






(Board pitch 0.5 mm)

Micro-coaxial connectors

- Horizontal mating type / 0.5 and 0.25 mm pitch
(Related series FPC connectors)



Click the photos below to get more detailed product information.


Product name		CABLINE® -VS II	CABLINE® -VS IIF	CABLINE® -VS	CABLINE® -VSF	CABLINE® -CX II
Feature		 ZenShield® LK 105°C	 ZenShield® LK	 LK	 LK	 LK
		High-speed (20 Gbps) Operation Temp. 105°C	High-speed (20 Gbps) mates to VS II receptacle	VESA standard for 16:9 panel High-speed (20 Gbps)	High-speed (16 GT/s) mates to VS receptacle	Small and low height 0.78mm max. With EMI shield cover option
Plug Assembly P/N		20846	20862	20453	20645	Without cover : 20978 / With cover : 20977
Receptacle P/N		20849	20849	20455	20455	20976
Mating Type		Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Wire (FPC) Pitch (mm)		0.5	0.5	0.5	0.5	0.25
Board Pitch (mm)		0.5	0.5	0.5	0.5	0.5
Pin Count	Range	Up to 55	Up to 55	Up to 50	Up to 50	Up to 40
	Available	20, 30, 40	30, 40	20, 30, 40, 50	30, 40	40
Please inquire for pin counts not listed or outside of the pin count range.						
Mated Size (mm) (*)	Height	1.2 max. with cover	1.2 max. with cover	1.0 +/- 0.1	1.0 +/- 0.1	Without cover : 0.73 +0.05 / -0.10 With cover : 1.0 max. with cover
	Width Formula	6.85 + (0.5*?p)	6.85 + (0.5*?p)	7.55 + (0.5*?p)	6.15 + (0.5*?p)	6.45 + (0.25*?p)
	Depth	6.70	7.27	5.80	5.97	Without cover : 5.21 / With cover : 5.60
Wiping Length (mm)		0.54	0.48	0.61	0.62	0.62
Reference applicable cable size (AWG#) (**)	Micro-coaxial for Signals (***)	45ohm : #36 or smaller	Shielded FPC FPC thickness at contact area 0.25 +0.02 / -0.03 mm	45ohm : #36 or smaller	Shielded/Non-shielded FPC FPC thickness at contact area 0.28 +0.02 / -0.03 mm	45ohm : #44 or smaller
		50ohm : #38 or smaller		50ohm : #38 or smaller		50ohm : #46 or smaller
	Twinax	#40		#40		-
	Discrete	#32 or smaller		#32 or smaller		#39 or smaller
Contact Point		Top	Top	Top	Top	Top & Bottom
Compatibility		-	VS IIF plug mates to VS II receptacle (20849)	VS receptacle can be mounted on VS II receptacle PCB layout	VSF plug mates to VS receptacle (20455)	-
Performance [Unit: /Lane] (Reference Only)		USB4 Gen3 (20 Gbps) Display Port UHBR20 (20 Gbps) PCIe® Gen 4 (16 GT/s) eDP HBR 3 (8.1 Gbps)	USB4 Gen3 (20 Gbps) Display Port UHBR20 (20 Gbps) PCIe® Gen 4 (16 GT/s) eDP HBR 3 (8.1 Gbps)	USB4 Gen3 (20 Gbps) Display Port UHBR20 (20 Gbps) PCIe® Gen 4 (16 GT/s) eDP HBR 3 (8.1 Gbps)	PCIe® Gen 4 (16 GT/s) USB3.2 Gen2 (10 Gbps) eDP HBR 3 (8.1 Gbps) USB3.2 Gen1(5 Gbps)	USB 3.2 Gen 1 (5 Gbps) V-By-One HS 1.4 (4 Gbps) HDMI 1.3 (3.4 Gbps)
Automotive Standards		LV214 (****)		LV214 (*****)		

Note (*): Height, Width formula and Depth dimensions are including Lock Cover / Bar. (**): Cable outer diameters need to be smaller than connector pitch. (***): 45ohm and 50ohm cable AWG sizes for signals are listed as reference. Other impedance cables can be applied. (****): 40P tested. PG17 Dynamic loading evaluation passed. (*****): 50P tested. PG17 Dynamic loading evaluation passed.

Micro-coaxial connectors - Horizontal mating type / 0.4 mm pitch

(Related series FPC connectors)

Click the photos below to get more detailed product information.

