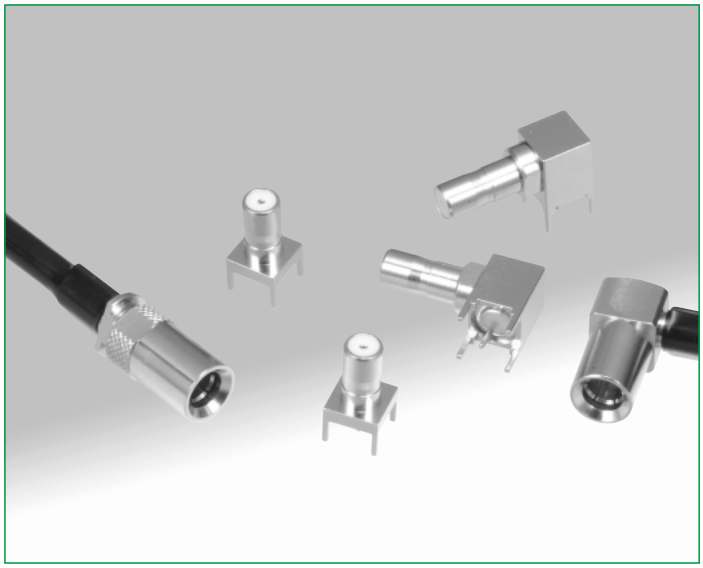
Push-on Lock Coaxial Connectors for Digital Broadcasting Applications

PL71 Series

75Ω Up to 3 GHz



■Features

1. 20% downsized compared with conventional 75 ohm BNC connectors.

2. Superior locking mechanism

Our exclusive locking method keeps the mating part in constant contact with the electric reference plane (Top Touch), ensuring high contact stability and reliability. The construction is protected by the outer shell.

3. Stable, stationary center contact structure

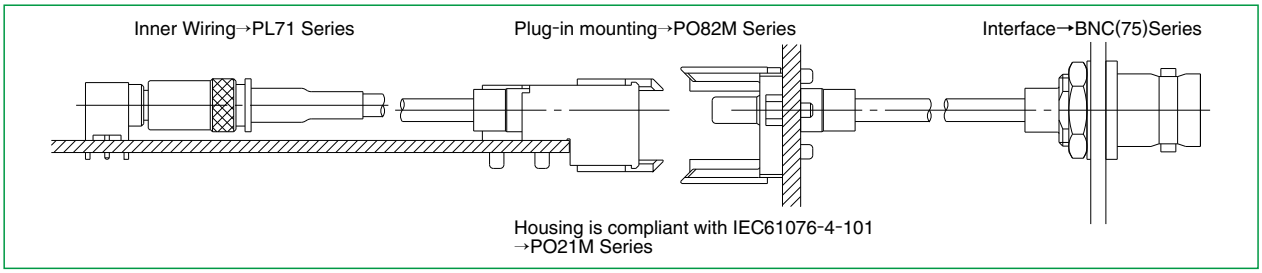
The stationary design protects the extremely thin center conductor of this 75 ohm coaxial cable from potential damage. Damage can be caused by rotational forces during mating and unmating.

4. Reliable at high frequencies

The high-frequency performance of the PL71 Series is very reliable, with V.S.W.R. characteristics of a maximum of 1.3 at DC, and up to 3 GHz, which is suitable for 3G-SDI broadcasting equipment.

■Applications

The PL71 Series is well suited for use in the digital cable television broadcasting industry. This 75 ohm coaxial series can work together with BNC(75)Series and PO82M Series to configure a wide range of functions, including interface connections, plug-in mounting, and wiring within devices.

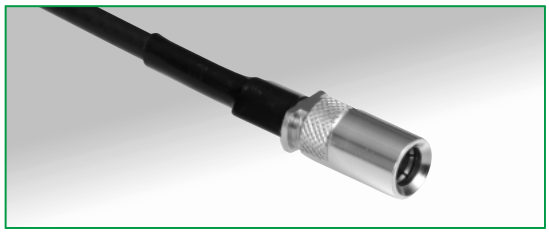


■Mating Chart

Plugs	Receptacles

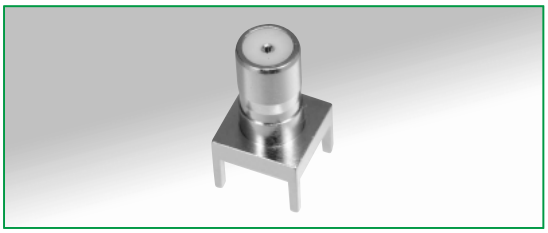
■Straight

PL71-P-※※※



■Straight

PL71-R-PC



■Specifications

Ratings	Nominal characteristic impedance : 75Ω Frequency range : DC to 3 GHz	Operating temperature range :-30°C to +85°C Operating humidity : RH 95% max.

