

Micro-Coaxial/Twinaxial connectors

- Horizontal mating type / 0.5 & 0.25 mm pitch (Board pitch 0.5 mm)

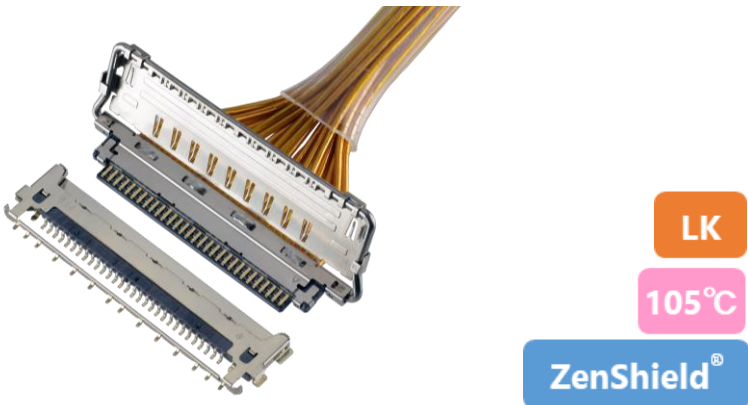
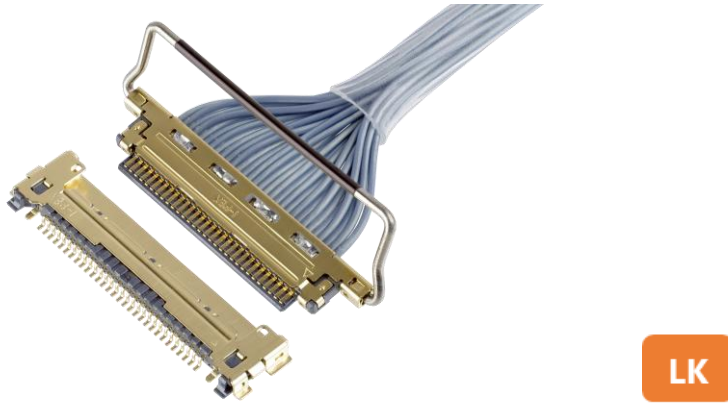
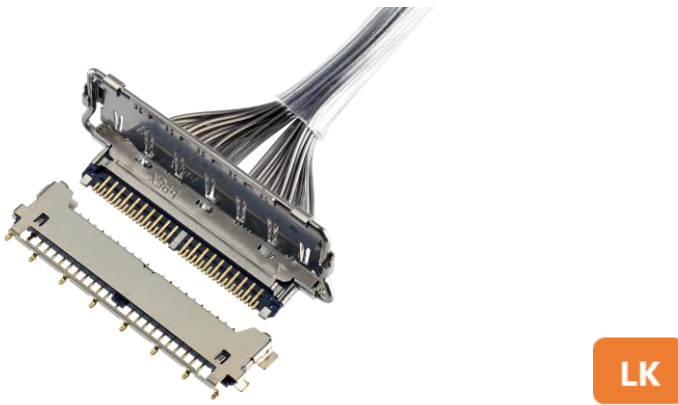
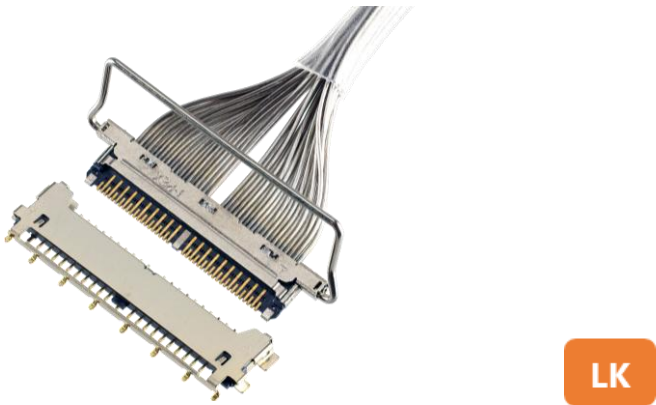
- LK

Mechanical Lock
- 105°C

Operating Temperature
- ZenShield®

Full EMI Shield

Click on each product information to jump to the web.

Product name		CABLINE® -VS II	CABLINE® -VS	CABLINE® -CX II with cover	CABLINE® -CX II without cover
Appearance					
Feature		Up to 32 GTs/lane Fully-shielded With mechanical locking	Up to 32 Gbps/lane VESA standard for 16:9 panel With mechanical locking	Suitable for Small Spaces With EMI shield cover With mechanical locking	Suitable for Small Spaces Multi-point ground design With mechanical locking
Part Number	Plug	20846	20453	20977	20978
	Receptacle	20849	20455	20976	20976
Contact Pitch		0.5 mm	0.5 mm	0.25 mm	0.25 mm
Board Pitch		0.5 mm	0.5 mm	0.5 mm	0.5 mm
Pin Count	Available	20, 30, 40	20, 30, 40, 50	40	40
	Note	Please inquire for pin counts not listed above			
Mated Size *1	Height	0.95 +/- 0.25 mm	1.0 +/- 0.1 mm	0.83 +/- 0.17 mm	0.73 +/- 0.05 mm
	Width	6.85 + (0.5 x pin count) mm	7.55 + (0.5 x pin count) mm	6.45 + (0.25 x pin count) mm	6.45 + (0.25 x pin count) mm
	Depth	6.7 mm	5.8 mm	5.6 mm	5.21 mm
Contact Mating Length		0.54 mm	0.61 mm	0.62 mm	0.62 mm
Cable Size *2	Micro-coaxial	AWG 36, 38, 40, 42, 44	AWG 36, 38, 40, 42, 44	AWG 39 *3, 44, 46	AWG 39 *3, 44, 46
	Twinaxial	AWG 40	AWG 40	-	-
	Discrete	AWG 32, 34, 36	AWG 32, 34, 36	AWG 39	AWG 39
Contact Point		Top	Top	Top and Bottom	Top and Bottom
Operating Temperature		-40 to 105°C (233 to 378 K)	-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)
Applicable Standards (Reference Only)		PCIe Gen5 (32 GT/s/lane) USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane)	32 Gbps/lane USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane)	USB 3.1 Gen 1 (5 Gbps/lane) V-By-One HS 1.4 (4 Gbps/lane) HDMI 1.3 (3.4 Gbps/lane)	USB 3.1 Gen 1 (5 Gbps/lane) V-By-One HS 1.4 (4 Gbps/lane) HDMI 1.3 (3.4 Gbps/lane)

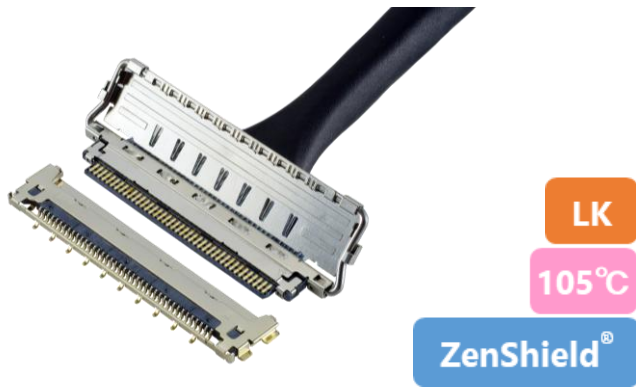
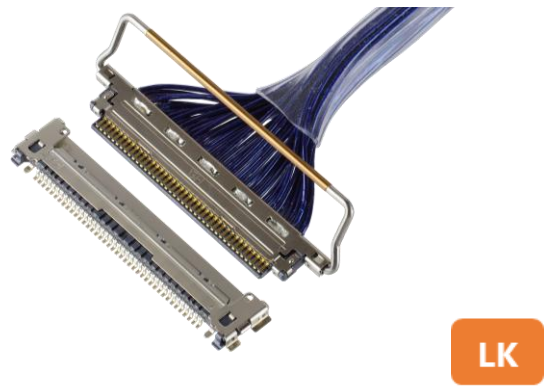
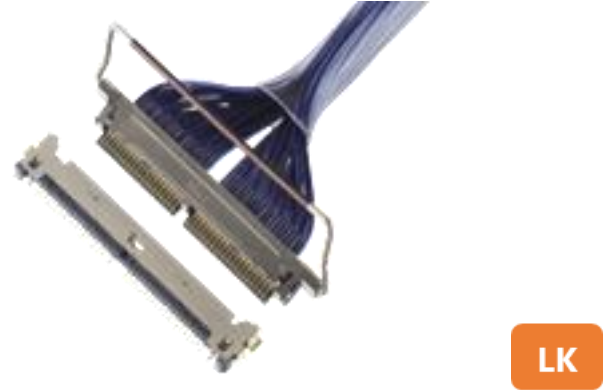
Note
(*1):Height, Width and Depth dimensions are including Lock Cover/Bar.
(*2) : Cable outer diameters need to be smaller than connector pitch.
(*3)Provides option to use smaller AWG micro-coaxial cables with unmatched impedance that can be more suitable for power delivery applications in high density space constrained systems.

