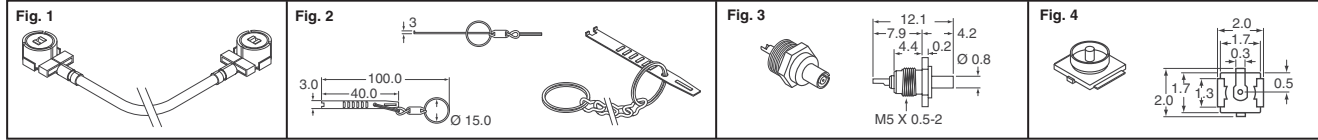




## W.FL Series Connectors — World's Lowest Profile, Ultra Small Coaxial Connectors (1.4mm Stacking Height)

Applications: • Mobile phones • Wireless PDA's • Wireless LAN • Bluetooth communication protocol • Wireless communication equipment • GPS



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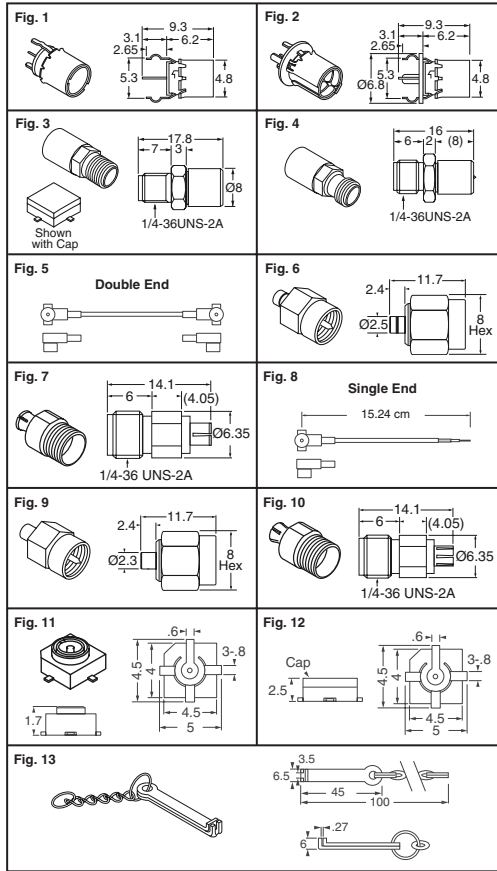
Performance	Standard	Conditions
Characteristic Impedance	50Ω	—
Insulation Resistance	500MΩ or greater	100VDC
Withstanding Voltage	200VAC	1 Minute
Contact Resistance	Inner 20MΩ, Outer 10MΩ or less	100mA or less
V.S.W.R.	1.3 or less	Up to 3GHz

Part	Material	Finish
Outer Conductor	Phosphor Bronze	Silver Plating
Inner Conductor	Phosphor Bronze	Gold Plating
Insulator	PBT, LCP	Black, UL94V-0

Fig.	Description	Digi-Key Part No.	Price Each			Hirose Part No.
			1	10	50	
1	Ultra Cable Assembly, 35mm	H11561-ND	5.33	4.51	3.80	W.FL-2LPG-062N2D-A-(35)
	Ultra Cable Assembly, 40mm	H11562-ND	5.44	4.50	3.75	W.FL-2LPG-062N2D-A-(40)
	Ultra Cable Assembly, 70mm	H11563-ND	6.14	5.20	4.38	W.FL-2LPG-062N2D-A-(70)
	Ultra Cable Assembly, 100mm	H11560-ND	5.52	4.67	3.93	W.FL-2LPG-062N2D-A-(100)
	Ultra Cable Assembly, 200mm	H11583-ND	6.25	5.29	4.45	W.FL-2LPG-062N2D-A-(200)
	Ultra Cable Assembly, 500mm	H11584-ND	5.21	4.41	3.71	W.FL-2LPG-062N2D-A-(500)
	Ultra Cable Assembly, 1000mm	H11582-ND	6.29	5.33	4.48	W.FL-2LPG-062N2D-A-(1000)
	Ultra Cable Assembly, 100mm	H9168-ND	5.78	4.79	3.99	W.FL-2LP-04N1-A-(100)
	Ultra Cable Assembly, 200mm	H11585-ND	5.39	4.57	3.84	W.FL-2LP-04N1-A-(200)
	Ultra Cable Assembly, 1000mm	H9169-ND	7.21	6.10	5.13	W.FL-2LP-04N1-A-(1000)
2	Extraction Tool for W.FL Series	H9171-ND	69.40	—	—	W.FL-LP-N
3	Inspection Receptacle	H9172-ND	19.94	19.28	17.95	W.FL-R-1
4	Ultra Low Coax SMD Receptacle	H9173CT-ND	1.34	1.10	—	W.FL-R-SMT-1(10)
	Ultra Low Coax SMD Receptacle	H9173TR-ND	—	916.12/2,000	—	W.FL-R-SMT-1(10)