Item	Specification	Conditions
1. Contact resistance	6 mΩ max.	100 mA max.
2. Insulation resistance	1,000 MΩ min.	500 V DC
3. Withstanding voltage	No flashover of insulation breakdown	500 V AC / 1 minute
4. V.S.W.R.	1.3max.	DC to 3 GHz
5. Center contact	0.5N min.	Measured with 0.49mm diameter pin gauge
6. Insertion and withdrawal forces	9.8 N min.	Measured with the applicable mating pair
7. Durability(mating/unmating with corresponding plug)	Contact resistance 6 mΩ max.	500 mating cycles
8. Vibration	No electrical discontinuity of 1μs or longer No damage, cracks, or parts dislocation	Frequency: 10 to 500 Hz, single amplitude of 0.75 mm, acceleration of 98m/s^2, 10 cycles in each of the 3 axial directions
9. Shock resistance	No electrical discontinuity of 1μs or longer No damage, cracks, or parts dislocation	Acceleration of 490m/s^2, for a duration of 11 ms, sine half-wave waveform, 3cycles in each of the 3 axial directions
10. Moisture resistance	Insulation resistance: 100 MΩ min. (high humidity) Insulation resistance: 1,000 MΩ min. (dry) No damage, cracks, or parts dislocation	240 hours at +25℃ to +65℃ and humidity of 80% to 96%
11. Temperature cycle	No damage, crack, or part dislocation	Temperature:-55℃ → +5℃ to +35℃ → +85℃ → +5℃ to +35℃ Time: 30 min. → 5 min.max. → 30 min.→ 5 min.max. 5 cycles
12. Salt spray	No corrosion	5% salt water solution, 48 hours

Note: Some products may have different specifications from those shown above. Please confirm requirements before ordering.

■Materials

Part	Materials	Finish	Remarks
Shell	Brass	Nickel plated	——
Male center contact	Brass	Gold plated	——
Female center contact	Beryllium copper	Gold plated	——
Insulator	PTFE	——	Flame retardant

■Ordering information

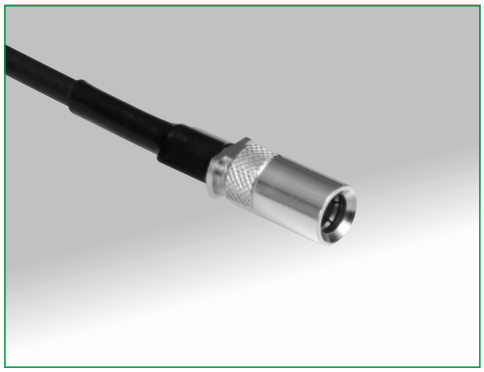
PL71 -⌜ ⌟-⌜ ⌟

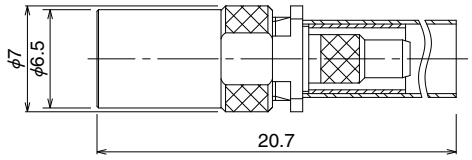
❶ ❷ ❸

❶	Series name	: PL71
❷	Connector type	
	P	: Straight plug
	LP	: Right-angle plug
	R	: Straight receptacle
	LR	: Right-angle receptacle
❸	Applicable cable(plug) or board	
	1.5C	: 1.5C-QEV.CW
	1.5CW	: 1.5C-QEW.CW
	PC	: DIP mounting