Product name		CABLINE® -CA II / CA II PLUS	CABLINE® -CA IIF	CABLINE® -CA	CABLINE® -CAF	CABLINE® -CAP	CABLINE® -CAL
Feature		 ZenShield® LK 105°C	 ZenShield® LK	 LK	 LK	 LK	 LK
		High-speed (20 Gbps) Operation Temp. 105°C	High-speed (20 Gbps) mates to CA II receptacle	High-speed (20 Gbps)	High-speed (16 GT/s) mates to CA receptacle	High-speed (64 Gbps PAM4)	Mating height 0.8 mm max. High-speed (20 Gbps)
Plug Assembly P/N		20679 (CA II)/ 20788 (CA II PLUS)	20856	20633	20858	81863	20728
Receptacle P/N		20682 (CA II)/ 20790 (CA II PLUS)	20682	20525	20525	20525	20729
Mating Type		Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Wire Pitch (mm)		0.4	0.4	0.4	0.4	0.4	0.4
Board Pitch (mm)		0.4	0.4	0.4	0.4	0.4	0.4
Pin Count	Range	Up to 60	Up to 60	Up to 60	Up to 60	Up to 60	Up to 40
	Available	20, 30, 40, 50 (CA II) 60 (CA II PLUS)	30, 40, 50	10, 12, 20, 30, 40, 50, 60	40, 60	50 (16 differential pair Max.)	30, 40
Please inquire for pin counts not listed or outside of the pin count range.							
Mated Size (mm) (*)	Height	1.1 max. with cover (CA II) 1.2 max. with cover (CA II PLUS)	1.1 max. with cover	1.0 +/- 0.1	1.0 +/- 0.1	1.15 +/- 0.2	0.7 +/- 0.1
	Width Formula	6.95 + (0.4*?p)	6.95 + (0.4*?p)	6.95 + (0.4*?p)	5.75 + (0.4 x ? p)	5.75 + (0.4 x ? p)	10 – 20p : 6.85 + (0.4*?p) 22p – 40p : 8.05 + (0.4*?p)
	Depth	6.20 (CA II) / 6.70 (CA II PLUS)	6.74	5.73	6.055	6.86	5.50
Wiping Length (mm)		0.54	0.48	0.54	0.48		0.40
Reference applicable cable size (AWG#) (**)	Micro-coaxial for Signals (***)	45ohm : #38 or smaller 50ohm : #40 or smaller	Shielded FPC	45ohm : #38 or smaller 50ohm : #40 or smaller	Shielded/Non-shielded FPC	45ohm : #38	45ohm : #38 or smaller 50ohm : #40 or smaller
	Twinax	#40, #42	FPC thickness at contact area 0.25 +0.02 / -0.03 mm	#40	FPC thickness at contact area 0.26 +/- 0.02 mm		-
	Discrete	#34 or smaller		#34 or smaller			#34 or smaller
Contact Point		Top	Top	Top	Top	Top	Top
Compatibility		-	CA IIF plug mates to CA II receptacle (20682)	CA receptacle can be mounted on CA II & CA II PLUS PCB layout	CAF plug mates to CA receptacle (20525)	CAP Paddle Card harness solution mates to CA receptacle (20525)	-
Performance [Unit: /Lane] (Reference Only)		USB4 Gen3 (20 Gbps) Display Port UHBR20 (20 Gbps) PCIe® Gen 4 (16 GT/s) eDP HBR 3 (8.1 Gbps)	USB4 Gen3 (20 Gbps) Display Port UHBR20 (20 Gbps) PCIe® Gen 4 (16 GT/s) eDP HBR 3 (8.1 Gbps)	USB4 Gen3 (20 Gbps) Display Port UHBR20 (20 Gbps) PCIe® Gen 4 (16 GT/s) eDP HBR 3 (8.1 Gbps)	PCIe® Gen 4 (16 GT/s) USB3.2 Gen2 (10 Gbps) eDP HBR 3 (8.1 Gbps) USB3.2 Gen1(5 Gbps)	64 Gbps PAM4 56 Gbps PAM4 32 Gbps NRZ	USB4 Gen3 (20 Gbps) Display Port UHBR20 (20 Gbps) PCIe® Gen 4 (16 GT/s) eDP HBR 3 (8.1 Gbps)
Automotive Standards		LV214 (****)		LV214 (****)			

Note (*): Height, Width formula and Depth dimensions are including Lock Cover / Bar. (**): Cable outer diameters need to be smaller than connector pitch. (***) : 45ohm and 50ohm cable AWG sizes for signals are listed as reference. Other impedance cables can be applied. (****): 50P tested. PG17 Dynamic loading evaluation passed. (*****): 60P tested. PG17 Dynamic loading evaluation passed.

Micro-coaxial connectors - Vertical mating type

(Related series FPC connectors)



Click the photos below to get more detailed product information.

Product name		FPL II	CABLIN [®] -UM	CABLIN [®] -SS	CABLIN [®] -UY	CABLIN [®] -UA II	CABLIN [®] -UX II
Feature			 ZenShield® LK 105°C				
		0.5 mm pitch High retention force	High-speed (20 Gbps) Operation Temp. 105°C	0.4 mm pitch High retention force	Small and low height connector High-speed (32 GT/s)	0.3 mm pitch Slim plug and small connector	0.25 mm pitch Slim plug and small connector
Plug Assembly P/N		20437	20877	20380	20857	20496	20531
Receptacle P/N		20439	20879	20374	20854	20498	20533
Mating Type		Right angle vertical	Right angle vertical	Right angle vertical	Right angle vertical	Right angle vertical	Right angle vertical
Wire Pitch (mm)		0.5	0.4	0.4	0.35	0.3	0.25
Board Pitch (mm)		0.5	0.4	0.4	0.35	0.6	0.5
Pin Count	Range	Up to 50	Up to 60	Up to 50	Up to 25	Up to 50	Up to 50
	Available	30, 40, 50	30, 40, 60	10, 14, 20, 30, 32, 35, 40, 50	5, 10p	26, 32, 40, 50	30, 34, 40, 50
Please inquire for pin counts not listed or outside of the pin count range.							
Mated Size (mm) (*)	Height	2.2 +/- 0.2	2.2 +/- 0.15	1.65 +/- 0.2	0.76 +/- 0.06	1.27 +/- 0.1	1.04 +/- 0.06
	Width Formula	5.8 + (0.5 * ?p)	5.0 + (0.4 * ?p)	5.8 + (0.4 * ?p)	2.15 + (0.35 * ?p)	5.0 + (0.3 * ?p)	4.1 + (0.25 * ?p)
	Depth	6.10	5.0	3.00	3.10	2.90	2.40
Wiping Length (mm)		0.51	0.70	0.30	0.10	0.20	0.20
Reference applicable cable size (AWG#) (**)	Micro-coaxial for Signals (***)	45ohm : #36 or smaller	45ohm : #38 or smaller	45ohm : #38 or smaller	45ohm : #40 or smaller	45ohm : #42 or smaller	45ohm : #44 or smaller
		50ohm : #38 or smaller	50ohm : #40 or smaller	50ohm : #40 or smaller	50ohm : #42 or smaller	50ohm : #44 or smaller	50ohm : #46 or smaller
	Twinax	#40	#40, #42	-	-	-	-
Discrete		#32 or smaller	#34 or smaller	#34 or smaller	#36 or smaller	#39 or smaller	#39 or smaller
Compatibility		-	-	-	-	-	-
Performance [Unit: /Lane] (Reference Only)		Display Port HBR2 (5.4 Gbps), eDP HBR 2 (5.4 Gbps) USB 3.2 Gen1 (5 Gbps)	USB4 Gen3 (20 Gbps) Display Port UHBR20 (20 Gbps) PCIe® Gen 4 (16 GT/s) eDP HBR 3 (8.1 Gbps)	Display Port HBR2 (5.4 Gbps) eDP HBR 2 (5.4 Gbps) USB 3.2 Gen1 (5 Gbps)	32 GT/s NRZ USB4 Gen4(40 Gbps PAM3) USB4 Gen3 (20 Gbps) Display Port UHBR20 (20 Gbps)	USB 3.2 Gen 1 (5 Gbps) V-By-One HS 1.4 (4 Gbps) HDMI 1.3 (3.4 Gbps)	USB 3.2 Gen 1 (5 Gbps) V-By-One HS 1.4 (4 Gbps) HDMI 1.3 (3.4 Gbps)