## Miniature RF Connectors



**FL (Finger-Lock) Series Coaxial Connectors:** Low-profile microminiature high-frequency connectors. The FL Series connectors are low-profile microminiature coaxial connectors intended for high-density packaging of components on printed circuit boards. The FL Series is ideal for high-density circuit board wiring in signal transmission applications at high frequencies up to 1GHz.

**Features:** • High-level matching: Maximum V.S.W.R. is only 1.2 at frequencies up to 1GHz.  
**Applications:** Typical applications include cellular telephones, radio communications equipment, electronic measuring instruments, CATV, control units, etc.

**Material and Finish:** • Shell: Brass or phosphor bronze, silver plating • Center contact (male): Brass, gold plating • Center contact (female): Phosphor bronze, gold plating • Insulation: Polybutylene terephthalate (PBT), black.

**Performance Characteristics:** • Characteristic impedance: 50Ω • Insulation resistance: 1000MΩ or more (at 250VDC) • Contact resistance: 10mΩ or less for both center and outer conductors (at 1 ADC) • Withstanding voltage: 250VAC (rms) for one minute • Coupling/removal force: 300 gf or more • Life of contacts: 50 times of use

**S.FL2 Series Coaxial Connectors:** S.FL2 (Super FL Type 2 Coaxial Connector) Series is a surface mount, low profile, miniature coaxial connector intended for high density packaging. Compared to Hirose's FL Series connectors, the S.FL2 Series offers a 50% reduced profile when assembled, achieving increased density of internal wiring for high frequency transmission applications.  
**Features:** • Highly flexible, offers high frequency performance below V.S.W.R. 1.2 over 0-2000MHz range.

**H.FL Series Coaxial Connectors:** The H.FL connectors have a lower profile, with a mounted height of approximately 30% that of our S.FL2 connectors. They occupy 20% less board space, allowing higher density internal wiring.  
**Features:** • High frequency response of V.S.W.R. 1.3 or less from D.C. to 3000MHz.

**Material and Treatment:** • Shell: Phosphor bronze, silver plating • Insulator: PBT plastic (plug side), black; Liquid crystal polymer (receptacle side), black • Male center contact: Bronze, gold plating • Female center contact: Phosphor bronze, gold plating.

**Performance Characteristics:** • Characteristic impedance: 50Ω and 75Ω • Insulation resistance: 500MΩ or greater at DC 250V • Contact resistance: 20mΩ (center), 10mΩ (exterior) at DC 10mA • Dielectric strength: AC 300V (r.m.s.), 1 minute • Contact service life: 50 times • Voltage standing wave ratio: 1.3 or less, DC to 3000MHz (target value)