Micro-Coaxial/Twinaxial connectors

- Horizontal mating type / 0.4 mm pitch

- LK Mechanical Lock
- 105°C Operating Temperature
- ZenShield® Full EMI Shield

Click on each product information to jump to the web.

Product name		CABLINE® -CA II	CABLINE® -CA II PLUS	CABLINE® -CA IIP PLUS	CABLINE® -CA	CABLINE® -CAP	CABLINE® -CAL
Appearance		 LK105°CZenShield®	 LK105°CZenShield®	 LKZenShield®	 LK	 LK	 LK
Feature		Up to 32 Gbps/lane Fully-shielded With mechanical locking	Up to 32 Gbps/lane Fully-shielded With mechanical locking	Up to 64 Gbps PAM4/lane Fully-shielded Paddle Card Solution	Up to 32 Gbps/lane With mechanical locking	Up to 64 Gbps PAM4/lane With mechanical locking Paddle Card Solution	Up to 40 Gbps/lane PAM3 Suitable for Low Height With mechanical locking
Part Number	Plug	20679	20788	82065	20633	81863	20728
	Receptacle	20682	20790	20790	20525	20525	20729
Contact Pitch	Signal Contact	0.4 mm	0.4 mm	0.4 mm	0.4 mm	0.4 mm	0.4 mm
	Differential Pair	-	-	1.2 mm	-	1.2 mm	-
Board Pitch		0.4 mm	0.4 mm	0.4 mm	0.4 mm	0.4 mm	0.4 mm
Pin Count	Available	20, 30, 40, 50	60	60 (19 differential pair max.)	10, 12, 20, 30, 40, 50, 60	50 (16 differential pair max.)	30, 40
	Note	Please inquire for pin counts not listed above					
Mated Size *1	Height	0.95 +/- 0.15 mm	0.95 +0.25/-0.15 mm	1.14 +/- 0.16 mm	1.0 +/- 0.1 mm	1.15 +0.20/-0.10 mm	0.73 +/- 0.07 mm
	Width	6.95 + (0.4 x pin count) mm	6.95 + (0.4 x pin count) mm	6.95 + (0.4 x pin count) mm	6.95 + (0.4 x pin count) mm	5.75 + (0.4 x pin count) mm	10 to 20 pin: 6.85 + (0.4 x pin count) mm 22 to 40 pin: 8.05 + (0.4 x pin count) mm
	Depth	6.2 mm	6.7 mm	8.2 mm	5.73 mm	6.86 mm	5.5 mm
Contact Mating Length		0.54 mm	0.54 mm	0.48 mm	0.54 mm	0.48 mm	0.4 mm
Cable Size *2	Micro-Coaxial	AWG 36 *3, 38, 40, 42, 44	AWG 36 *3, 38, 40, 42, 44	AWG 36, 38	AWG 36 *3, 38, 40, 42, 44	AWG 38	AWG 38, 40, 42, 44
	Twinaxial	AWG 40, 42	AWG 40, 42	AWG 34	AWG 40, 42	-	-
	Discrete	AWG 34, 36	AWG 34, 36	-	AWG 34, 36	-	AWG 34, 36
Contact Point		Top	Top	Top	Top	Top	Top
Operating Temperature		-40 to 105°C (233 to 378 K)	-40 to 105°C (233 to 378 K)	-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)
Applicable Standards (Reference Only)		32 Gbps/ lane USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane)	32 Gbps/lane USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane)	64 Gbps PAM4 56 Gbps PAM4 32 Gbps NRZ	32 Gbps/lane USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane)	64 Gbps PAM4 56 Gbps PAM4 32 Gbps NRZ	USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane) V-By-One US (16 Gbps/lane)

Note

(*1): Height, Width and Depth dimensions are including Lock Cover/Bar.

(*2): Cable outer diameters need to be smaller than connector pitch.

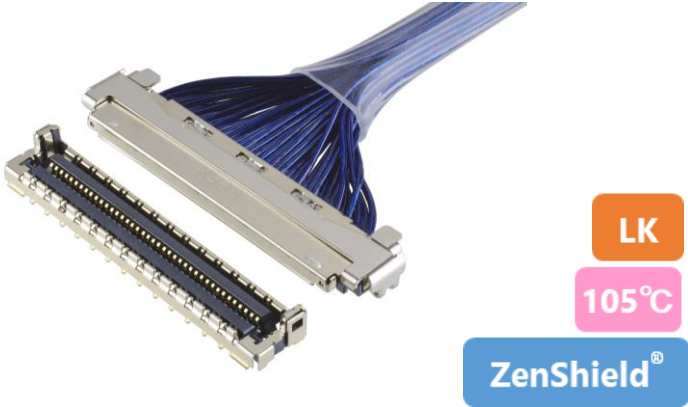
(*3): Provides option to use smaller AWG micro-coaxial cables with unmatched impedance that can be more suitable for power delivery applications in high density space constrained systems.

Micro-Coaxial/Twinaxial connectors

- Vertical mating type

LK Mechanical Lock
105°C Operating Temperature
ZenShield® Full EMI Shield

Click on each product information to jump to the web.