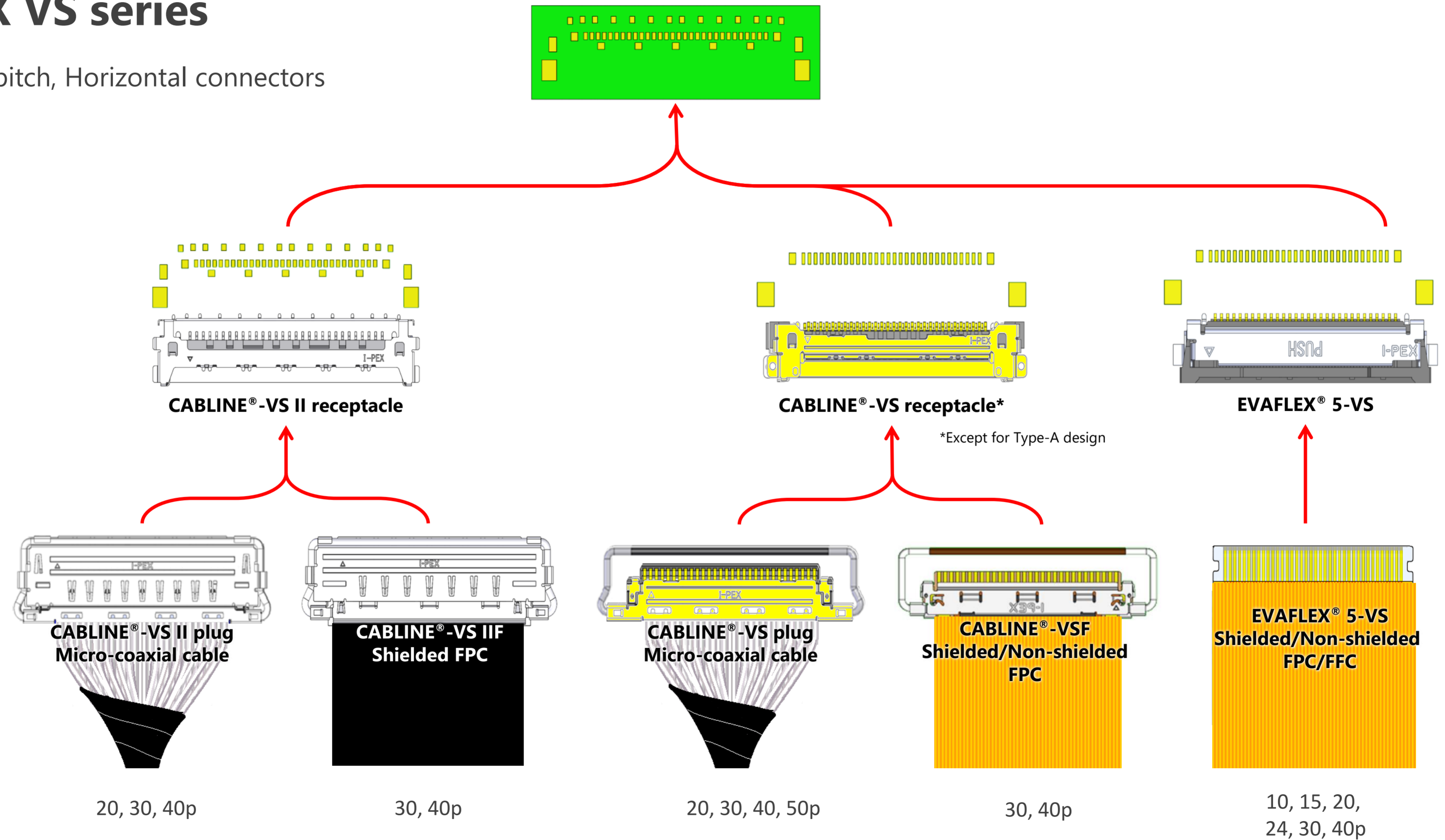
Note :(*) : CABLINE-UM : Height, Width formula and Depth dimensions are including Lock Cover. (**): Cable outer diameters need to be smaller than connector pitch. (***) : 45Ω and 50Ω cable AWG sizes for signals are listed as reference. Other impedance cables can be applied.

I-PEX VS series connector map (0.5 mm pitch, Horizontal)

CABLINE-VS, VS II receptacles and EVAFLEX 5-VS can be mounted to the same PCB layout.