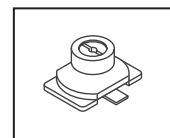
Fig.	Description	Digi-Key Part No.	Price Each			Hirose Part No.
			1	10	100	
<b>FL Series</b>						
1	Receptacle PC MT	H9142-ND	2.52	2.10	1.56	FL-R-PC(1)
2	Receptacle with Washer	H9143-ND	3.60	2.98	2.24	FL-R-PC(3)
3	Adapter Jack/SMA Jack	H11447-ND	45.97	43.67	41.05	HRMJ-FLJ(40)
4	Adapter Plug/SMA Jack	H11448-ND	29.82	28.34	26.63	HRMJ-FLP-1(40)
5	6" (15.24cm) FL/FL Cable Assembly	229-1000-ND	32.67	30.64	28.08	4189-06
5	12" (30.48cm) FL/FL Cable Assembly	229-1001-ND	34.51	32.36	29.67	4189-12
5	12" (30.48cm) FL/SMA Cable Assembly	229-1002-ND	34.51	32.36	29.67	4189-12
<b>S.FL2 Series</b>						
6	Adapter Jack/SMA Plug	H11451-ND	10.23	9.64	8.44	HRMP-S.FLJ(40)
7	Adapter Plug/SMA Jack	H11452-ND	29.91	28.92	25.93	HRMJ-S.FLP(40)
5	6" (15.24cm) S.FL2/S.FL2 Cable Assembly	229-1008-ND	21.55	20.21	18.53	2189-06
5	12" (30.48cm) S.FL2/S.FL2 Cable Assembly	229-1009-ND	17.04	15.98	14.65	2189-12
5	12" (30.48cm) S.FL2/SMA Cable Assembly	229-1010-ND	31.80	29.82	27.33	2192-12
8	6" (15.24cm) S.FL2 Single End Cable Assembly	229-1011-ND	21.35	20.02	18.35	2191-6
<b>H.FL Series</b>						
9	Adapter Jack/SMA Plug	H11450-ND	17.30	16.73	15.00	HRMP-H.FLJ(40)
10	Adapter Plug/SMA Jack	H11449-ND	20.06	19.40	17.39	HRMJ-H.FLP(40)
11	Receptacle Coaxial SMT	H9147-ND	1.38	1.15	.85	H.FL-R-SMT(01)
12	Receptacle Coaxial with Cap SMT	H9148CT-ND	1.43	1.19	.89	H.FL-R-SMT(C)(10)
12	Receptacle Coaxial with Cap SMT	H9148TR-ND	—	1403.91/2,500	—	H.FL-R-SMT(C)(10)
13	Removal Tool (H.FL Series)	H9151-ND	37.89	—	—	H.FL-LP-N
5	3.94" (10cm) H.FL/H.FL Cable Assembly	H5018-ND	7.02	5.94	4.46	H.FL75-2LP-084H-A-100
5	19.69" (50cm) H.FL/H.FL Cable Assembly	H5020-ND	8.60	7.48	5.99	H.FL75-2LP-084H-A-500
5	39.37" (100cm) H.FL/H.FL Cable Assembly	H5019-ND	11.18	10.35	8.67	H.FL75-2LP-084H-A-1000
5	6" (15.24cm) H.FL/H.FL Cable Assembly	229-1004-ND	10.63	9.97	9.14	1189-06
5	12" (30.48cm) H.FL/H.FL Cable Assembly	229-1005-ND	12.17	11.42	10.47	1189-12
5	12" (30.48cm) H.FL/SMA Cable Assembly	229-1006-ND	23.32	21.87	20.04	1192-12
8	6" (15.24cm) H.FL Single End Cable Assembly	229-1007-ND	10.63	9.97	9.14	1191-06

## Coaxial Switching Connector MS-147 Series



The switching function is accomplished by mating with the corresponding plug. The transmission is redirected from normal direction to the plug assembly. The surface mounted receptacle protrudes above the board 3.9mm. The MS147 has an insertion loss of 0.15dB. **Characteristics:** Impedance of 50Ω, isolation of 25dB minimum (DC-2.0GHz) and 20dB (2.0GHz ~ 2.5GHz). Self-aligning within 0.5mm and with a guaranteed durability of 12,000 mating/unmating cycles. **Applications:** Most mobile phones and circuit testing applications

Description	Digi-Key Part No.	Price Each			Hirose Part No.
		1	10	100	
Interface Coaxial Switching Receptacle	H2800CT-ND	1.46	1.22	.90	MS-147(06)
Interface Coaxial Switching Receptacle	H2800TR-ND	—	894.65/1,500	—	MS-147(06)
Mating Adapter	H2801-ND	14.65	14.17	12.71	MS-147-HRMJ-1
Right Angle Plug	H2802-ND*	12.85	12.43	11.14	MS-147-C(LP)-1



\* Application cable for plug: 1.5D-HQEW (manufactured by Fujikura Ltd.)

Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

Free shipping on orders over €65! All prices in euro and include duties.

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