■Plugs

●Straight

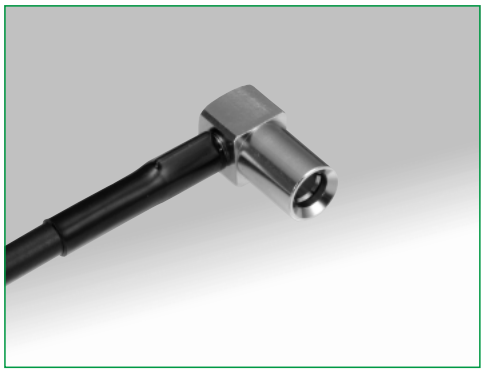


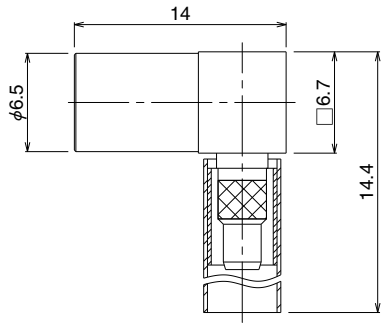


All dimensions:mm

Part No.	HRS No.	Applicable cable	RoHS
PL71-P-1.5CW(40)	334-0001-5 40	1.5C-QEW.CW	Yes
PL71-P-1.5CV-1(40)	334-0069-9 40	1.5C-QEV.CW	

●Right angle



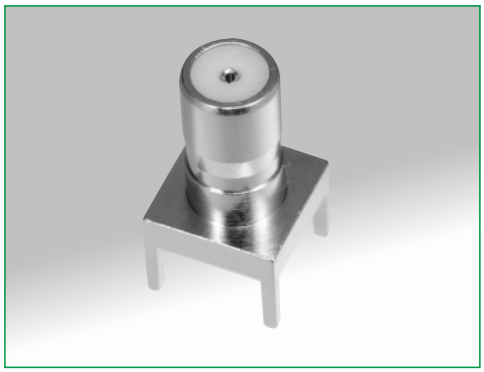


All dimensions:mm

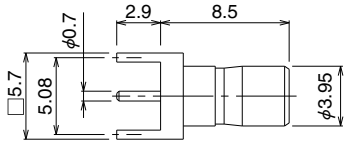
Part No.	HRS No.	Applicable cable	RoHS
PL71-LP-1.5CW(40)	334-0006-9 40	1.5C-QEW.CW	Yes
PL71-LP-1.5C(40)	334-0007-1 40	1.5C-QEV.CW	

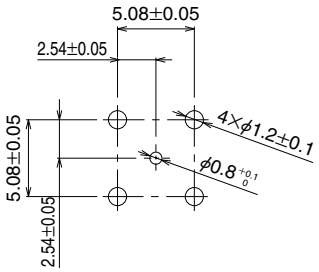
■Receptacles

●Straight



●PCB mounting pattern

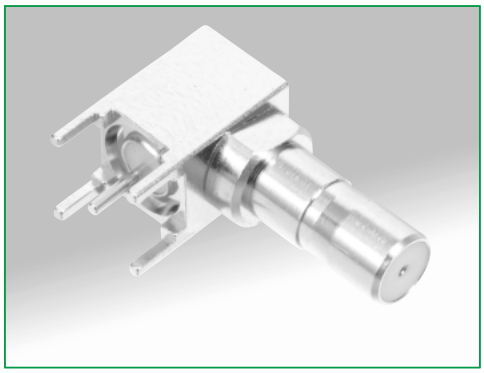




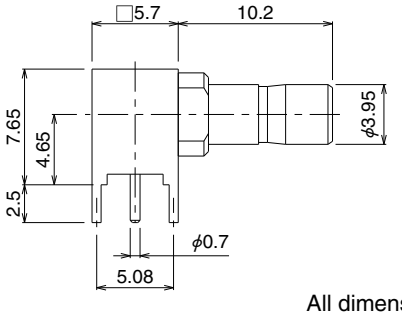
All dimensions:mm

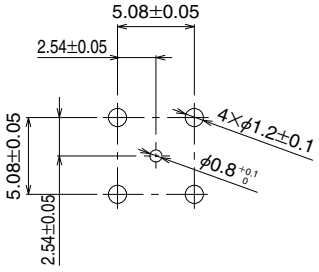
Part No.	HRS No.	RoHS
PL71-R-PC(40)	334-0011-9 40	Yes

