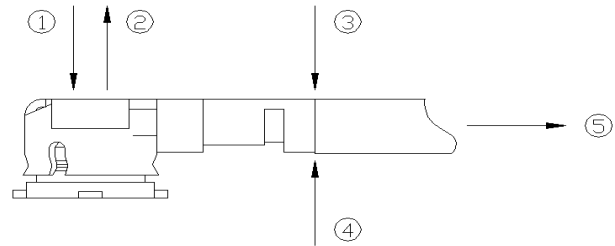
MCF – XX – XX – XXX – X
A B C D

- A. Head Configuration: SH: Single-Headed Cable construction
DH: Double-Headed Cable construction
- B. Coaxial Cable Code: see cable selection guide
- C. Length (in mm): Ex: LLL = 200: 200mm.
- D. End Cut (SH only): T : open end striped & tinned.
F : open end flat cut

Insertion/Extraction Tool Pn: ET-MCF

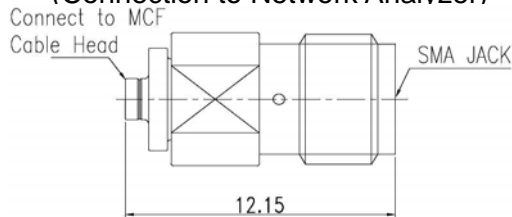


Mechanical Application



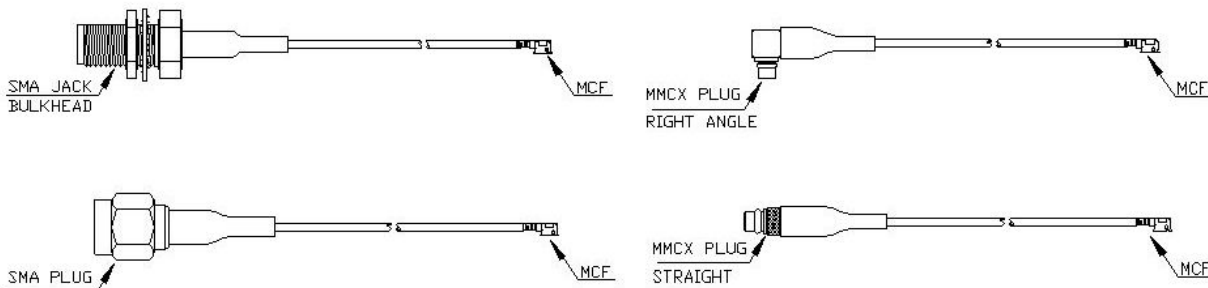
- ① Insertion force (with tool): 800gf.
 - ② Extraction force (with tool): 600gf.
 - ③ Retention, downward force: 200gf Max.
 - ④ Retention, upward force: 200gf Max.
 - ⑤ Retention, pull back: 400gf Max.
- Durability: 20 cycles

Test Adaptor Pn: MCFP-SMAJ (Connection to Network Analyzer)



Integrated Solution

MCF- single headed cable is typically integrated with another R/F connector for interconnection, say, from module board to panel or to antenna fitting. Sunridge is equally committed to both R/F cable assembly customers and OEM's. Send your application requirement to engineering@sunridgecorp.com for a project evaluation.

