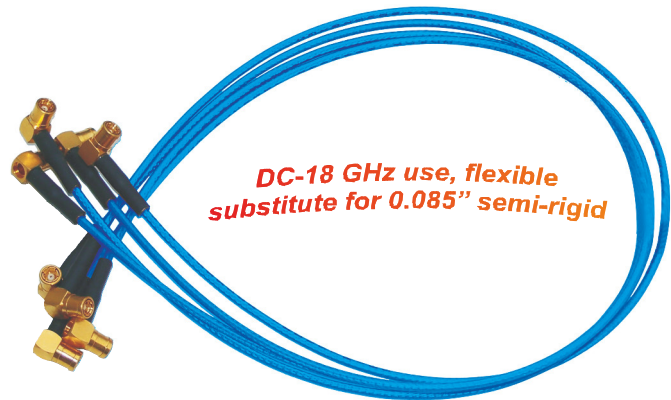


MF05-series cable sets are designed as flexible alternative to 0.085 inch semi-rigid types. MF05 have similar electrical and RF performance as 0.085" semi-rigid but WITHOUT the routing problems of semi-rigid types. MF05 cable sets are highly flexible and can be easily routed inside racks, rack-rack or inside LRU's.



FLEXIBLE SUBSTITUTE TO SEMI-RIGID

MF05- cable sets are flexible alternatives to semi-rigid cables. RF and electrical parameters like loss, power handling of MF05 types are same as 0.085 inch semi-rigid types, but MF05 cable sets are flexible as compared to semi-rigid which are quite rigid. MF05 types overcome the routing problems of 0.085" semi-rigid due to their flexibility. Compared to semi-rigid types there is no need for hand or machine bending

CONFORMANT MIL STANDARDS

- Imported MIL-C-17 Conformant cable from reputed international manufacturers
- Connectors conform to MIL-PRF-39012

APPLICATIONS

- Military and defense systems interconnect
- General purpose test applications
- R&D labs

Attenuation & Power Handling Data

| Frequency | Insertion Loss | | Power Watts |
|-----------|----------------|------|-------------|
| | dB/ft | dB/m | |
| 1 GHz | 0.24 | 0.76 | 210 |
| 2 GHz | 0.32 | 1.05 | 145 |
| 3 GHz | 0.39 | 1.28 | 115 |
| 5 GHz | 0.53 | 1.73 | 85 |
| 10 GHz | 0.81 | 2.65 | 55 |
| 13.5 GHz | 0.92 | 3.01 | 45 |
| 18 GHz | 1.11 | 3.64 | 40 |

Physical & Mechanical Specifications

| Dimensions | inches | mm |
|------------------------|--------------------------|------|
| Center Conductor | 0.02 | 0.51 |
| Jacket | 0.106 | 2.70 |
| Bend Radius (static) | 0.23 | 6 |
| Bend Radius (repeated) | 0.78 | 20 |
| Weight | 0.015 lb/ft (0.020 Kg/m) | |
| Temperature Range | -55°C ~ +125°C | |

Electrical Specifications

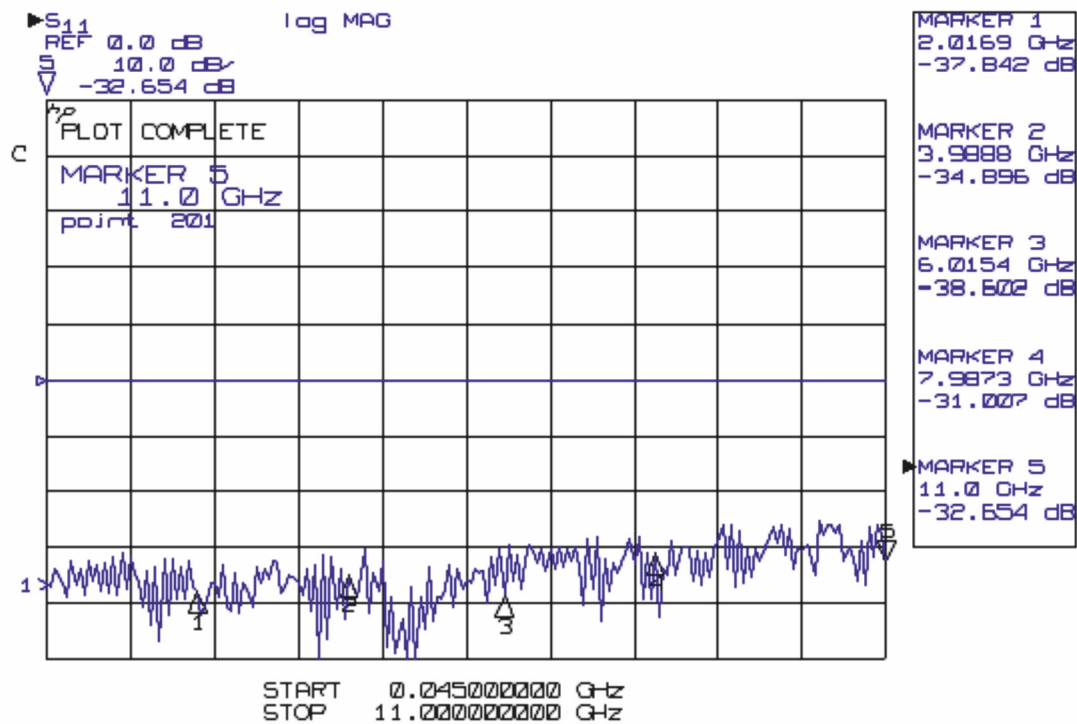
| | |
|-------------------------|---------------------|
| Impedance | 50 ohms |
| Velocity of Propagation | 70 % |
| Shielding Effectiveness | better than -100 dB |
| Capacitance | 30 pF/ft |
| Operating Frequency | 18 GHz |