Product name		FPL™ II	CABLINE® -UM	CABLINE® -SS	CABLINE® -UY	CABLINE® -UA II	CABLINE® -UX II
Appearance							
Feature		Up to 12 Gbps/lane Power delivery AWG #32 Multi-point ground design	Up to 40 Gbps/lane PAM3 Fully-shielded 0.65 mm min. contact mating length	Up to 16 Gbps/lane Power delivery AWG #34 W-point contact design	Up to 32 Gbps/lane Suitable for through-hinge	Suitable for through-hinge Multi-point ground design	Suitable for through-hinge Multi-point ground design
Part Number	Plug	20437	20877	20380	20857	20496	20531
	Receptacle	20439	20879	20374	20854	20498	20533
Contact Pitch		0.5 mm	0.4 mm	0.4 mm	0.35 mm	0.3 mm	0.25 mm
Board Pitch		0.5 mm	0.4 mm	0.4 mm	0.35 mm	0.6 mm	0.5 mm
Pin Count	Available	30, 40, 50	30, 40, 50, 60, 70	10, 14, 20, 30, 32, 35, 40, 50	5, 10, 12	26, 32, 40, 50	30, 34, 40, 50
	Note	Please inquire for pin counts not listed above					
Mated Size ^{*1}	Height	2.2 +/- 0.2 mm	2.2 +/- 0.15 mm	1.65 +/- 0.2 mm	0.76 +/- 0.06 mm	1.27 +/- 0.1 mm	1.04 +0.06/-0.1 mm
	Width	5.8 + (0.5 x pin count) mm	5.0 + (0.4 x pin count) mm	5.8 + (0.4 x pin count) mm	2.15 + (0.35 x pin count) mm	5.0 + (0.3 x pin count) mm	4.1 + (0.25 x pin count) mm
	Depth	6.1 mm	5.0 mm	3 mm	3.1 mm	2.9 mm	2.4 mm
Contact Mating Length		0.51 mm	0.65 mm min.	0.3 mm	0.1 mm	0.2 mm	0.2 mm
Cable Size ^{*2}	Micro-coaxial	AWG 32 ^{*3} , 34 ^{*3} , 36, 38, 40	AWG 36 ^{*3} , 38, 40, 42, 44	AWG 36 ^{*3} , 38, 40, 42	AWG 40, 42	AWG 42, 44, 46	AWG 44, 46
	Twinaxial	AWG 40	AWG 40, 42	-	-	-	-
	Discrete	AWG 32, 34, 36	AWG 34, 36	AWG 34, 36	AWG 36	AWG 39	AWG 39
Operating Temperature		-40 to 85°C (233 to 358 K)	-40 to 105°C (233 to 378 K)	-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)
Applicable Standards (Reference Only)		HDMI 2.1 (12 Gbps/lane) USB3.2 Gen2 (10 Gbps/lane) DP UHBR3 (8.1 Gbps/lane)	USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane) V-By-One US (16 Gbps/lane)	V-By-One US (16 Gbps/lane) HDMI 2.1 (12 Gbps/lane) USB 3.2 Gen 2 (10 Gbps/lane)	32 Gbps/lane USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane)	USB 3.1 Gen 1 (5 Gbps/lane) V-By-One HS 1.4 (4 Gbps/lane) HDMI 1.3 (3.4 Gbps/lane)	USB 3.1 Gen 1 (5 Gbps/lane) V-By-One HS 1.4 (4 Gbps/lane) HDMI 1.3 (3.4 Gbps/lane)

Note :
(*1): CABLINE-UM : Height, Width and Depth dimensions are including Lock Cover.
(*2): Cable outer diameters need to be smaller than connector pitch.
(*3): Provides option to use smaller AWG micro-coaxial cables with unmatched impedance that can be more suitable for power delivery applications in high density space constrained systems.

Micro-Coaxial/Twinaxial connectors

- 0.5 & 0.4 mm pitch FPC connection (Related series FPC connectors)

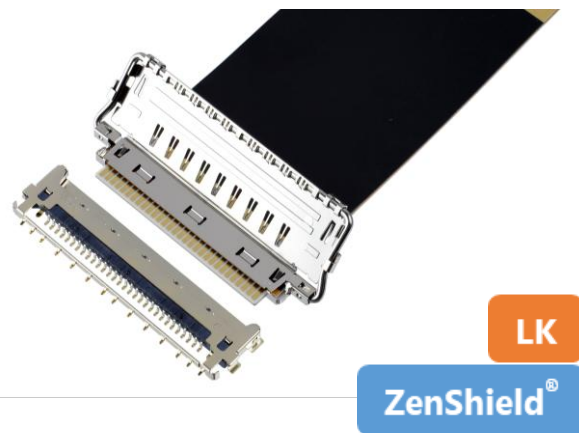
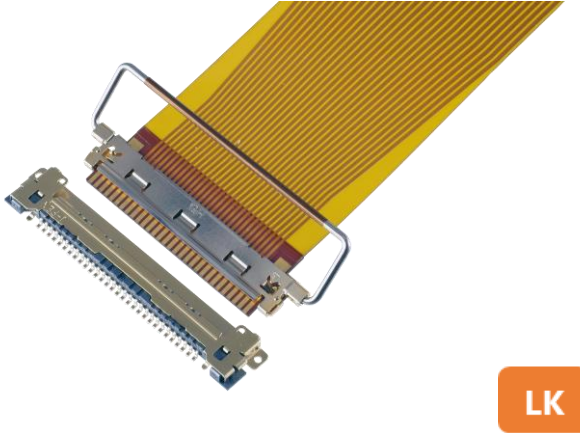
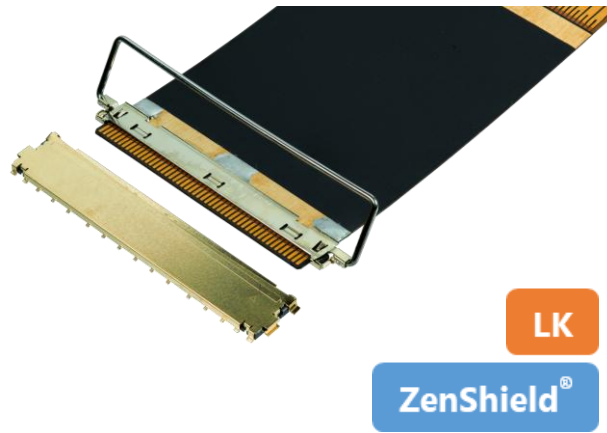
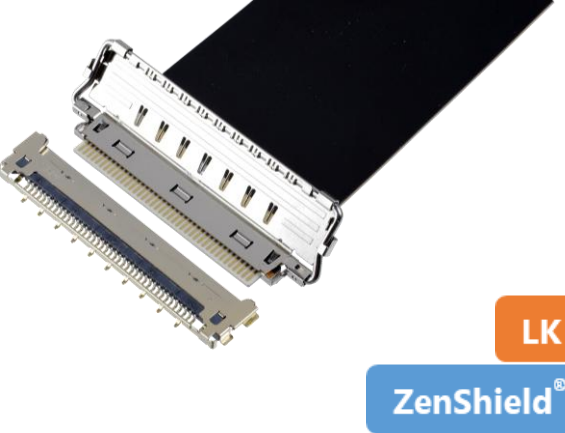
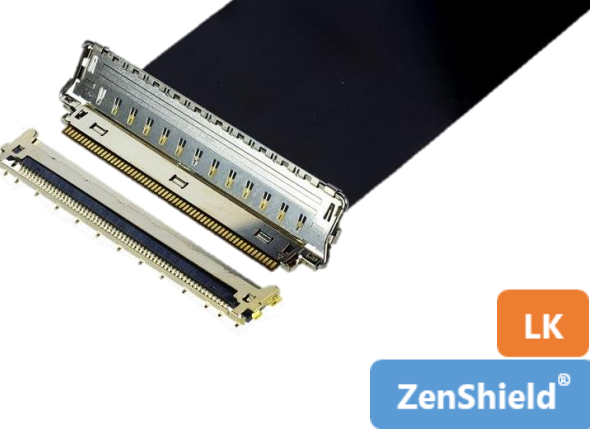
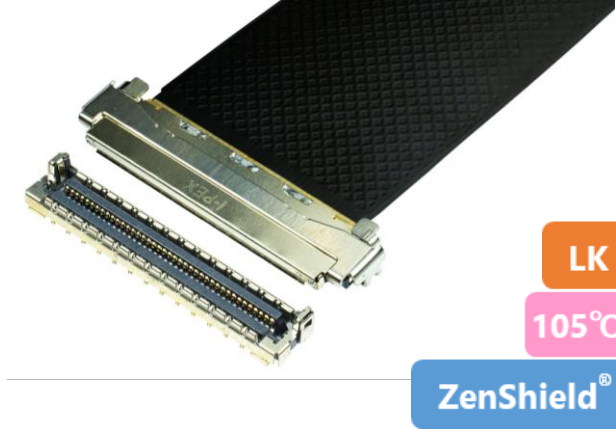
- LK

Mechanical Lock
- 105°C

Operating Temperature
- ZenShield®

Full EMI Shield

Click on each product information to jump to the web.