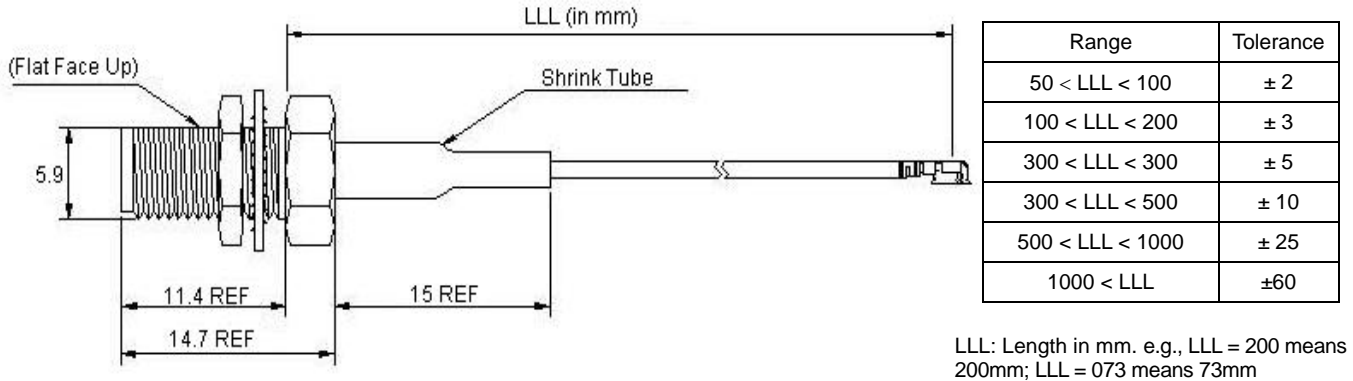




MCF- Derivative Cable Assembly P/N Selector:

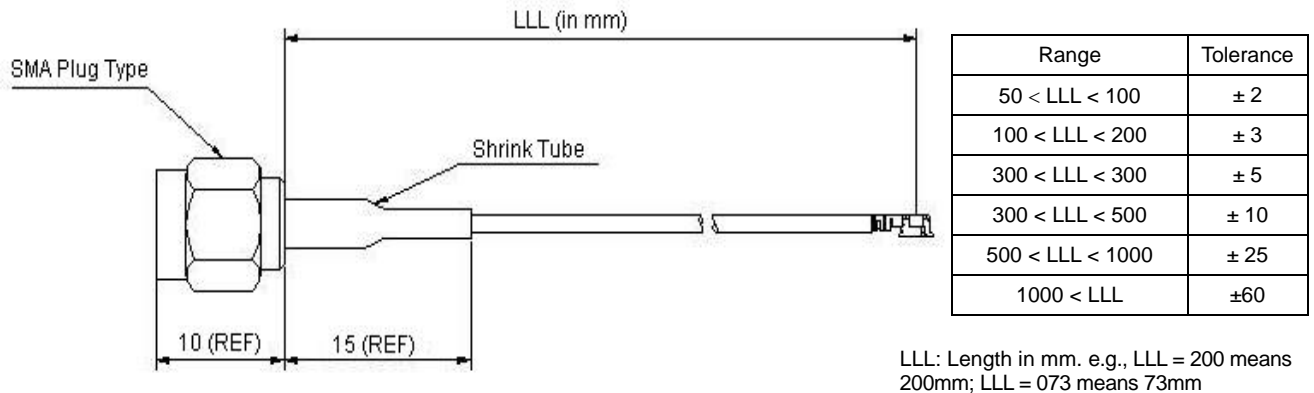
(Illustration of the most commonly used MCF-RF cable assy. A variety of other RF configurations is readily available at Sunridge Corp. Contact engineering@sunridgecorp.com for project inquiry.)

■ **MCF to SMA Bulkhead Jack Cable Assembly:**



| Descriptions | Recommended Cable | Sunridge P/N |
|------------------------------------|-------------------|------------------------|
| MCF to SMAJB | #59, 1.13 mm OD | MCF-RH-59-LLL-SMAJB103 |
| MCF to SMAJB Reverse Polarity (RP) | #59, 1.13 mm OD | MCF-RH-59-LLL-SMAJB181 |
| MCF to SMAJB with O-Ring Seal | #59, 1.13 mm OD | MCF-RH-59-LLL-SMAJB105 |
| MCF to SMAJB RP with O-ring Seal | #59, 1.13 mm OD | MCF-RH-59-LLL-SMAJB183 |