* Phase & amplitude stability test method: wrap cable 360° around a mandrel whose radius is 10 times the cable diameter

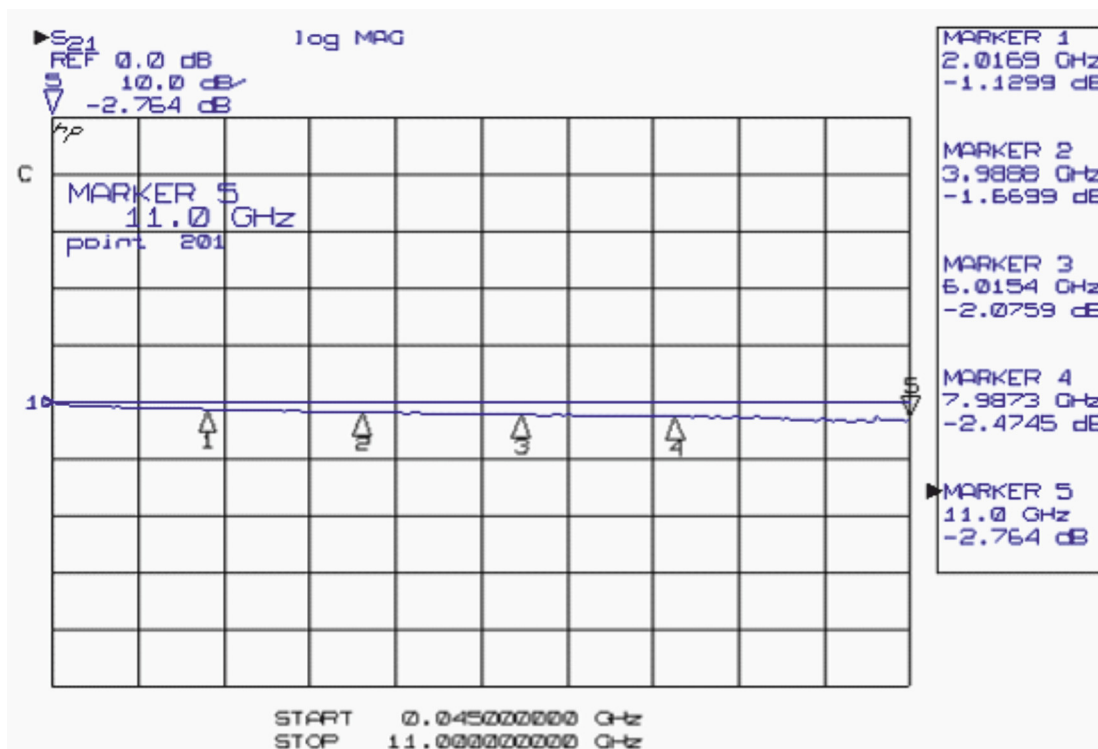
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S11 Plot of 1 meter MF05 cable set with SMA(M) on both sides



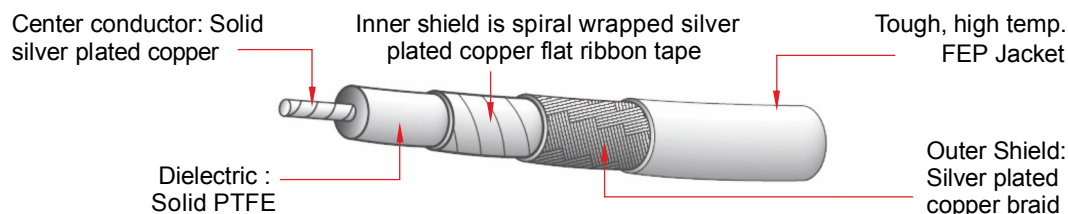
S21 Plot of 1 meter MF05 cable set with SMA(M) on both sides