Product name		CABLINE® -VS IIF	CABLINE® -VSF	CABLINE® -CAL IIF	CABLINE® -CA IIF	CABLINE® -CA IIF PLUS	CABLINE® -CAF	CABLINE® -UMF
Appearance		 LK ZenShield®	 LK	 LK ZenShield®	 LK ZenShield®	 LK ZenShield®	 LK	 LK 105°C ZenShield®
Feature		Up to 32 Gbps/lane Fully-shielded With mechanical locking	Up to 32 Gbps/lane Multi-point ground design With mechanical locking	Up to 32 Gbps/lane Fully-shielded With mechanical locking	Up to 32 Gbps/lane Fully-shielded With mechanical locking	Up to 32 Gbps/lane Fully-shielded With mechanical locking	Up to 32 Gbps/lane Multi-point ground design With mechanical locking	Up to 40 Gbps/lane PAM3 Fully-shielded 0.65 mm min. contact mating length
Part Number	Plug	20862	20645	21088	20856	20901	20858	21102
	Receptacle	20849	20455	21089	20682	20790	20525	20879
Contact Pitch		0.5 mm	0.5 mm	0.4 mm	0.4 mm	0.4 mm	0.4 mm	0.4 mm
Board Pitch		0.5 mm	0.5 mm	0.4 mm	0.4 mm	0.4 mm	0.4 mm	0.4 mm
Mating Type		Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Vertical (Right Angle)
Pin Count	Available	30, 40	30, 40	50	30, 40, 50	60	40, 60	40, 70
	Note	Please inquire for pin counts not listed above						
Mated Size *	Height	0.95 +0.25/-0.1 mm	1.0 +/- 0.1 mm	0.74 +/- 0.16 mm	0.95 +/- 0.15 mm	0.95 +0.25/-0.1 mm	1.0 +/- 0.1 mm	2.2 +/- 0.15 mm
	Width	6.85 + (0.5 x pin count) mm	6.15 + (0.5 x pin count) mm	5.74 + (0.4 x pin count) mm	6.95 + (0.4 x pin count) mm	6.95 + (0.4 x pin count) mm	5.75 + (0.4 x pin count) mm	5.0 + (0.4 x pin count) mm
	Depth	7.27 mm	5.97 mm	6.41 mm	6.74 mm	7.24 mm	6.06 mm	5 mm
Contact Mating Length		0.48 mm	0.62 mm	0.44 mm	0.48 mm	0.48 mm	0.48 mm	0.65 mm min.
FPC Type		Shielded FPC	Shielded/Non-shielded FPC	Shielded FPC	Shielded FPC	Shielded FPC	Shielded/Non-shielded FPC	Shielded/Non-shielded FPC
FPC Thickness	Contact Area	0.25 +0.02/-0.03 mm	0.28 +0.02/-0.03 mm	0.25 +0.02 / -0.03 mm	0.25 +0.02/-0.03 mm	0.25 +0.02/-0.03 mm	0.26 +/-0.02 mm	0.34 +0.04 / -0.04 mm
	Ground Area	0.37 +0.04/-0.06 mm	0.34 +/-0.05 mm	0.37+0.04 / -0.06 mm	0.37 +0.04/-0.06 mm	0.37 +0.04/-0.06 mm	0.40 +/-0.05 mm	0.34 +0.04 / -0.04 mm
Contact Point		Top	Top	Top	Top	Top	Top	-
Operating Temperature		-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)	-40 to 85°C (233 to 358 K)	-40 to +105°C (233 to 378 K)
Applicable Standards (Reference Only)		32 Gbps/lane USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane)	32 Gbps/lane USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane)	32 Gbps/lane USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane)	32 Gbps/ lane USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane)	32 Gbps/lane USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane)	32 Gbps/lane USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane)	USB4 Gen4 (40 Gbps/lane PAM3) DP UHBR20 (20 Gbps/lane) V-by-One US (16 Gbps/lane)

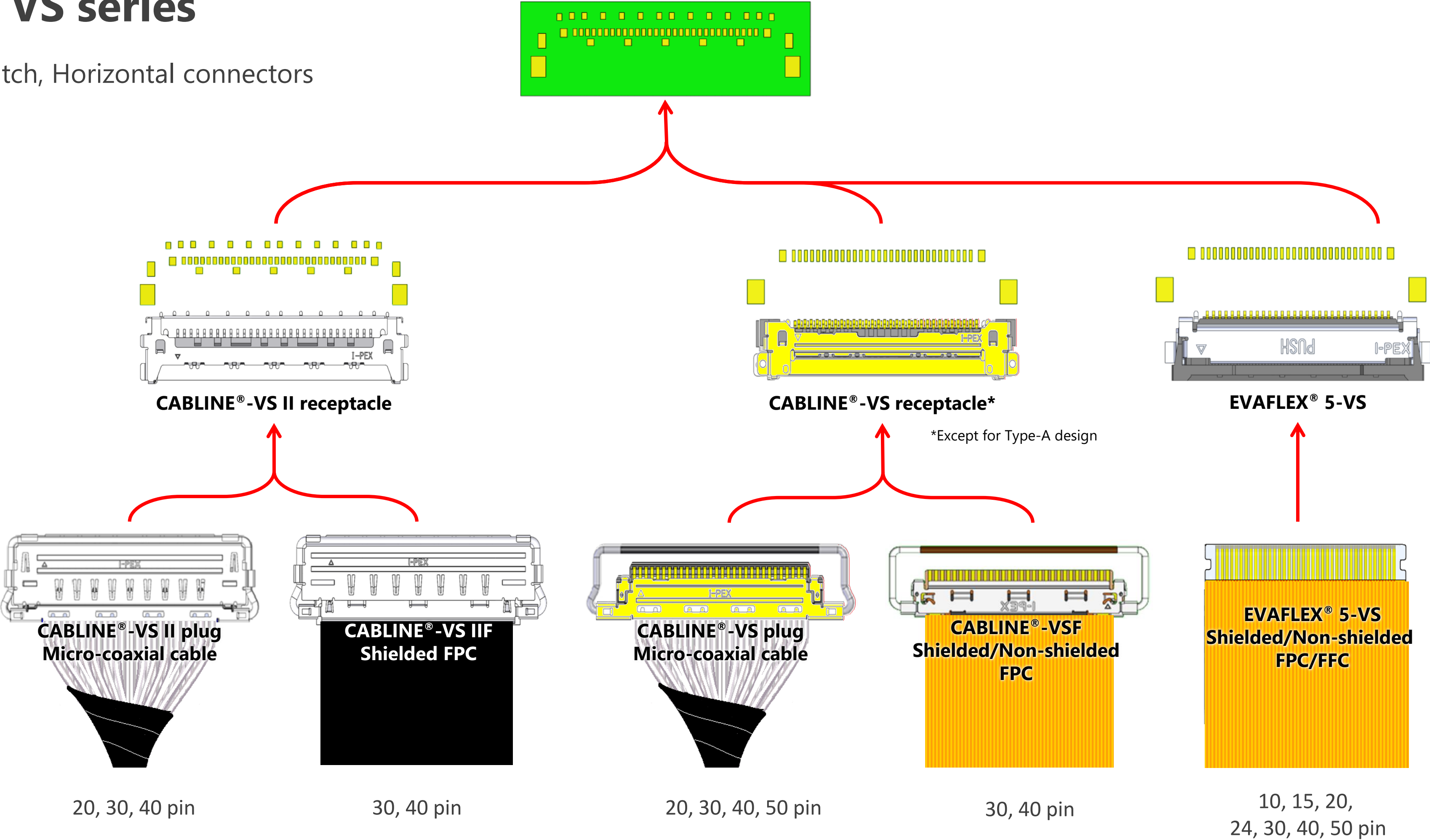
Note (*): Height, Width and Depth dimensions are including Lock Cover/Bar.

