

KA40-Series Cable Sets are for 40 GHz RF applications. They incorporate ultra low loss taped PTFE triple shielded coaxial cable and low VSWR stainless steel K (2.92mm) connectors

**Applications**

- EW Systems - 18~40 GHz
- Test Cables upto 40 GHz
- Ka-Band communication

**Substitute for**

- Radial SHF3M
- Huber Suhner Sucoflex\_102, 240, 340



**Electrical Specifications**

Impedance	50 Ohms	
Velocity of Propagation	83 %	
Shielding Effectiveness	Better than -90 dB	
Capacitance	23.9 pF/ft	78.7 pF/m
Frequency Range	DC ~ 45 GHz	
Phase Stability Vs Flexures (360° wrap on a mandrel of 51mm diameter)	<0.4°/GHz, Typ. ±8°@40 GHz	
Phase Stability Vs Temp. (parts per million, ppm)	<4 ppm/degree (<500 ppm in -40 ~ +85°)	
Phase Stability Vs Temp. (degree/ meter / GHz)	<1° / m / GHz)	
Atten. Stability Vs Temp.	<0.2 % /°C	
Atten. Stability Vs Bending	± 0.1dB	

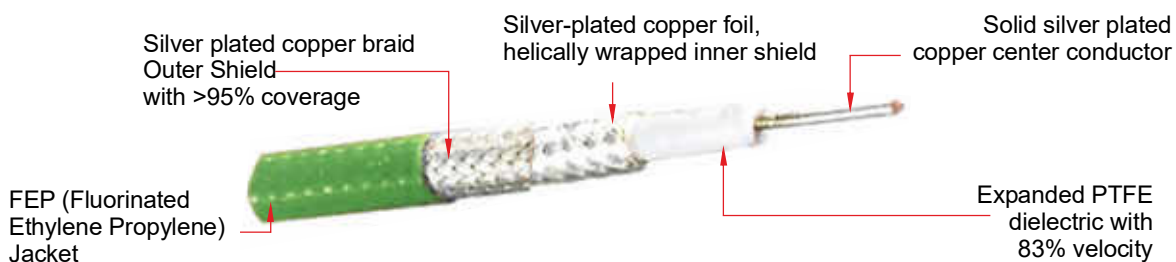
**Physical & Mechanical Specifications**

Dimensions	inches	mm
Outer diameter	0.15	3.8
Bend Radius (min.)	0.75	19.0
Weight	0.036 Kg/m	
Temperature Range	-55° ~ + 150°C	

**Attenuation and Power Handling Data**

Frequency	Insertion Loss		Av Power Watts
	dB/ft	dB/m	
2 GHz	0.17	0.57	370
4 GHz	0.25	0.85	260
10 GHz	0.35	1.18	160
18 GHz	0.48	1.61	120
26.5 GHz	0.59	1.97	100
32 GHz	0.66	2.21	90
40 GHz	0.73	2.46	70

**Imported Expanded-PTFE taped Phase Stable & Low Loss Cable Construction**



**Ordering Codes Description**

KA40 - (Length) - (Connector 1) - (Connector 2)  
 - □ □ - □ ( □ / □ ) - □ ( □ / □ ) - □  
**L L 1 2 3 1 2 3 U**

<b>LL</b>	Length	0.5 = 0.5 ; 1 = 1.0 ; 2 = 2.0
<b>1</b>	Connector Series	K = K
<b>2</b>	Male/Female Designator	M = Male
<b>3</b>	Orientation of Connector	ST = Straight
<b>U</b>	Unit of Length	M = Meter ; F = Feet

1 meter KA-Series cable set with K(Male) on both sides = KA40-1-K(M/ST)-K(M/ST)-M

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**S11 & S21 Plots of KA40-Series Cable Set, 1.0 meter, K (M) Connectors**



**KA40-Series Cable Set Ordering Codes with K(2.92mm) Connectors**

Ordering Code	Conn.1	Conn.2	Freq.	Length	IL dB DC-40G	VSWR DC-40G
KA40-1-K(M/ST)-K(M/ST)-F	K(2.92mm)M	K(2.92mm)M	DC-40	1 feet	1.5	1.40:1
KA40-2-K(M/ST)-K(M/ST)-F	K(2.92mm)M	K(2.92mm)M	DC-40	2 feet	2.4	1.40:1
KA40-0.25-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	0.25 m	1.5	1.40:1
KA40-0.5-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	0.5 m	2.3	1.40:1
KA40-0.7-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	0.7 m	2.9	1.40:1
KA40-0.75-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	0.75 m	3	1.40:1
KA40-1-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	1 m	3.4	1.40:1
KA40-1.5-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	1.5 m	4.7	1.40:1
KA40-2-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	2 m	6	1.40:1
KA40-3-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	3 m	8.5	1.40:1
KA40-4-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	4 m	11	1.40:1
KA40-5-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	5 m	13.8	1.40:1
KA40-6-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	6 m	16.3	1.40:1
KA40-7-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	7 m	18.9	1.40:1
KA40-8-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	8 m	21.5	1.40:1
KA40-10-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	10 m	26.5	1.40:1
KA40-15-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	15 m	39	1.40:1
KA40-20-K(M/ST)-K(M/ST)-M	K(2.92mm)M	K(2.92mm)M	DC-40	20 m	51.3	1.40:1

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**KA40-Series Cable Set Ordering Codes (SMA Connectors) - MOQ 5 pcs**