●Right angle



●PCB mounting pattern



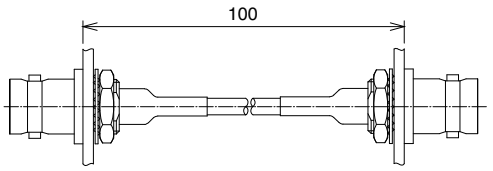


All dimensions:mm

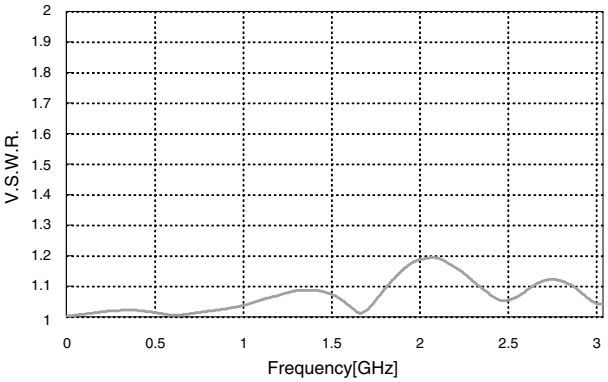
Part No.	HRS No.	RoHS
PL71-LR-PC(40)	334-0016-2 40	Yes

◆High Frequency Characteristics of 75Ω Hirose product series

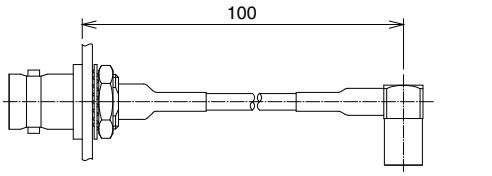
●BNC(75) Series



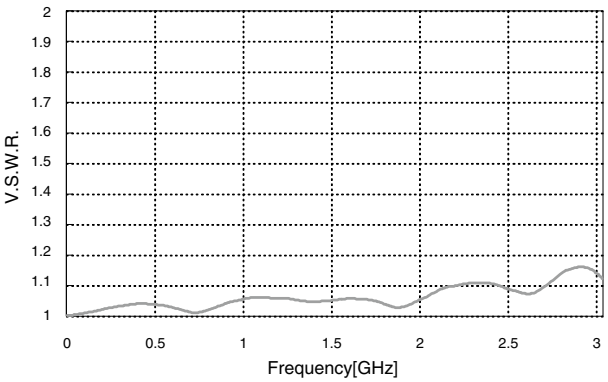
BNC(75)-BPJ-1.5CV-※ BNC(75)-BPJ-1.5CV-※



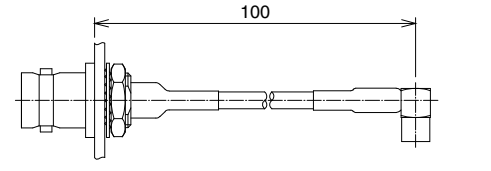
●PL71 Series



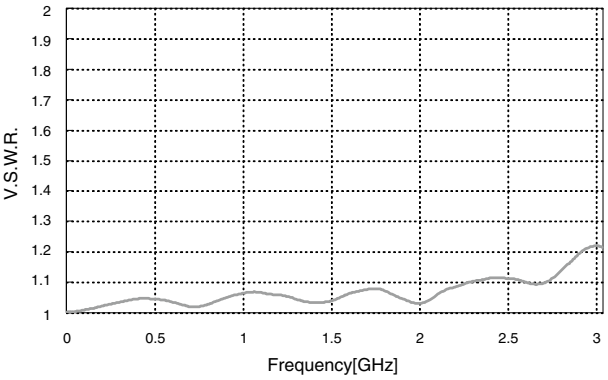
BNC(75)-BPJ-1.5CV-※ PL71-LP-1.5C(40)