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



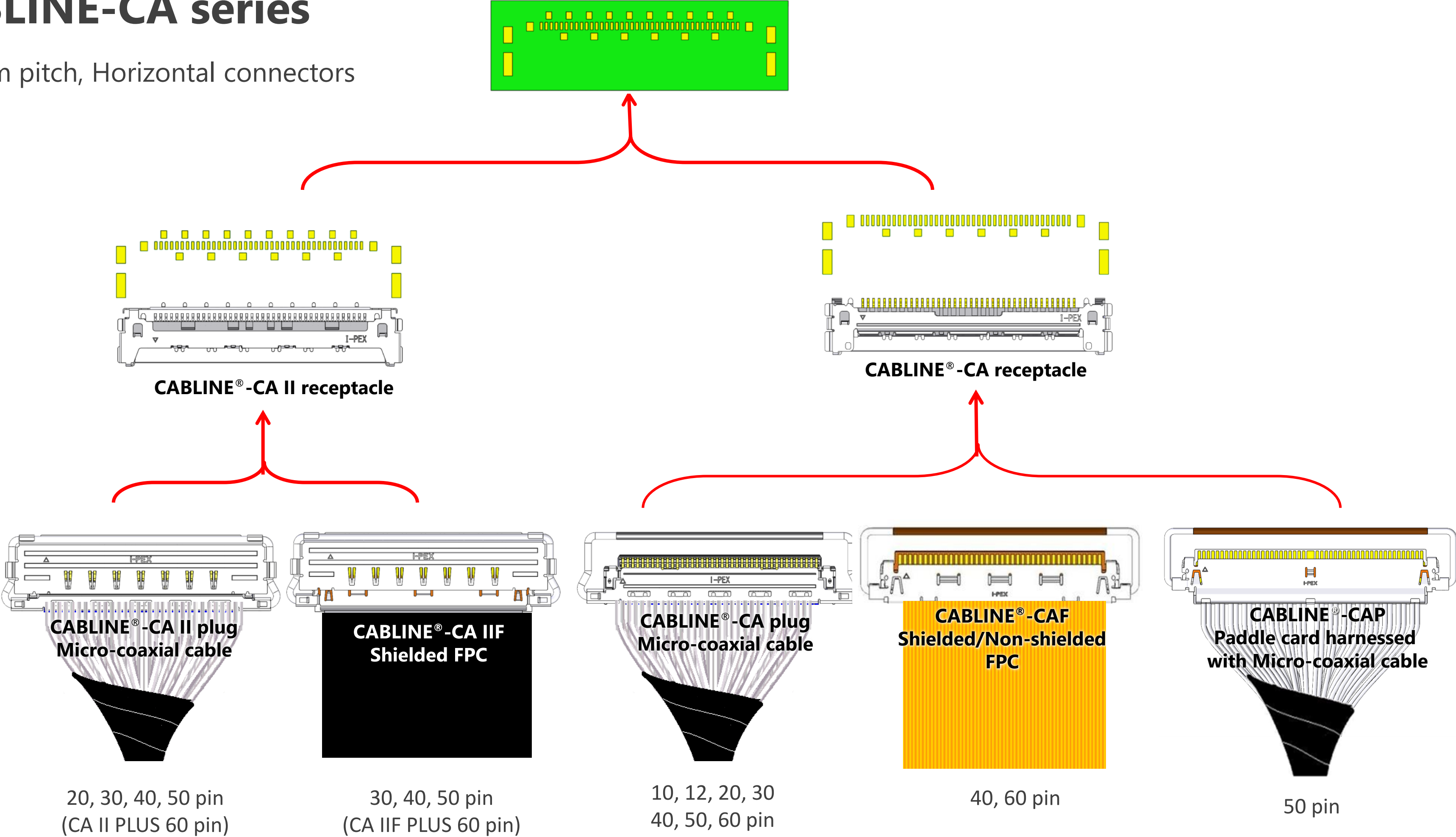
*Please inquire for pin counts not listed above.

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

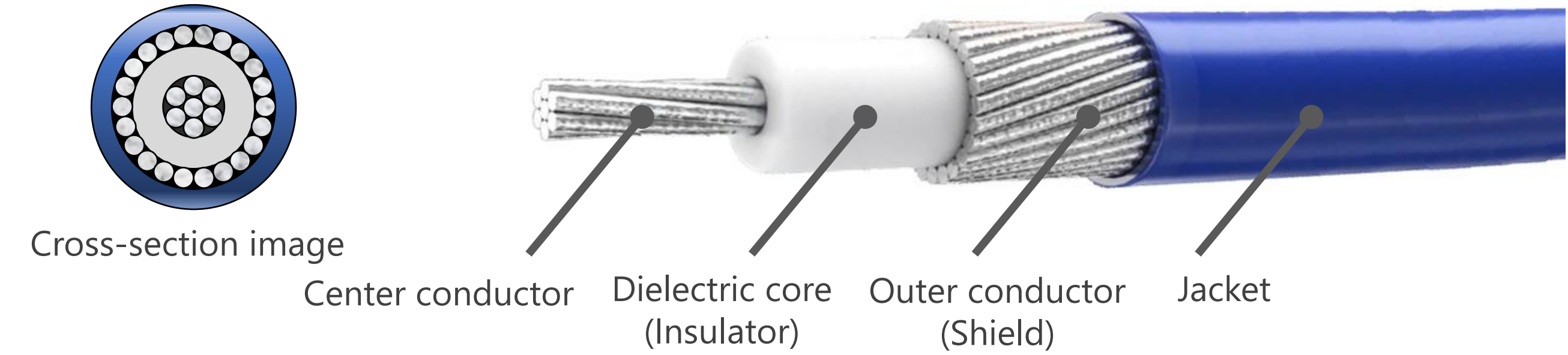
0.4 mm pitch, Horizontal connectors



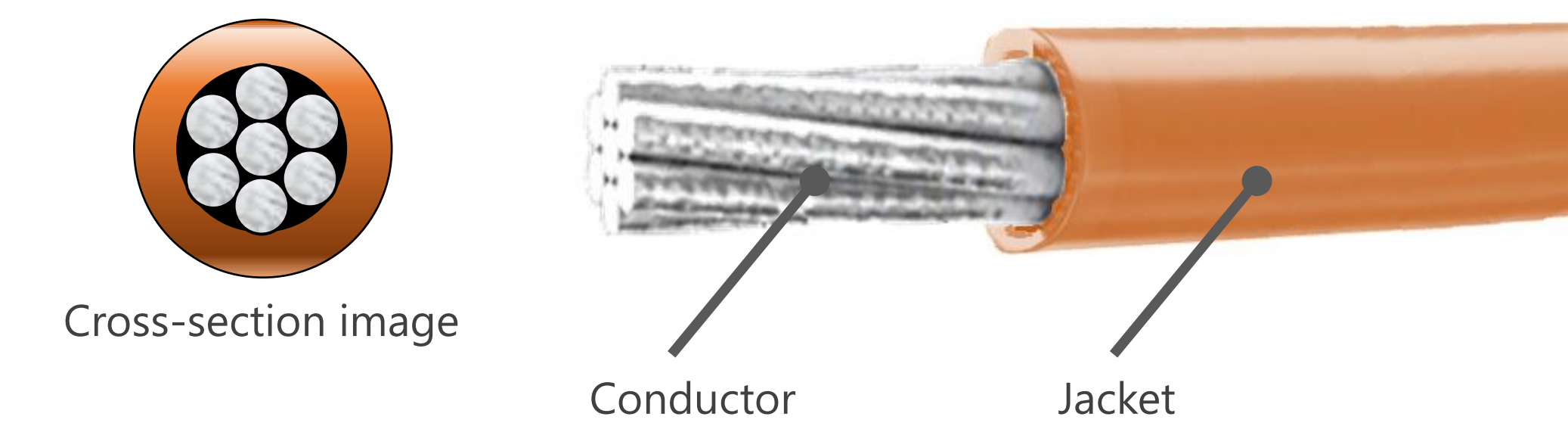
*Please inquire for pin counts not listed above.