■ **MCF to SMA Plug Cable Assembly:**



| Descriptions | Recommended Cable | Sunridge P/N |
|-----------------------------------|-------------------|-----------------------|
| MCF to SMAP | #59, 1.13 mm OD | MCF-RH-59-LLL-SMAP103 |
| MCF to SMAP Reverse Polarity (RP) | #59, 1.13 mm OD | MCF-RH-59-LLL-SMAP181 |

www.sunridgecorp.com

(dimension: mm)

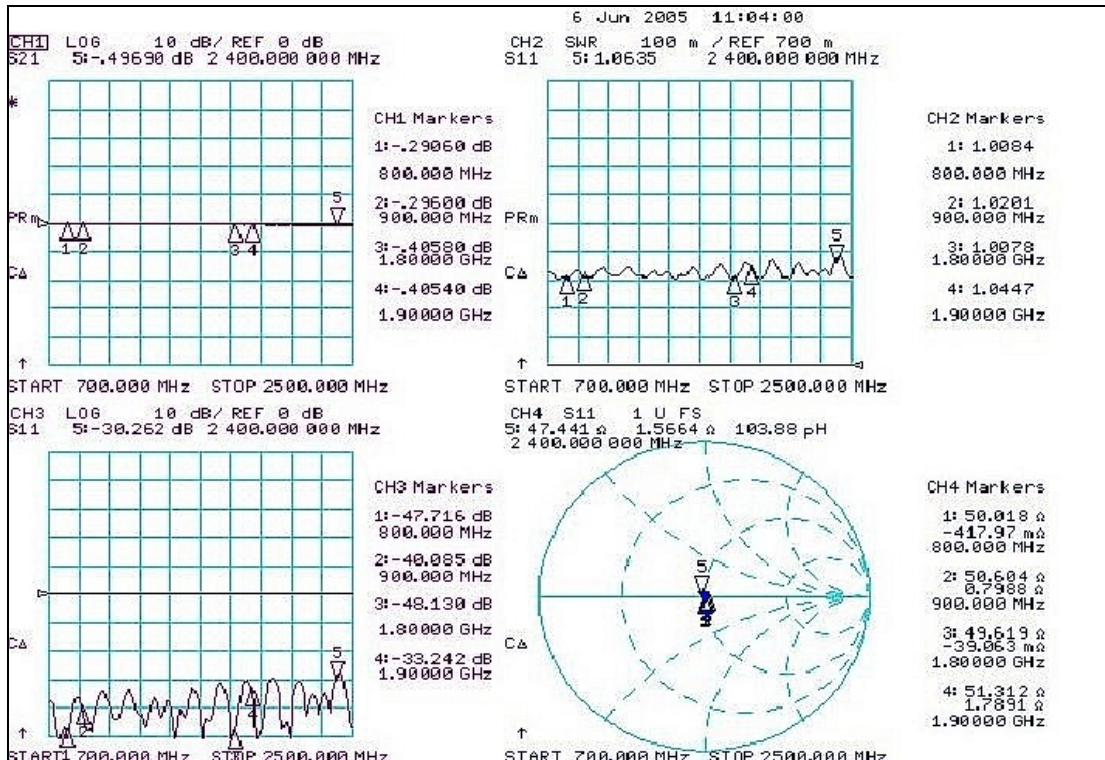


Cable Selection Guide

| Cable Designation Code | | | #62 | #59 | #68 |
|----------------------------|-------------------|-----------|--------------------------------|---------------------------|---------------------------|
| Inner conductor | No. and Dia. | (No./mm) | 7/0.07 | 7/0.08 | 7/0.05 |
| | Material | — | Silver plated copper wire | Silver plated copper wire | Silver plated copper wire |
| | Total Dia. | (mm) | 0.21 | 0.24 | 0.15 |
| Dielectric | Material | — | FEP | FEP | PFA |
| | Total Dia. | (mm) | 0.63 | 0.68 | 0.4 |
| Outer conductor | Material | — | Tinned copper wire/copper tape | Tinned copper wire | Tinned copper wire |
| | Dia. of wire | (mm) | 0.05 | 0.05 | 0.05 |
| | Total Dia. | (mm) | 0.80 | 0.93 | 0.65 |
| Jacket | Material | — | FEP | FEP | PFA |
| | Nominal thickness | (mm) | 0.05 | 0.1 | 0.08 |
| Overall Dia. | | (mm) | 0.91 | 1.13 | 0.81 |
| Nominal impedance | | (Ohm) | 50 | 50 | 50 |
| Voltage rating | | Vrms Max. | 300 | 300 | 300 |
| Nominal static capacitance | | (pF/m) | 97 | 97 | 96 |
| Insertion loss | dB/m at 1GHz | | 2.00 | 2.06 | 3.53 |
| | dB/m at 2GHz | | 2.60 | 2.97 | 5.17 |
| | dB/m at 2.4GHz | | 3.10 | 3.27 | 5.71 |
| | dB/m at 3GHz | | 3.50 | 3.69 | 6.45 |
| | dB/m at 5GHz | | 4.00 | 4.87 | 8.53 |
| | dB/m at 6GHz | | 4.40 | 5.38 | 9.42 |

Performance Measurement Reference:

(Test sample: MCF dual head cable assy, 100mm; Test instrument: Agilent 8753ES network analyzer.)



MCF-DH-62-100
 Length: 100mm
 Cable Code: #62
 Overall Diameter: 0.91mm
 Inner Conductor: 0.21mm Dia.
 Dielectric: 0.63m Dia.
 Outer Conductor: 0.80mm
 Jacket: 0.91mm Dia.

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(dimension: mm)