I-PEX VS series

0.5 mm pitch, Horizontal connectors



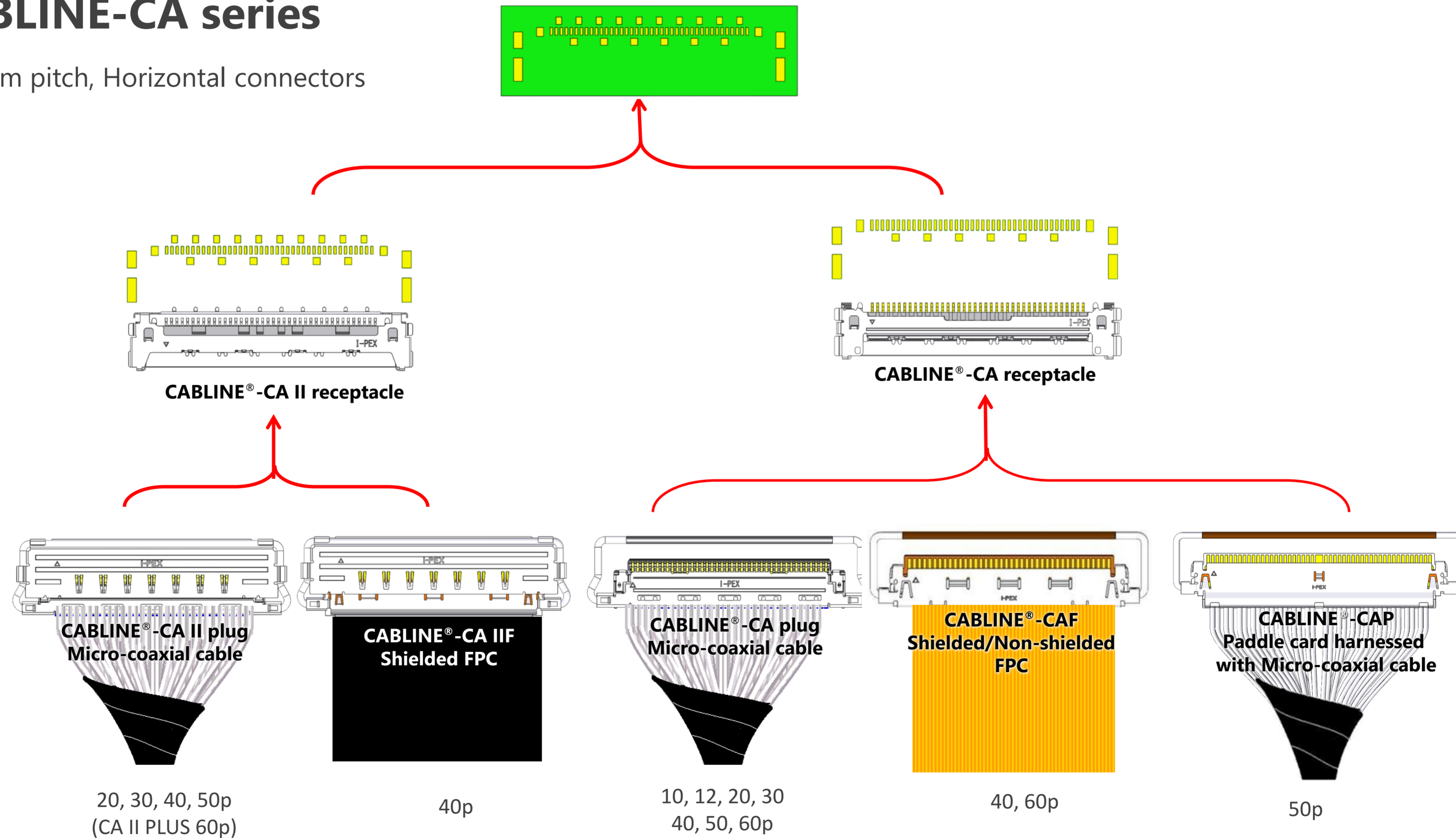
*Please inquire for pin counts not listed above.

CABLINE- CA series connector map (0.4 mm pitch, Horizontal)

CABLINE-CA and CA II receptacles can be mounted to the same PCB layout.

CABLINE-CA series

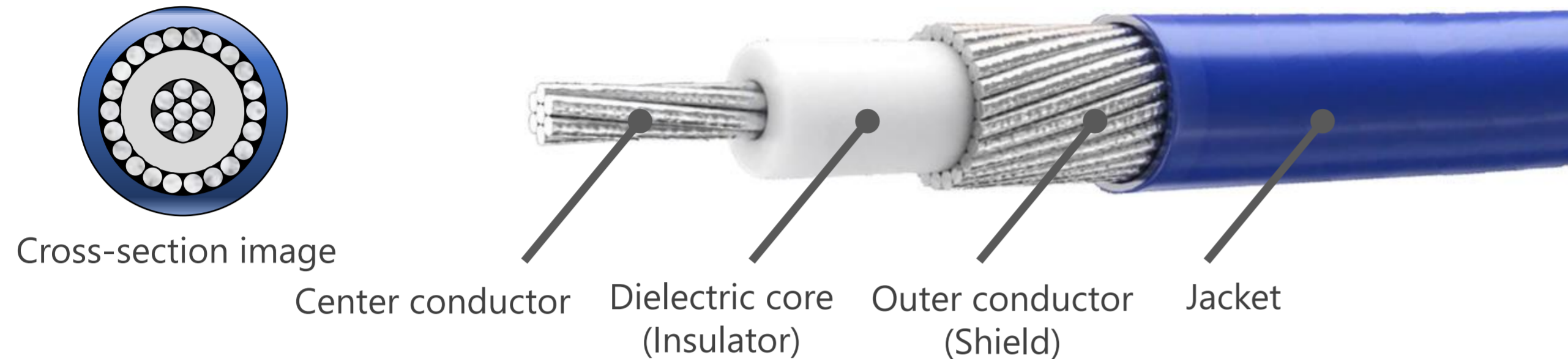
0.4 mm pitch, Horizontal connectors



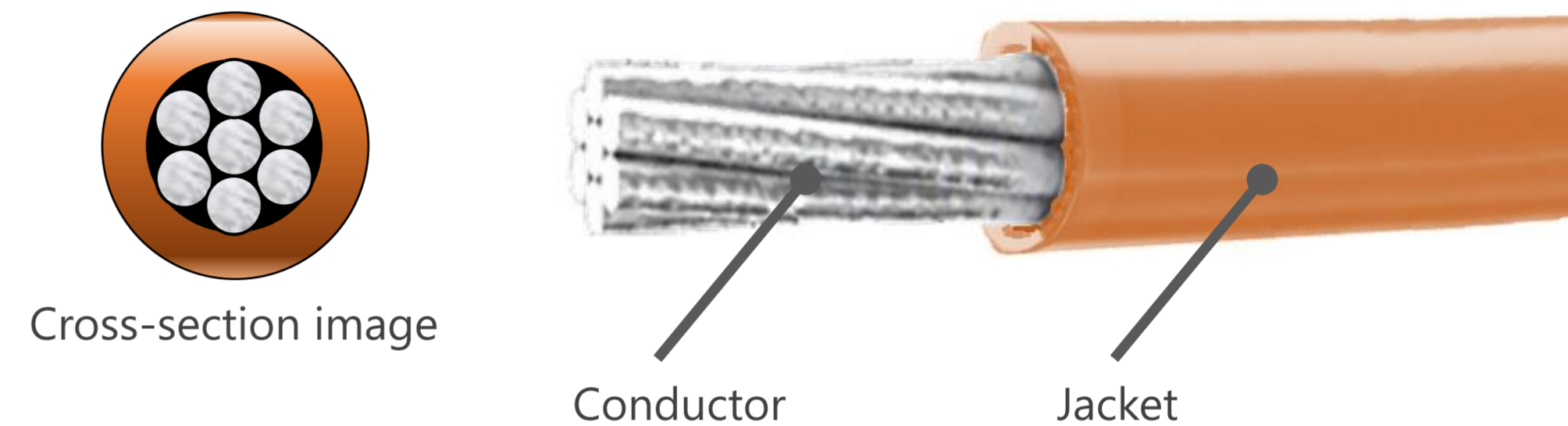
*Please inquire for pin counts not listed above.