Cable structure

Micro-Coaxial Cable

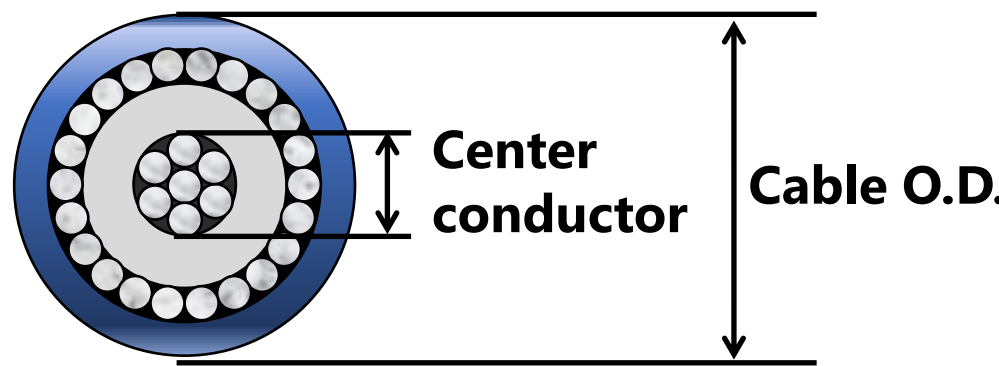


Discrete Wire



Cable size (Reference)

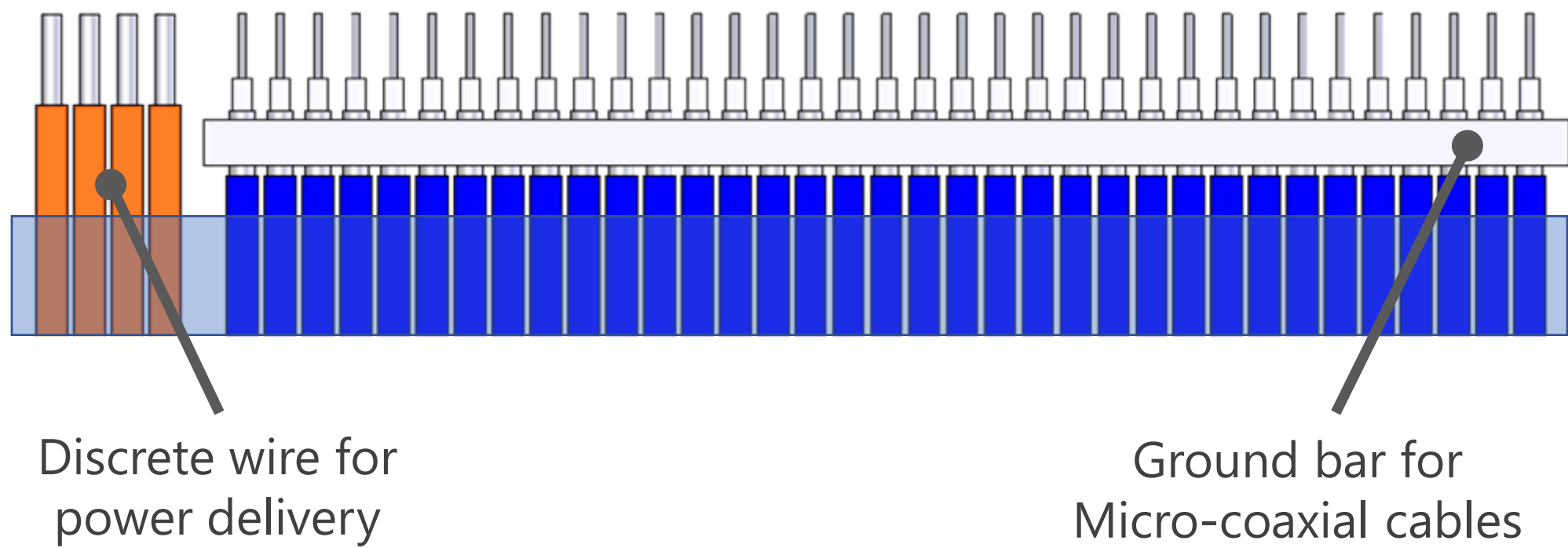
Center conductor : 7-wire stranded type



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

* Cable size varies depending on the types of cable.