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MF05 Cable Construction



Connectors Specifications

| Specifications | SMA Connectors | N Connectors | TNC Connectors |
|-------------------|---|--------------------|--------------------|
| Outer Conductor | Brass Gold plated | Copper alloy | Copper Alloy |
| Center Conductor | Brass, Gold Plated | Brass, Gold Plated | Brass, Gold Plated |
| Insulation | PTFE | PTFE | PTFE |
| Gasket | Silicon Rubber | Silicon Rubber | Silicon Rubber |
| Frequency range | DC ~ 18 GHz | DC ~ 9 GHz | DC ~ 9 GHz |
| Nominal Impedance | 50 Ω | 50 Ω | 50 Ω |
| Mating/Unmating | 500 operations | 500 operations | 500 operations |
| Vibration | As per MIL-STD-202, method 204, test condition D | | |
| Mechanical Shock | As per MIL-STD-202, method 213, test condition I | | |
| Thermal Shock | As per MIL-STD-202, method 107, test condition B | | |
| Humidity | As per MIL-STD-202, method 106 | | |
| Temperature Cycle | As per MIL-STD-202, method 102A, test condition C | | |

Ordering Codes Description

MF05 - (Length) (Connector 1) (Connector 2)
 □ □ - □ (□ / □) - □ (□ / □) - □
L L 1 2 3 1 2 3 U

| | | |
|------------|--------------------------|--|
| L L | Length | 0.5 = 0.5 ; 1 = 1.0 ; 2 = 2.0 |
| 1 | Connector Series | SMA = SMA ; N = N ; BNC = BNC; TNC = TNC |
| 2 | Male/Female Designator | M = Male ; F = Female |
| 3 | Orientation of Connector | ST = Straight ; RA = Right Angle |
| U | Unit of Length | M = Meter ; F = Feet ; I = Inch |

1 meter cable set with SMA (Male) on both sides = MF05-1.0-SMA(M/ST)-SMA(M/ST)-M

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Cable Set Ordering Codes

| Ordering Code | Length | Insertion Loss (dB) Typical | | | | | |
|--|--------|-----------------------------|-------|-------|-------|--------|--------|
| | | 1.5 GHz | 3 GHz | 6 GHz | 9 GHz | 11 GHz | 18 GHz |
| SMA (Male) Straight - SMA (Male) Straight | | | | | | | |
| MF05-0.5-SMA(M/ST)-SMA(M/ST)-M | 0.5m | 0.56 | 0.82 | 1.19 | 1.49 | 1.75 | - |
| MF05-1.0-SMA(M/ST)-SMA(M/ST)-M | 1m | 0.98 | 1.44 | 2.11 | 2.68 | 3.12 | - |
| MF05-2.0-SMA(M/ST)-SMA(M/ST)-M | 2m | 1.83 | 2.69 | 3.94 | 4.96 | 5.85 | - |
| MF05-3.0-SMA(M/ST)-SMA(M/ST)-M | 3m | 2.68 | 3.94 | 5.78 | 7.28 | 8.59 | - |
| MF05-5.0-SMA(M/ST)-SMA(M/ST)-M | 5m | 4.37 | 6.42 | 9.43 | 11.88 | 14.03 | - |
| MF05-1.0-SMA(M/ST)-SMA(M/ST)-F | 1feet | 0.38 | 0.55 | 0.80 | 1.01 | 1.18 | - |
| MF05-2.0-SMA(M/ST)-SMA(M/ST)-F | 2feet | 0.63 | 0.92 | 1.35 | 1.69 | 1.99 | - |
| N (Male) Straight - N (Male) Straight | | | | | | | |
| MF05-0.5-N(M/ST)-N(M/ST)-M | 0.5m | 0.58 | 0.85 | 1.21 | 1.51 | - | - |
| MF05-1.0-N(M/ST)-N(M/ST)-M | 1m | 1.01 | 1.46 | 2.13 | 2.70 | - | - |
| MF05-2.0-N(M/ST)-N(M/ST)-M | 2m | 1.85 | 2.71 | 3.96 | 4.98 | - | - |
| MF05-3.0-N(M/ST)-N(M/ST)-M | 3m | 2.70 | 3.96 | 5.80 | 7.30 | - | - |
| MF05-5.0-N(M/ST)-N(M/ST)-M | 5m | 4.39 | 6.44 | 9.45 | 11.9 | - | - |
| MF05-1.0-N(M/ST)-N(M/ST)-F | 1 foot | 0.40 | 0.57 | 0.82 | 1.03 | - | - |
| MF05-2.0-N(M/ST)-N(M/ST)-F | 2 feet | 0.65 | 0.94 | 1.37 | 1.71 | - | - |
| TNC (Male) Straight - TNC (Male) Straight | | | | | | | |
| MF05-0.5-TNC(M/ST)-TNC(M/ST)-M | 0.5m | 0.60 | 0.86 | 1.23 | 1.54 | - | - |
| MF05-1.0-TNC(M/ST)-TNC(M/ST)-M | 1m | 1.03 | 1.48 | 2.15 | 2.72 | - | - |
| MF05-2.0-TNC(M/ST)-TNC(M/ST)-M | 2m | 1.87 | 2.73 | 3.98 | 5.01 | - | - |
| MF05-3.0-TNC(M/ST)-TNC(M/ST)-M | 3m | 2.72 | 3.98 | 5.82 | 7.32 | - | - |
| MF05-5.0-TNC(M/ST)-TNC(M/ST)-M | 5m | 4.41 | 6.46 | 9.47 | 11.92 | - | - |
| MF05-1.0-TNC(M/ST)-TNC(M/ST)-F | 1 foot | 0.42 | 0.59 | 0.84 | 1.05 | - | - |
| MF05-2.0-TNC(M/ST)-TNC(M/ST)-F | 2 feet | 0.67 | 0.96 | 1.39 | 1.73 | - | - |
| SMA (Male) Straight - SMA (Male) Right Angle | | | | | | | |
| MF05--0.5-SMA(M/ST)-SMA(M/RA)-M | 0.5m | 0.59 | 0.85 | 1.22 | - | - | - |
| MF05-1.0-SMA(M/ST)-SMA(M/RA)-M | 1m | 1.01 | 1.47 | 2.14 | - | - | - |
| MF05-2.0-SMA(M/ST)-SMA(M/RA)-M | 2m | 1.86 | 2.72 | 3.97 | - | - | - |
| MF05-3.0-SMA(M/ST)-SMA(M/RA)-M | 3m | 2.71 | 3.97 | 5.81 | - | - | - |
| MF05-5.0-SMA(M/ST)-SMA(M/RA)-M | 5m | 4.40 | 6.45 | 9.46 | - | - | - |
| MF05-2.0-SMA(M/ST)-SMA(M/RA)-F | 2 feet | 0.66 | 0.95 | 1.38 | - | - | - |