Cable structure

Micro-Coaxial Cable

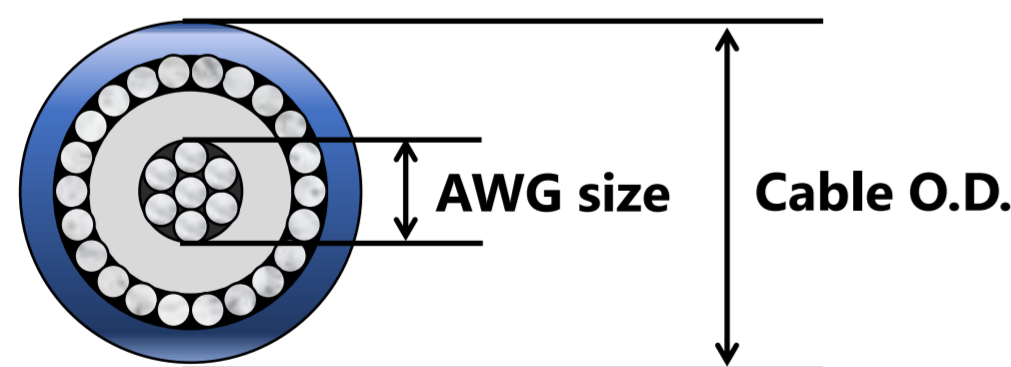


Discrete Wire



Cable size (Reference)

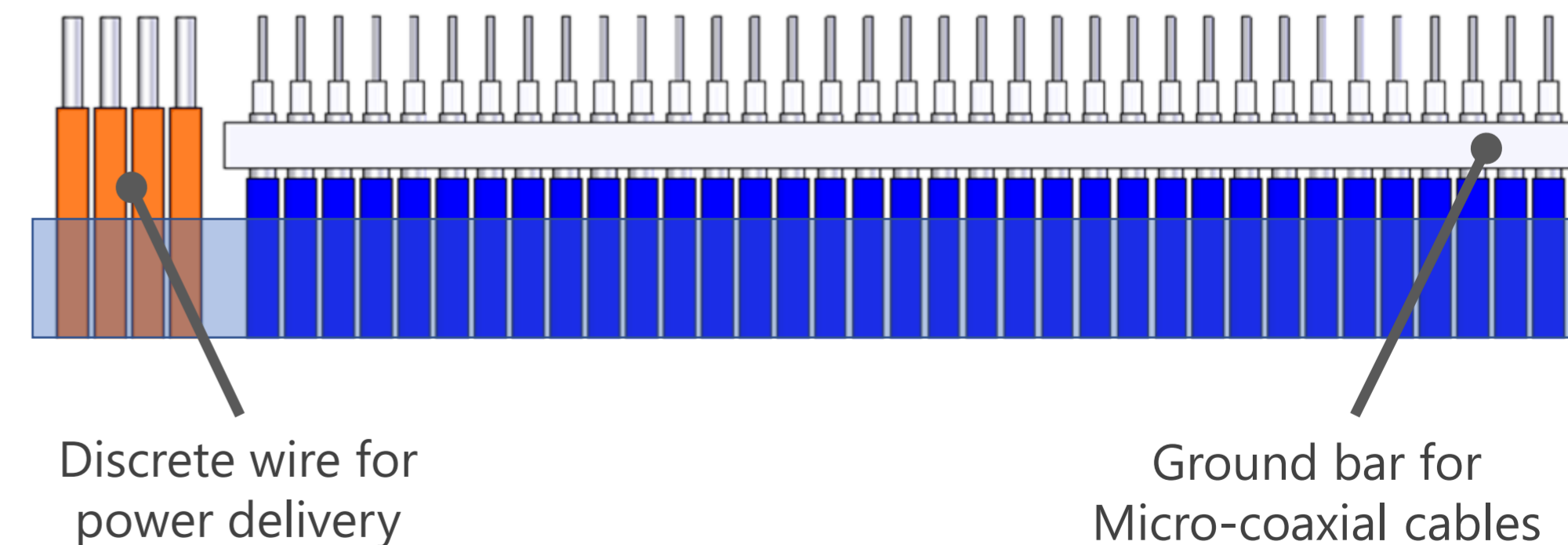
Center conductor : 7-wire stranded type



AWG size	Center Conductor Diameter (mm)	Cable Outer Diameter (O.D.) (mm)	
		Characteristic impedance 45Ω	Characteristic impedance 50Ω
#30	0.30	1.04	1.16
#32	0.24	0.82	0.90
#34	0.19	0.67	0.73
#36	0.15	0.49	0.55
#38	0.12	0.39	0.46
#40	0.09	0.33	0.37
#42	0.075	0.29	0.33
#44	0.060	0.24	0.26
#46	0.048	0.22	0.24

* Cable size varies depending on the types of cable.