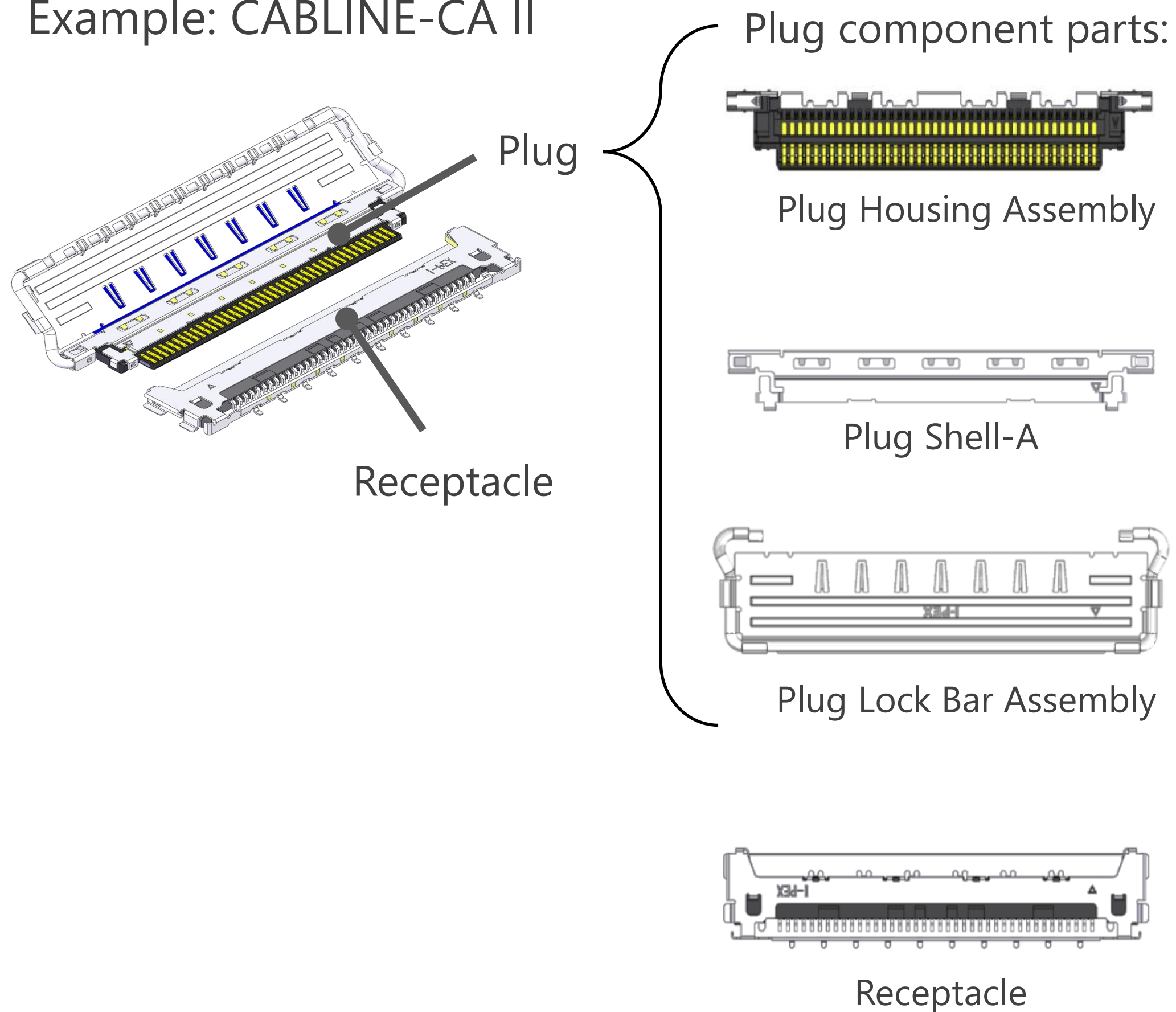
Cable sub-assembly image



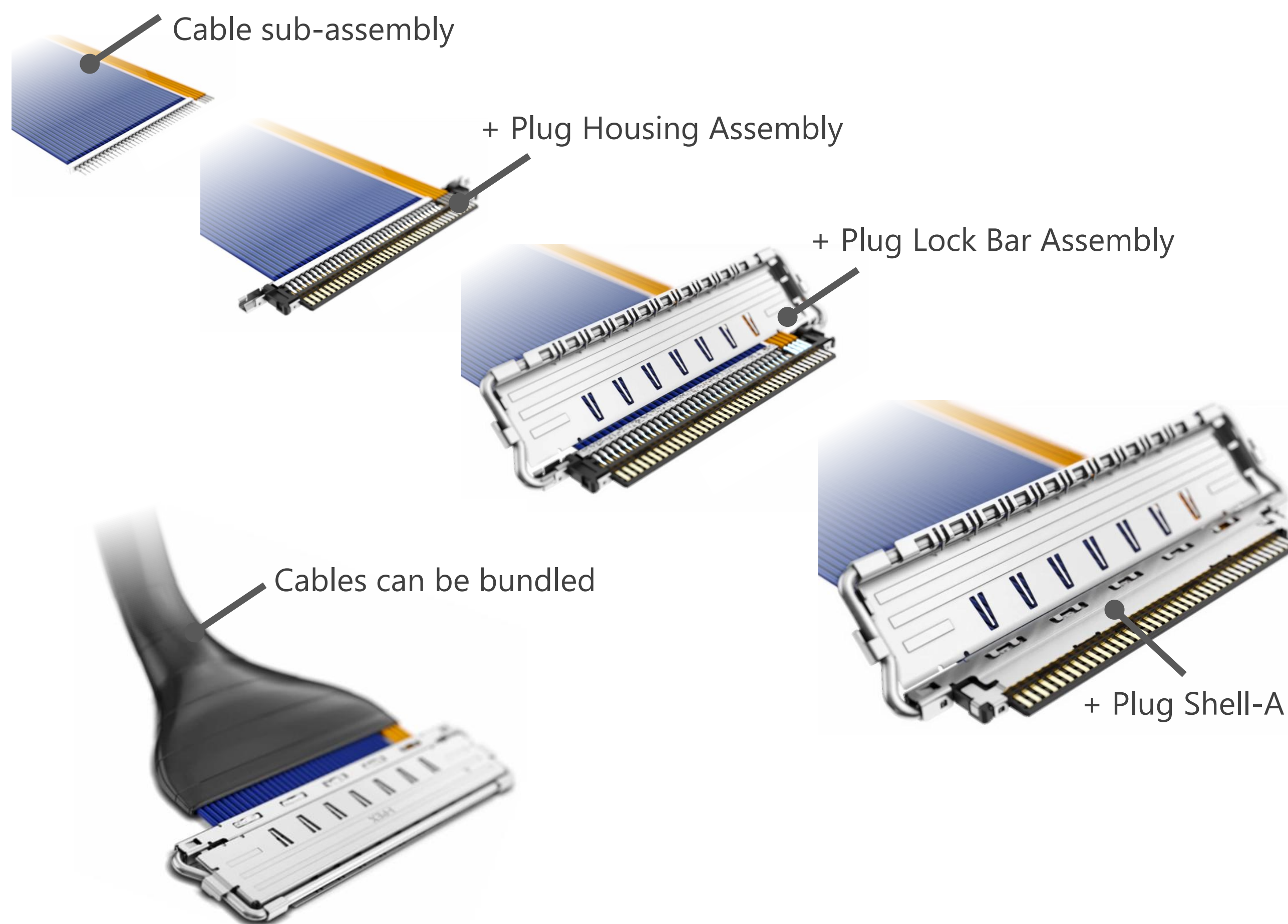
Micro-Coaxial Connector structure

Connector parts

Example: CABLINE-CA II

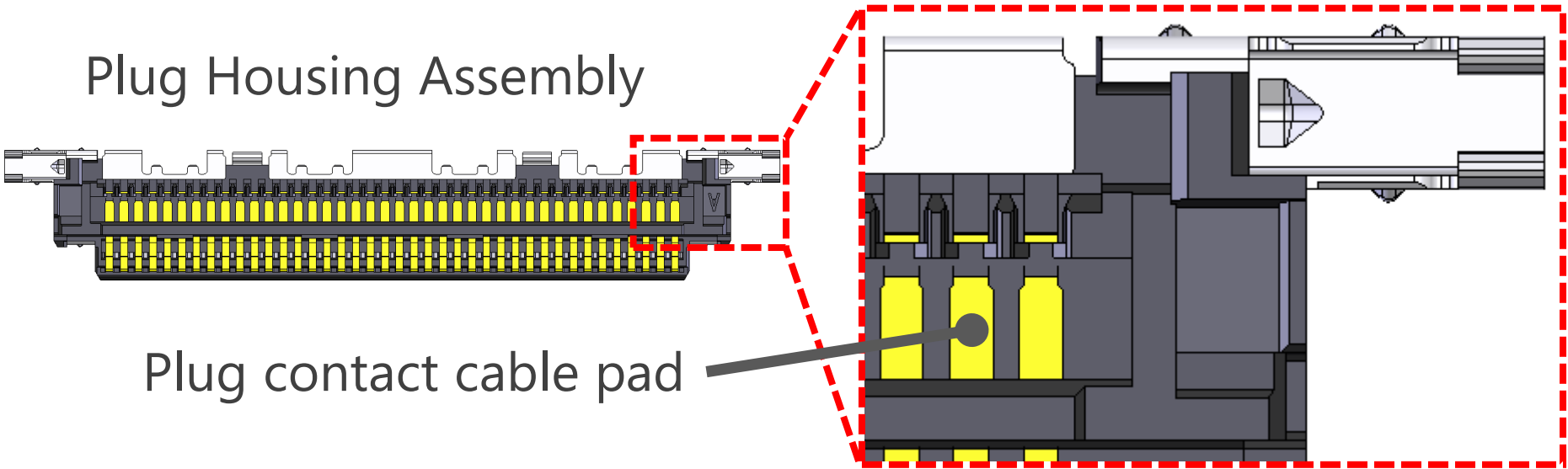
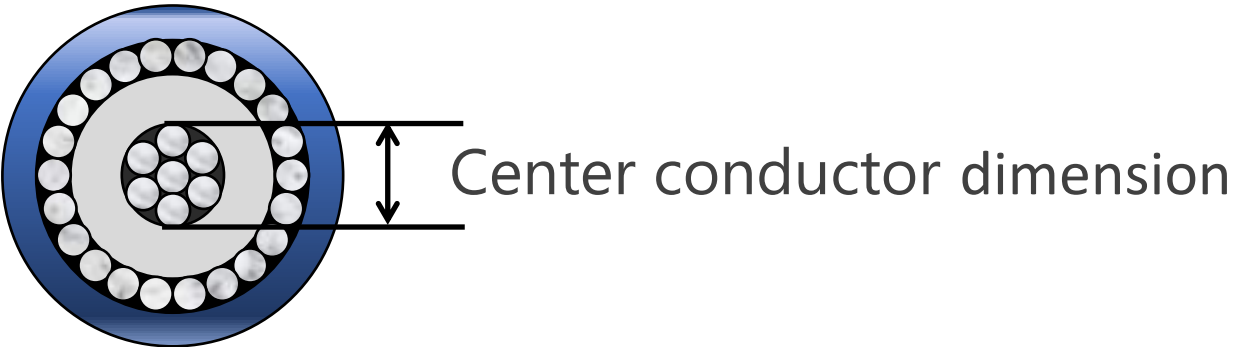