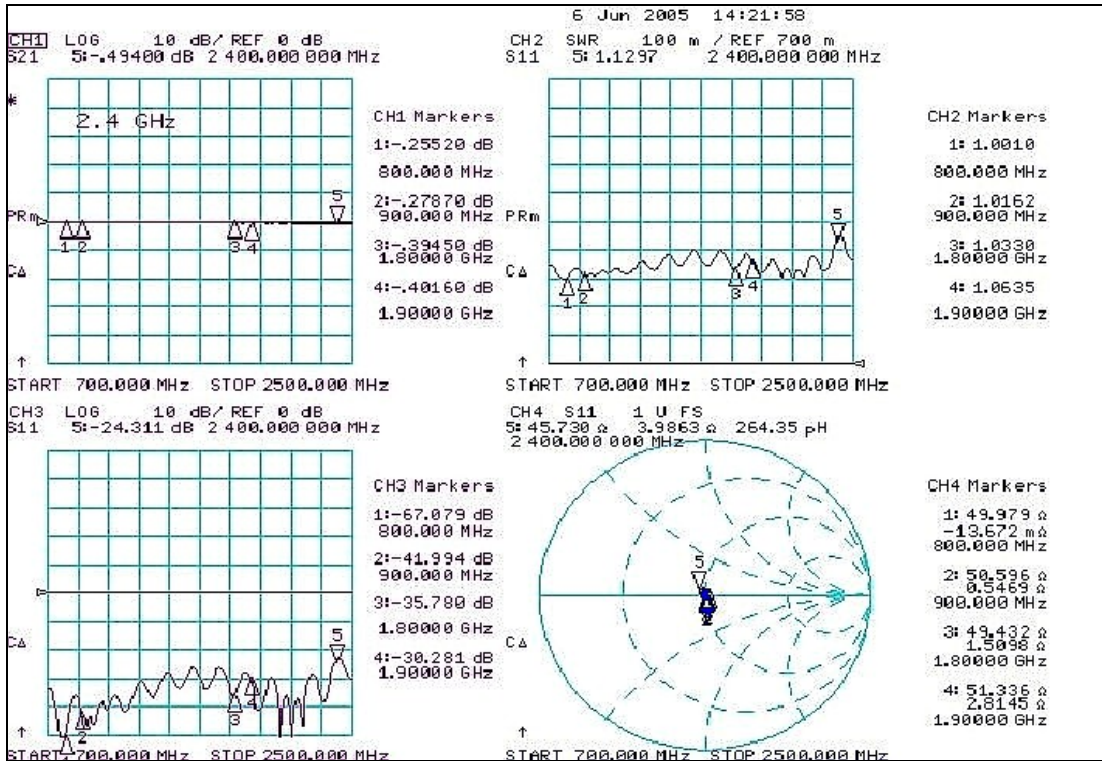
Sunridge Corporation

Specialist in Interconnect Solutions

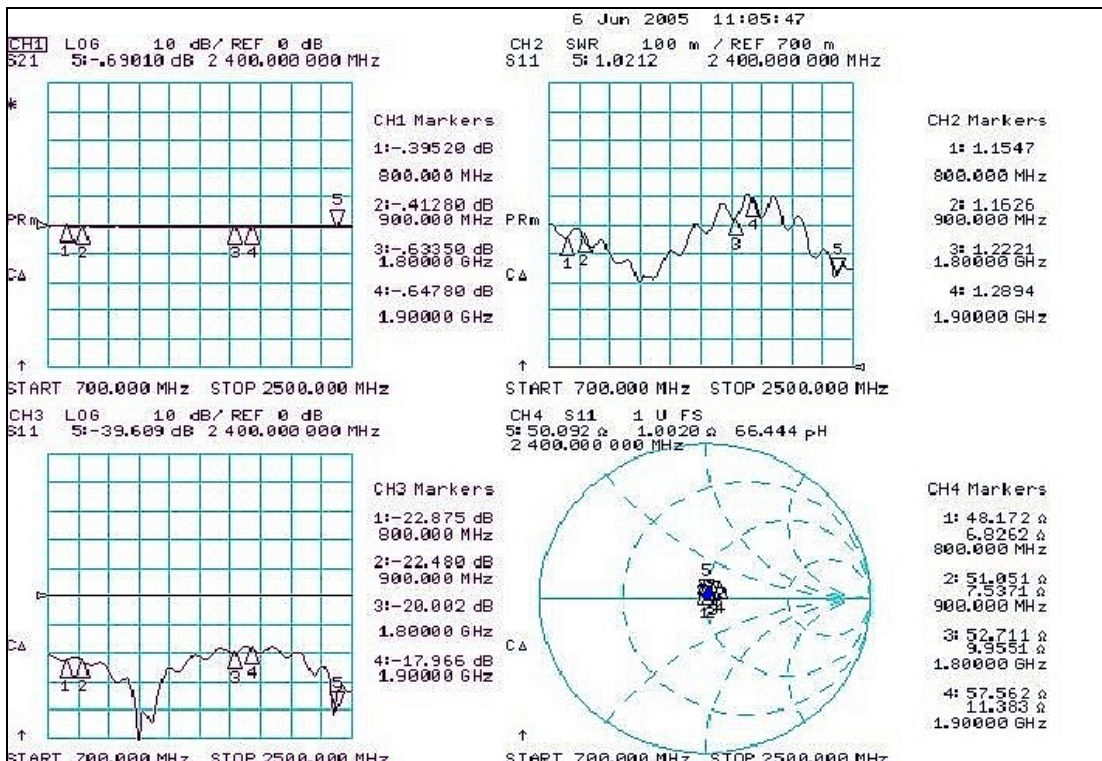


■ Performance Measurement Reference:

(Test sample: MCF dual head cable assy, 100mm; Test instrument: Agilent 8753ES network analyzer.)



MCF-DH-59-100
 Length: 100mm
 Cable Code: #59
 Overall Diameter: 1.13mm
 Inner Conductor: 0.24mm Dia.
 Dielectric: 0.68mm Dia.
 Outer Conductor: 0.93mm Dia.
 Jacket: 1.13mm Dia.



MCF-DH-68-100
 Length: 100mm
 Cable Code: #68
 Overall Diameter: 0.81mm
 Inner Conductor: 0.15mm Dia.
 Dielectric: 0.40mm Dia.
 Outer Conductor: 0.65mm Dia.
 Jacket: 0.81mm Dia.