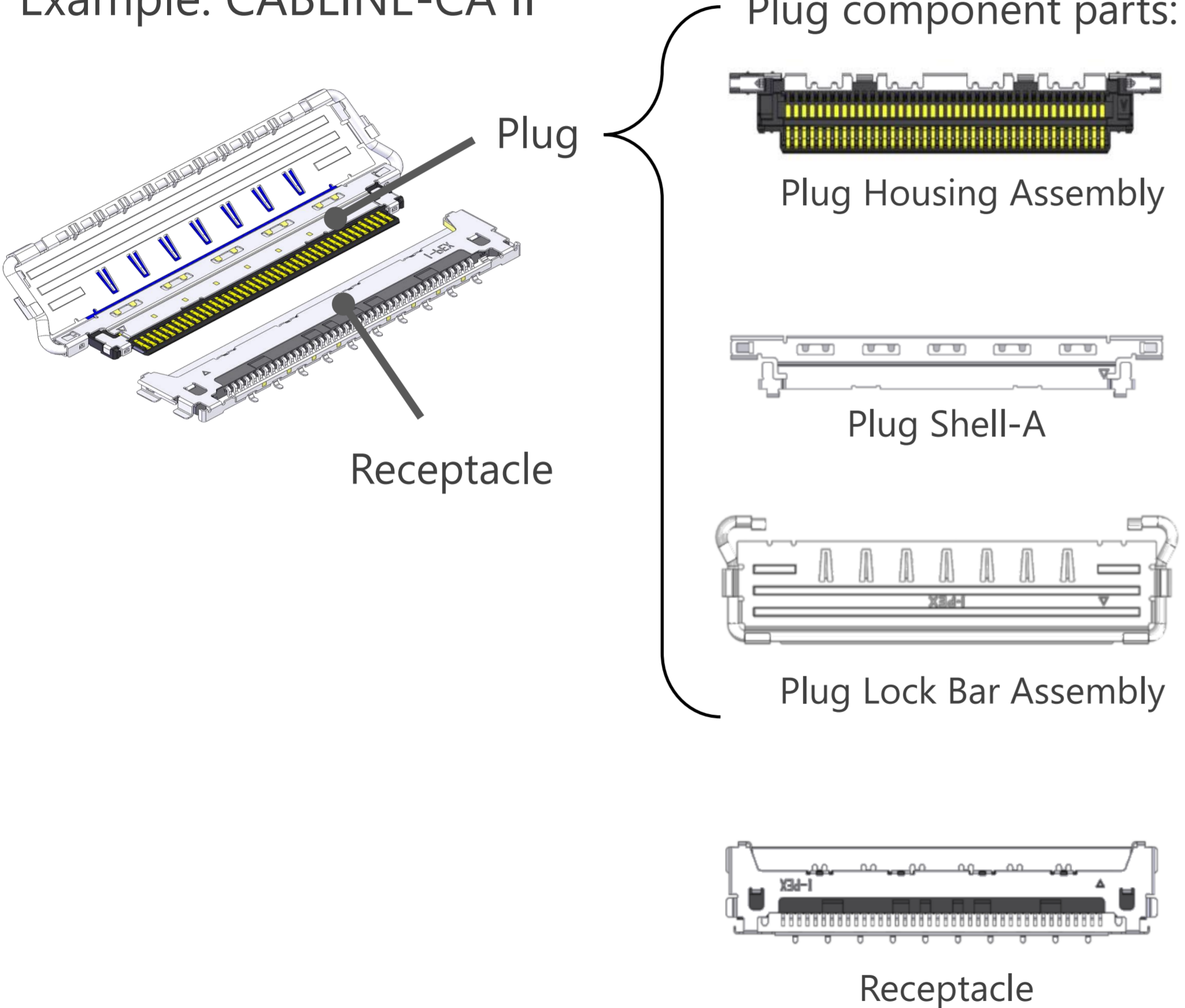
Cable sub-assembly image



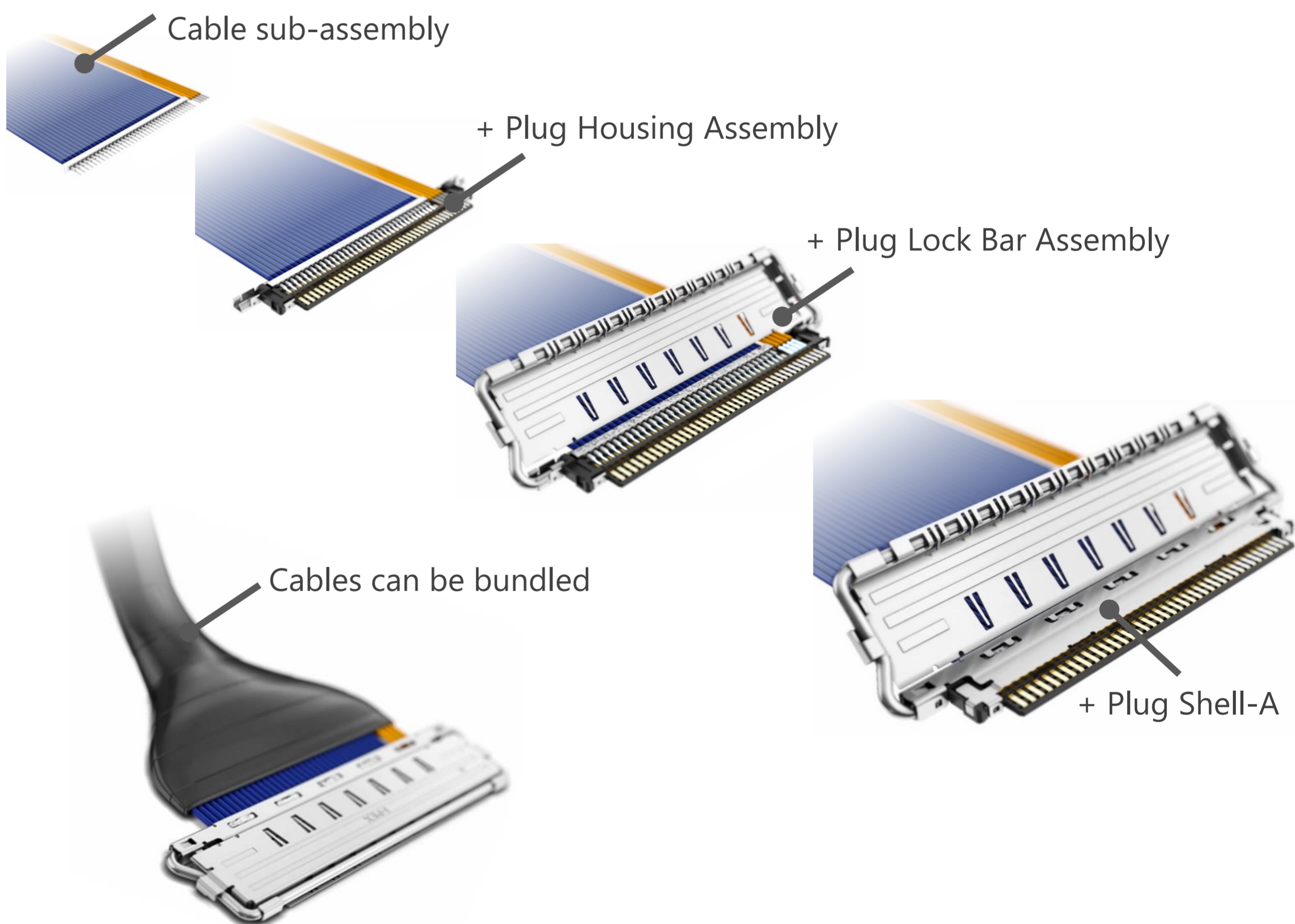
Micro-Coaxial Connector structure