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Specifications for MIL Use Thin Multi-Flex Pre-Connectorized RF Cable Sets

| Length | Connector 1 | Connector 2 |
|--------|-------------|-------------|
|--------|-------------|-------------|

- Should be flexible, easily routable
- Cable should conform to MIL standards MIL-C-17 and connectors to MIL-PRF-39012

Cable Electrical Specifications

- Impedance: 50 ohms
- Frequency: DC~18 GHz
- Velocity of Propagation: 70 %
- Shielding Effectiveness: better than -90 dB
- Power Handling: > 55 Watts Average @3 GHz
> 25 Watts Average @10 GHz
> 15 Watts Average @18 GHz
- Insertion Loss: < 0.40 dB/feet @3 GHz
< 0.82 dB/feet @10 GHz
< 1.12 dB/feet @18 GHz
- VSWR: < 1.30 (DC~11 GHz, for SMA straight Connectors)
< 1.4 (11~18 GHz, for SMA straight Connectors)
< 1.4 (DC~7 GHz, for SMA right angle Connectors)

Cable Physical & Mechanical Specifications

- Construction should be double shielded
- Inner Conductor: Silver Covered Copper Wire
- Dielectric: PTFE
- Inner Shield: Silver Plated Copper Flat Ribbon Tape
- Outer Shield: Silver-Plated Copper Braid
- Jacket: Rugged Fluorinated Ethylene Propylene (FEP) suitable for harsh environment
- Overall diameter: < 2.8 mm
- Bending Radius: < 20 mm repeated, <6mm static
- Temperature Range: -55°C ~ +125°C

Connector Specifications (SMA)

- Outer Conductor: Brass, Gold plated
- Center Conductor: Brass, Gold Plated
- Insulation: PTFE
- Frequency range: DC~11 GHz for SMA straight, DC~7GHz for SMA right angle
- Should meet test conditions of MIL-STD-202 for vibration, mechanical shock, thermal shock, corrosion, humidity, temperature cycling

Connector Specifications (N)

- Outer Conductor: Copper alloy, Ternary alloy
- Center Conductor: Brass, Gold Plated
- Insulation: PTFE
- Frequency range: DC~9 GHz for N straight
- Should meet test conditions of MIL-STD-202 for vibration, mechanical shock, thermal shock, corrosion, humidity,

Connector Specifications (TNC)

- Outer Conductor: Copper alloy, Ternary alloy
- Center Conductor: Brass, Gold Plated
- Insulation: PTFE
- Frequency range: DC~9 GHz for TNC straight
- Should meet test conditions of MIL-STD-202 for vibration, mechanical shock, thermal shock, corrosion, humidity,