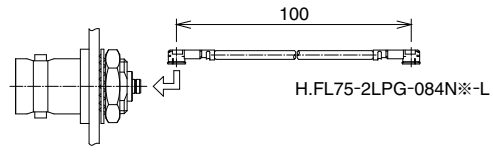
●PL75 Series



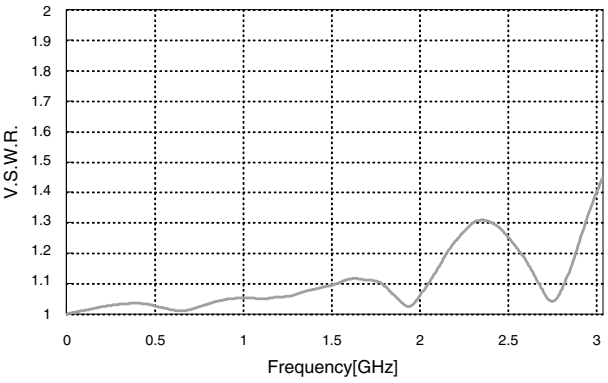
BNC(75)-BPJ-1.5CV-※ PL75-LP-1.5CV



●H.FL75 Series



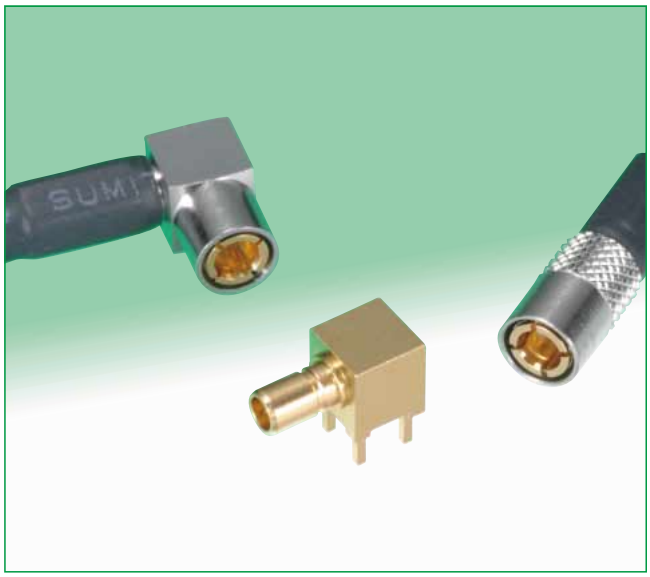
BNC(75)J-H.FLJ-BPA(40)



Ultra-Miniature Push-on Lock Coaxial Connectors for Digital Broadcasting Applications

PL75 Series

75Ω up to 3GHz



PL75 and PL71 Size Comparison

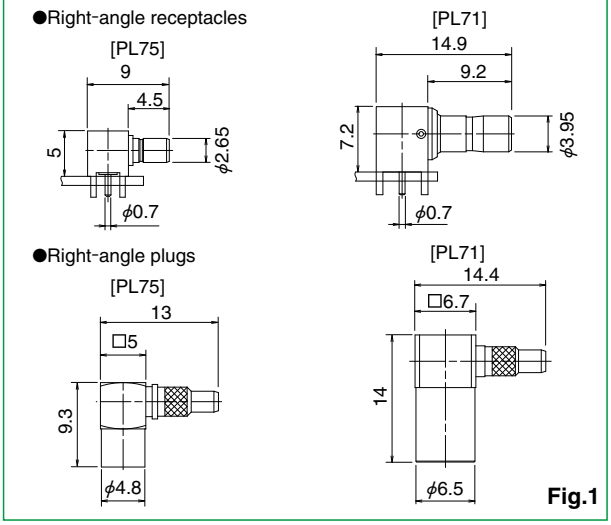


Fig.1

Features

1.Further reduction in size

The size is reduced by approximately 30% when compared with PL71 Series, 75 Ohm connectors. Low mounted profile: 5mm.

2.Superior locking mechanism

Our exclusive locking method keeps the mating part in constant contact with the electric reference plane (Top Touch), ensuring high contact stability and reliability. The construction is protected by the outer shell.

3.Reliable at high frequencies

The high-frequency performance of the PL75 Series is very reliable, with V.S.W.R. characteristics of a maximum of 1.3 at DC, and up to 3 GHz, which is suitable for 3G-SDI broadcasting equipment.

4.Applicable cable: 1.5C type

By using together with Hirose's BNC(75) Series connectors, 75Ω total system lines from the interface connections to the internal wiring system is available.

5.RoHS compliant

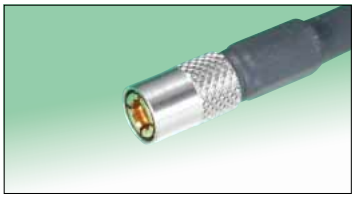
All materials and substances used to produce this product comply with RoHS standards.