Connector parts

Example: CABLINE-CA II

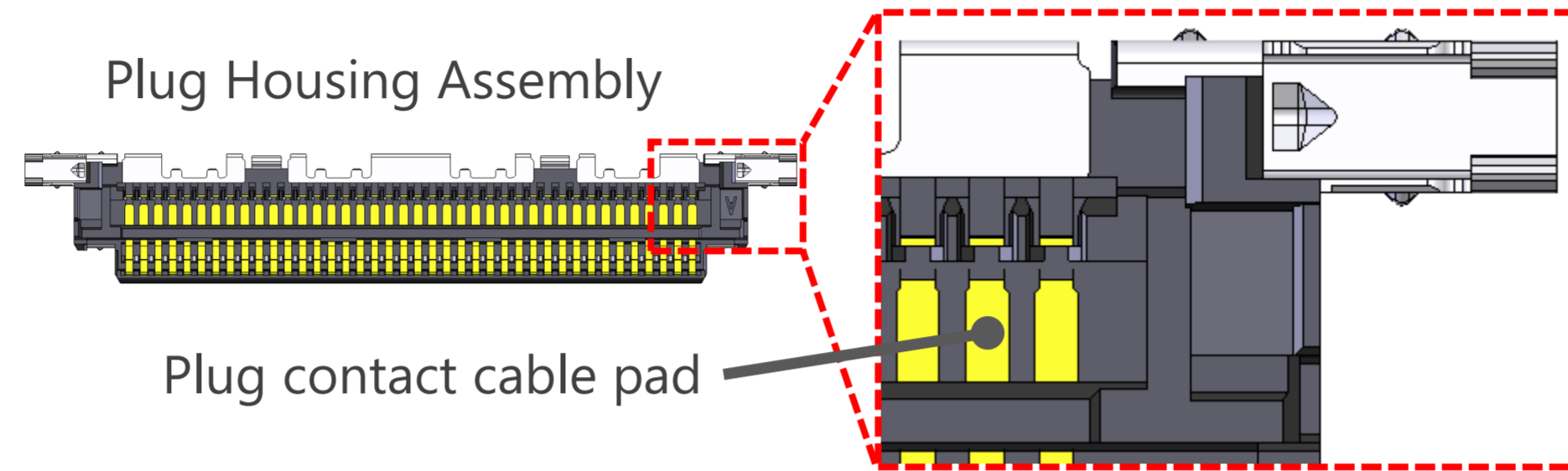
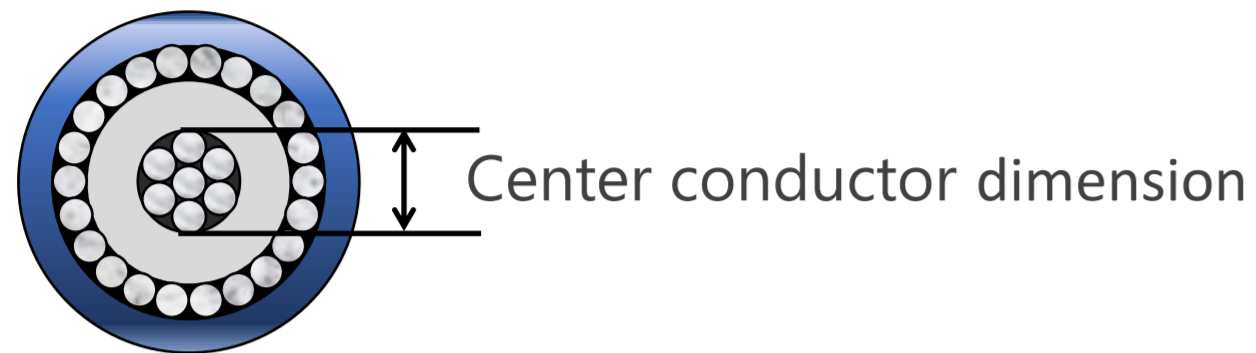