Ordering Code	Conn.1	Conn.2	Freq.	Length	IL (dB) DC-18GHz	VSWR DC-18GHz
KA40-1-SMA(M/ST)-SMA(M/ST)-F	SMA(M)	SMA(M)	DC-18	1 feet	1.1	1.35:1
KA40-2-SMA(M/ST)-SMA(M/ST)-F	SMA(M)	SMA(M)	DC-18	2 feet	1.6	1.35:1
KA40-0.25-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	0.25 m	1.0	1.35:1
KA40-0.5-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	0.5 m	1.4	1.35:1
KA40-0.7-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	0.7 m	1.7	1.35:1
KA40-0.75-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	0.75 m	1.8	1.35:1
KA40-1-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	1 m	2.3	1.35:1
KA40-1.5-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	1.5 m	3.1	1.35:1
KA40-2-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	2 m	4.0	1.35:1
KA40-3-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	3 m	5.7	1.35:1
KA40-4-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	4 m	7.4	1.35:1
KA40-5-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	5 m	9.1	1.35:1
KA40-6-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	6 m	10.8	1.35:1
KA40-7-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	7 m	12.5	1.35:1
KA40-8-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	8 m	14.2	1.35:1
KA40-10-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	10 m	17.6	1.35:1
KA40-15-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	15 m	26.1	1.35:1
KA40-20-SMA(M/ST)-SMA(M/ST)-M	SMA(M)	SMA(M)	DC-18	20 m	34.6	1.35:1

Note: MOQ (minimum order quantity) of 5 pcs is applicable for above cable sets

**K(2.92mm) and SMA Connector Specifications**

MIL Standard	MIL-PRF-39012
Outer Conductor	Passivated Stainless Steel
Center Conductor	BeCu, Gold Plated

Insulation	PTFE
Frequency	DC~40 GHz K(2.92mm) DC~18 GHz (SMA)

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**KA40-Series Cable Set Ordering Codes (3.5mm Connectors) - MOQ 5 pcs**

Ordering Code	Conn.1	Conn.2	Freq.	Length	IL (dB) DC-26.5GHz	VSWR DC-18GHz
KA40-1-3.5(M/ST)-3.5(M/ST)-F	3.5mm(M)	3.5mm(M)	DC-26.5	1 feet	1.3	1.4:1
KA40-2-3.5(M/ST)-3.5(M/ST)-F	3.5mm(M)	3.5mm(M)	DC-26.5	2 feet	1.9	1.4:1
KA40-0.25-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	0.25 m	1.2	1.4:1
KA40-0.5-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	0.5 m	1.7	1.4:1
KA40-0.7-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	0.7 m	2.1	1.4:1
KA40-0.75-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	0.75 m	2.2	1.4:1
KA40-1-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	1 m	2.7	1.4:1
KA40-1.5-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	1.5 m	3.7	1.4:1
KA40-2-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	2 m	4.7	1.4:1
KA40-3-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	3 m	6.7	1.4:1
KA40-4-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	4 m	8.8	1.4:1
KA40-5-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	5 m	10.8	1.4:1
KA40-6-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	6 m	12.8	1.4:1
KA40-7-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	7 m	14.9	1.4:1
KA40-8-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	8 m	16.9	1.4:1
KA40-10-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	10 m	21.0	1.4:1
KA40-15-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	15 m	31.1	1.4:1
KA40-20-3.5(M/ST)-3.5(M/ST)-M	3.5mm(M)	3.5mm(M)	DC-26.5	20 m	41.3	1.4:1

Note: MOQ (minimum order quantity) of 5 pcs is applicable for above cable sets

**3.5mm Connector Specifications**

MIL Standard	MIL-PRF-39012
Outer Conductor	Passivated Stainless Steel
Center Conductor	BeCu, Gold Plated

Insulation	PTFE
Frequency	DC~26.5 GHz

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## Specifications for 40 GHz Ultra Low Loss & Phase Stable Flexible Cable Assemblies

**Length                      Connector 1                      Connector 2                      Loss**

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

### Coaxial Cable Electrical Specifications

- Impedance : 50 ohms
- Working Frequency : DC~40 GHz
- Shielding Effectiveness : better than -90dB
- Power Handling : > 50 watts CW @ 40 GHz
- Attenuation : < 2.55 dB per meter @ 40 GHz
- Velocity of Propagation : > 80%

### Physical & Mechanical Specifications

- Construction should be triple shielded for low loss
- Inner Conductor : Silver Plated Copper
- Dielectric : Low density taped PTFE
- Inner Shield : Helically wrapped silver plated copper foil
- Outer Shield : Silver plated copper braid
- Jacket : Rugged Fluorinated Ethylene Propylene (FEP)
- Overall diameter : < 3.9 mm
- Bend Radius : < 19 mm
- Temperature Range : - 55°C ~ +150°C
- VSWR : < 1.4 :1 @ DC-40GHz

### Connector Specifications Precision K (2.92 mm) Male Straight

- MIL Standard : Should meet MIL-PRF-39012 requirements
- Body : Passivated, Stainless steel
- Center Conductor : Beryllium Copper, Gold Plated
- Nominal Impedance : 50 Ω
- Working Frequency range : DC~40 GHz
- Should meet MIL-STD-202 Standard for environmental conditions

### Connector Specifications Precision 3.5mm Male Straight

- MIL Standard : Should meet MIL-PRF-39012 requirements
- Body : Passivated, Stainless steel
- Center Conductor : Beryllium Copper, Gold Plated
- Nominal Impedance : 50 Ω
- Working Frequency range : DC~26.5 GHz
- Should meet MIL-STD-202 Standard for environmental conditions