Mating Chart

Plugs

■Straight

PL75-P-1.5CV



■Right-angle

PL75-LP-1.5CV　　PL75-LP-1.5CW

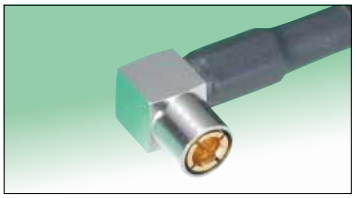


Fig.2

Receptacle

■Straight

PL75-R-PC

■Right-angle

PL75-LR-PC

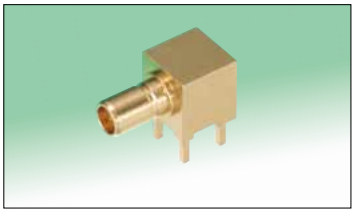


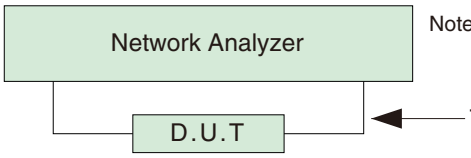
Fig.3

■Specifications

Ratings	Nominal characteristic impedance : 75Ω Frequency range : DC to 3 GHz	Operating temperature range :-30°C to +85°C Operating humidity : RH 95% max.

Item	Specification	Conditions
1. Insulation resistance	1,000 MΩ min.	250 V DC
2. Withstanding voltage	No flashover or insulation breakdown	250 V AC / 1 minute
3. Contact resistance	Center contact : 15 mΩ max. Outer shell: 6 mΩ max.	100 mA max.
4. Center contact retention force	0.2 N min.	Measured with 0.3 mm diameter pin gauge
5. V.S.W.R. ✻	1.3max.	DC to 3 GHz
6. Vibration	No electrical discontinuity of 1 μs or longer No damage, cracks, or parts dislocation	Frequency: 10 to 500 Hz, single amplitude of 0.75 mm, acceleration of 98m/s², 2 hours in each of the 3 axis
7.Moisture resistance	Insulation resistance: 10 MΩ min. (high humidity) Insulation resistance: 1,000 MΩ min. (dry) No damage, cracks, or parts dislocation	96 hours at +40℃ and humidity of 90% to 95%
8. Temperature cycle	Contact resistance Center contact : 19 mΩ max. Outer shell : 10 mΩ max. No damage, cracks, or parts dislocation	Temperature:-30℃ → +5℃ to +35℃ → +85℃ → +5℃ to +35℃ Time: 30 min. → 5 min.max. → 30 min.→ 5 min.max. 5 cycles
9. Durability	Contact resistance: Center contact : 19 mΩ max. Outer shell : 10 mΩ max. No damage, cracks, or parts dislocation	500 cycles
10. Salt spray	No corrosion	5% salt water solution, 48 hours

✻ V.S.W.R. Measurement System
The above V.S.W.R. standard values were measured using the measurement system shown below.



Note 1: Cable connectors were measured with PL75 and BNC(75) connectors connected with 10cm long coaxial cable.

■Materials / Finishes

●Plugs

Part	Material	Finish
Shell	Brass	Gold plated
Male center contact	Phosphor bronze	Gold plated
Female center contact	Beryllium copper	Gold plated
Insulator	PTFE	————
Crimp sleeve	Brass	Nickel plated

●Receptacles

Part	Material	Finish
Shell	Brass	Gold plated
Male center contact	Phosphor bronze	Gold plated
Female center contact	Beryllium copper	Gold plated
Insulator	PTFE	————