Plug harness assembly process image



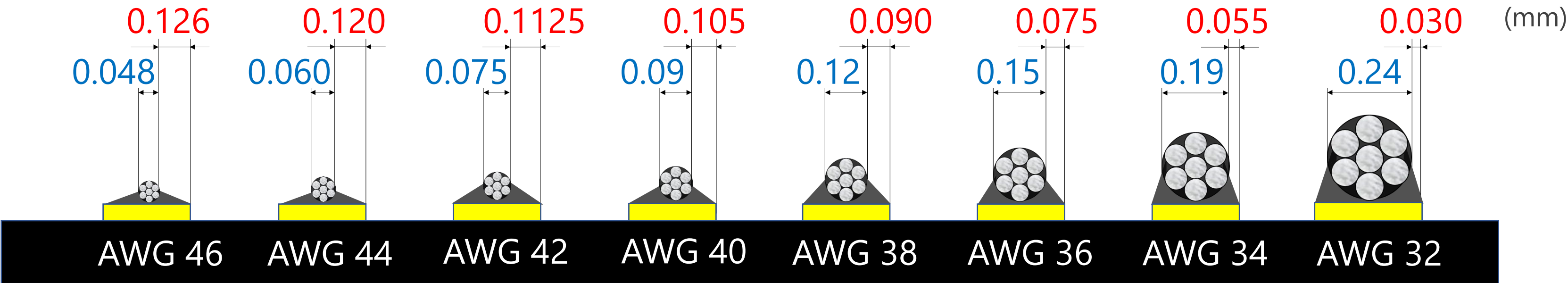
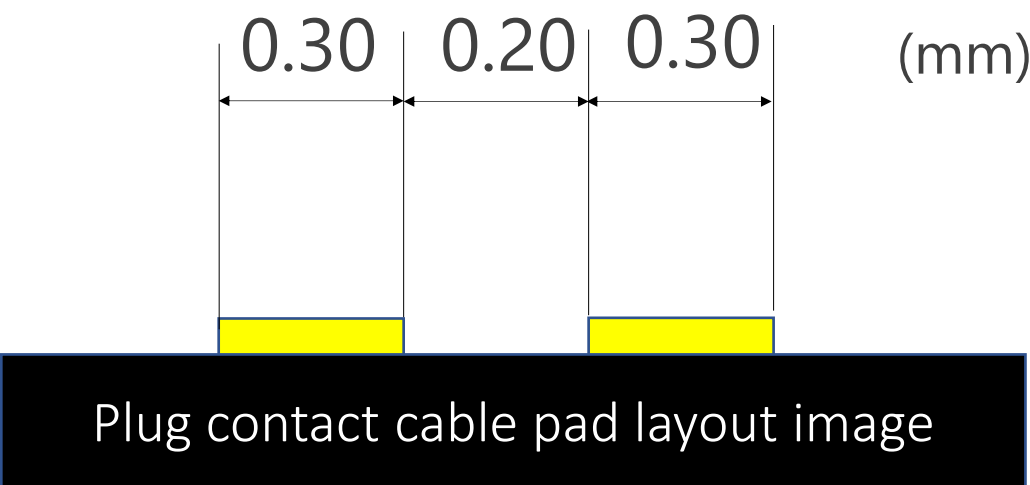
Center conductor and plug contact cable pad size image

Micro-Coaxial Cable cross-section image

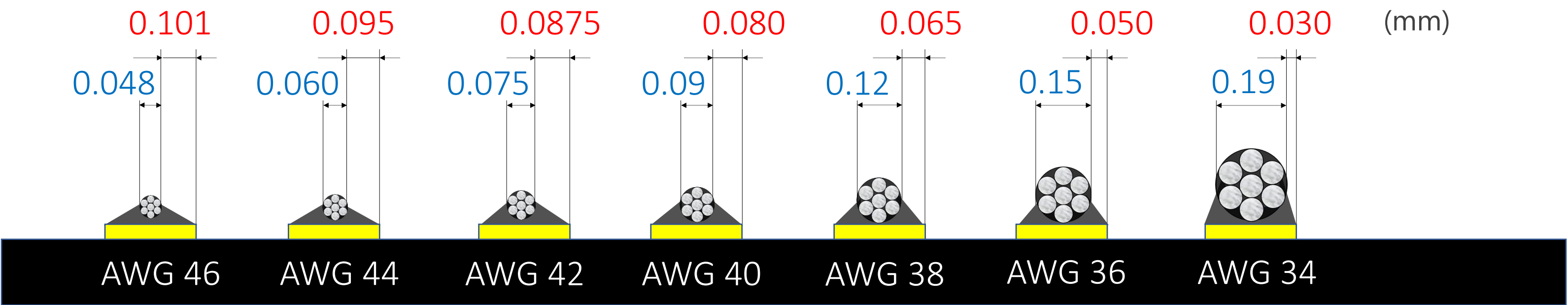
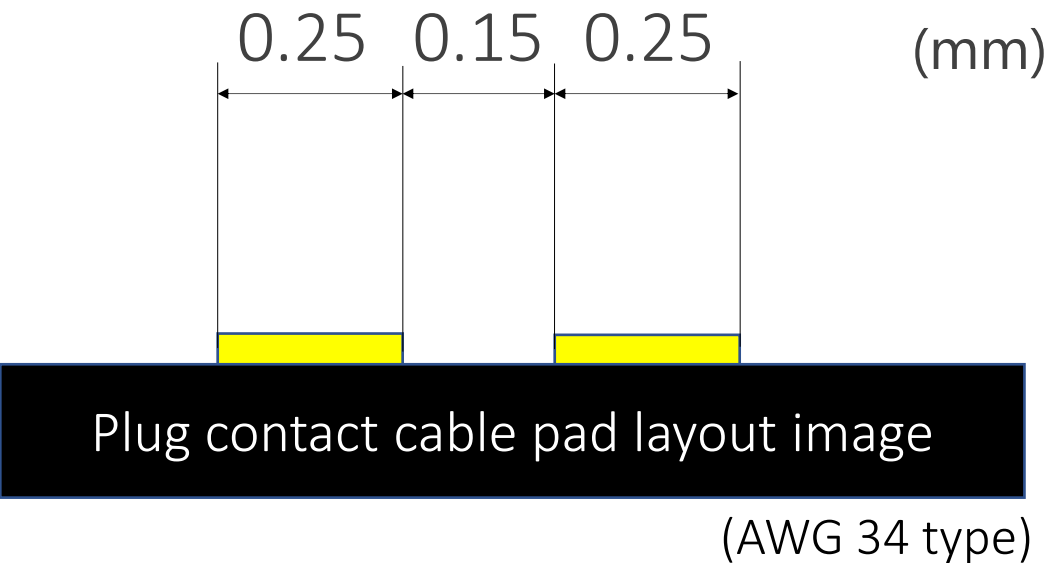


Red color number: Gap of conductor and pad
Blue color number: Center conductor dimension
(Reference)

0.5 mm pitch series



0.4 mm pitch series



I-PEX Product Series



MHF[®]
Series
RF Connectors



EVAFLEX[®]
Series
MINIFLEX[®]
Series
FPC/FFC Connectors



AP
Series
Terminals



CABLIME[®]
Series
Micro-Coaxial/
Twinaxial
Connectors



ISH[®]
Series
IARPB[®]
Series
Wire-to-Board
Connectors



MINIDOCK[™]
Series
I/O Connectors



NOVASTACK[®]
Series
Board-to-Board
Connectors



SX
Series
Card Edge
Connectors



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