Plug harness assembly process image



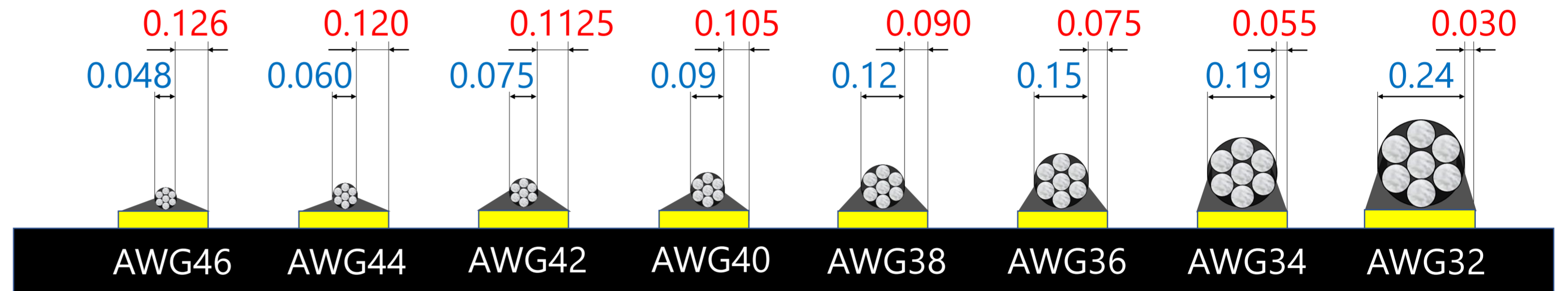
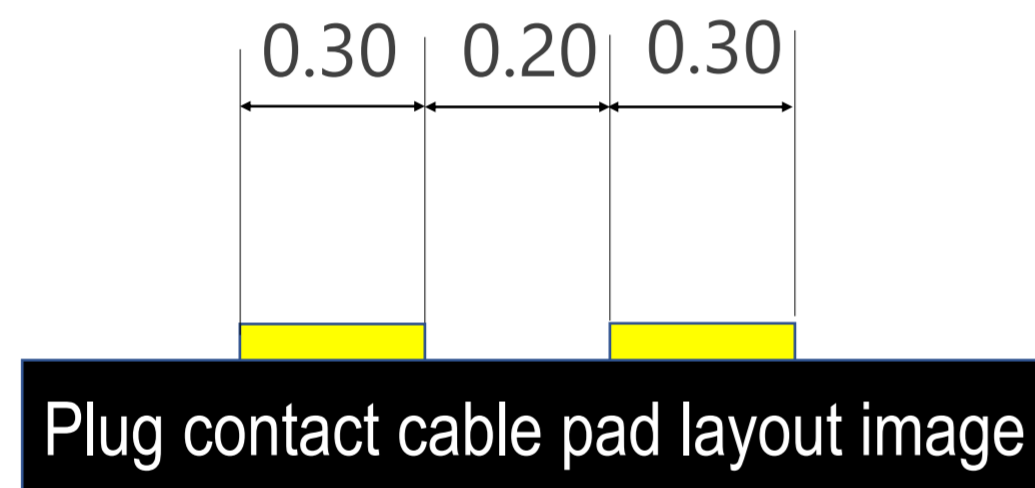
Center conductor and plug contact cable pad size image

Micro-Coaxial Cable cross-section image

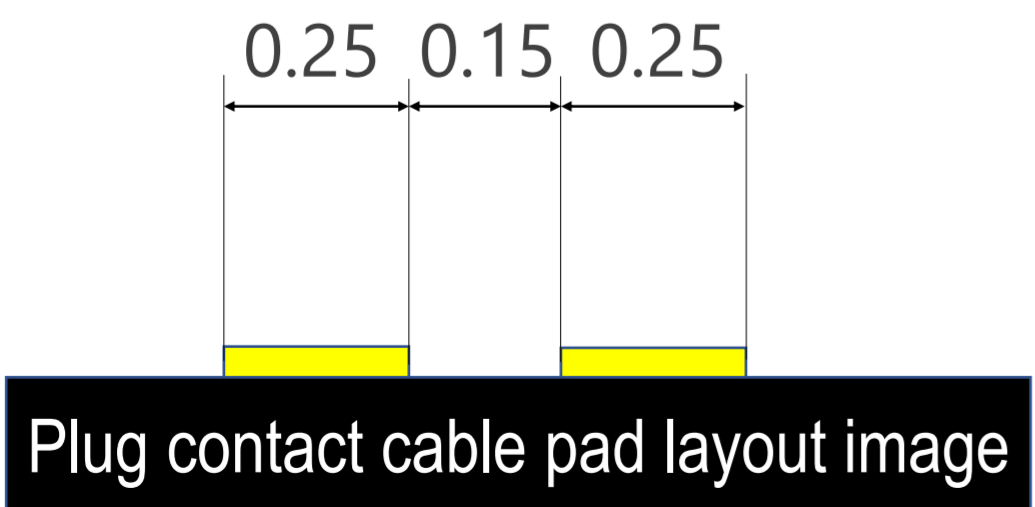


Red color number: Gap of conductor and pad (mm)
 Blue color number: Center conductor dimension (mm)
 (Reference)

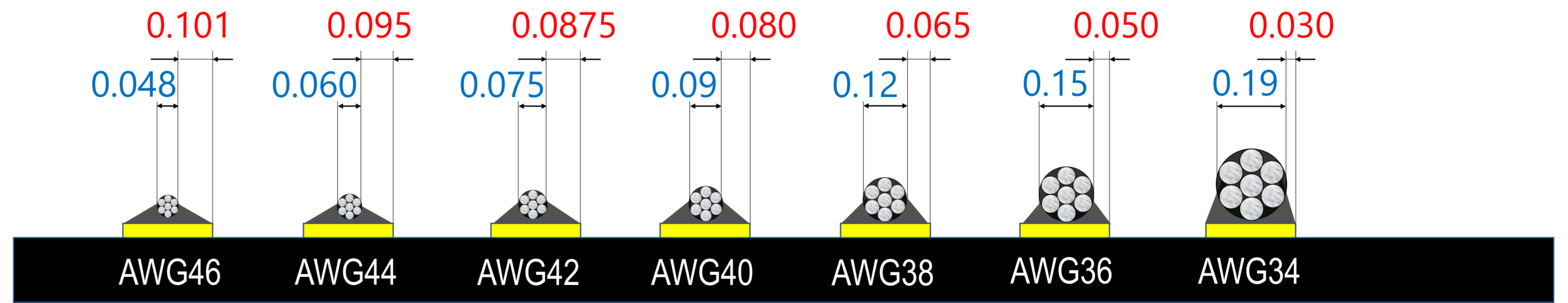
0.5 mm pitch series



0.4 mm pitch series



(AWG 34 type)



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