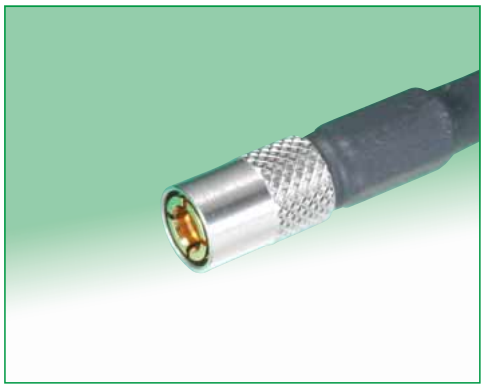
■Ordering information

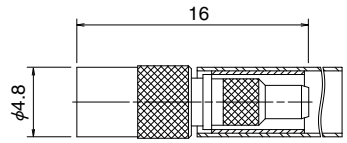
PL75 – ⌈⌋ – ⌈⌋
❶ ❷ ❸

❶	Series name :PL75
❷	Connector type P :Straight plug LP :Right-angle plug R :Straight receptacle LR :Right-angle receptacle
❸	Applicable cable (plug) or board mounting (receptacle) style 1.5CV :1.5CCA-EXBV(LF) 1.5CW :1.5C-QEW.CW PC :DIP mounting

■Plugs

●Straight

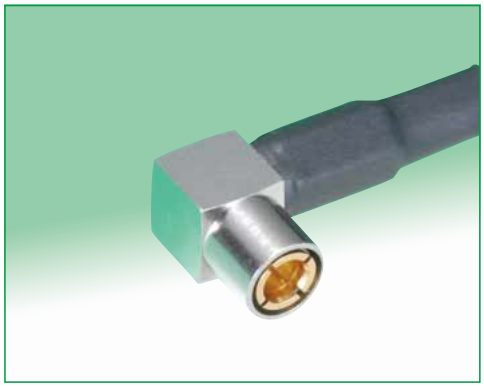


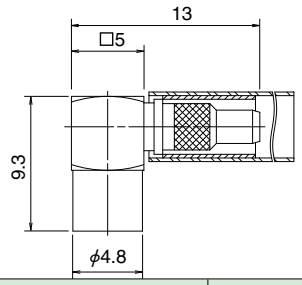


All dimensions: mm

Part No.	HRS No.	Applicable cable	RoHS
PL75-P-1.5CV	334-0078-0	1.5CCA-EXBV(LF)	Yes

●Right angle



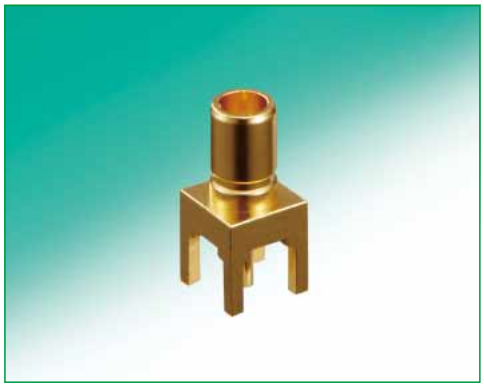


All dimensions: mm

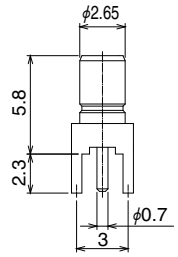
Part No.	HRS No.	Applicable cable	RoHS
PL75-LP-1.5CV	334-0076-4	1.5CCA-EXBV(LF)	Yes
PL75-LP-1.5CW	334-0080-1	1.5C-QEW.CW	

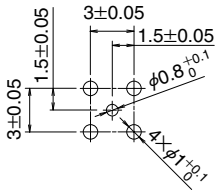
■Receptacles

●Straight



●PCB mounting pattern

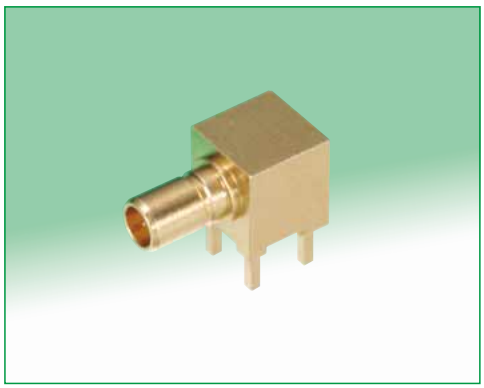




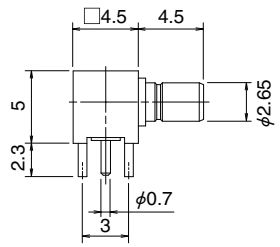
All dimensions: mm

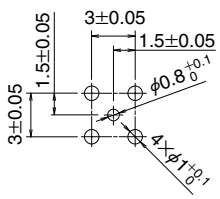
Part No.	HRS No.	RoHS
PL75-R-PC	334-0081-4	Yes

●Right angle



●PCB mounting pattern



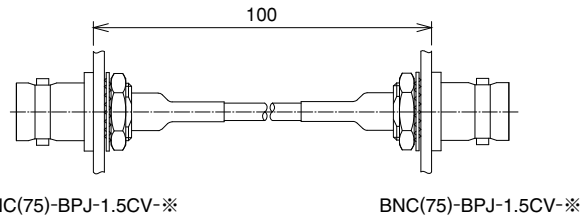


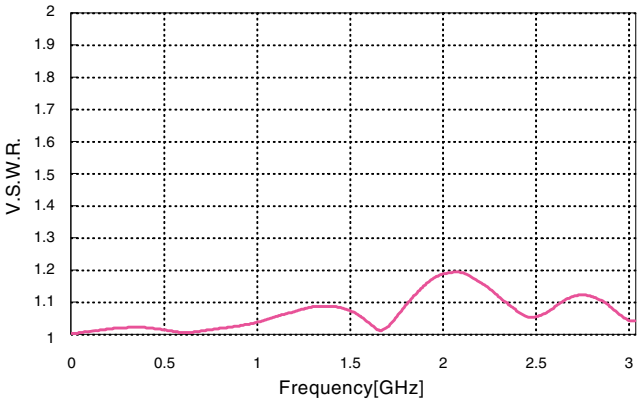
All dimensions: mm

Part No.	HRS No.	RoHS
PL75-LR-PC	334-0075-1	Yes

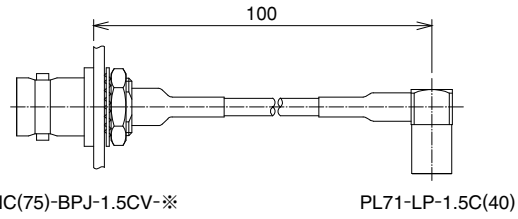
◆High Frequency Characteristics of 75Ω Hirose Products

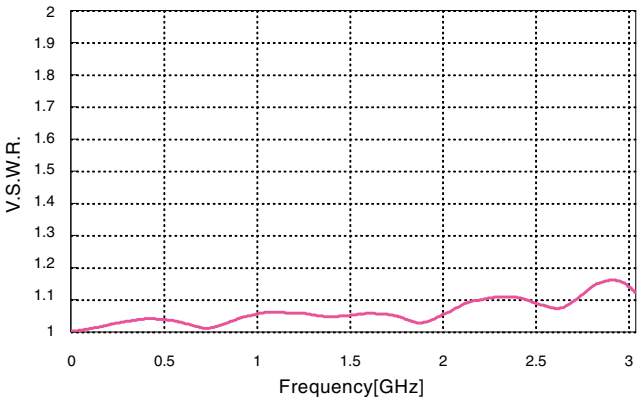
●BNC(75) Series



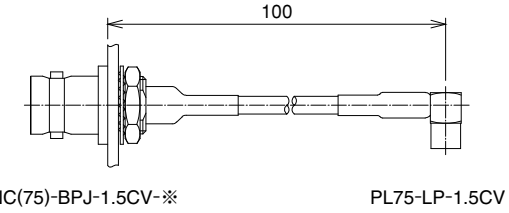


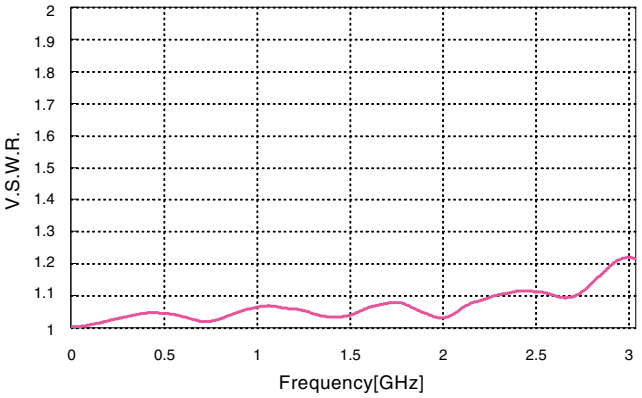
●PL71 Series





●PL75 Series





●H.FL75 Series