#### **Micro-Coaxial Connector**

# **CABLINE®-CA**

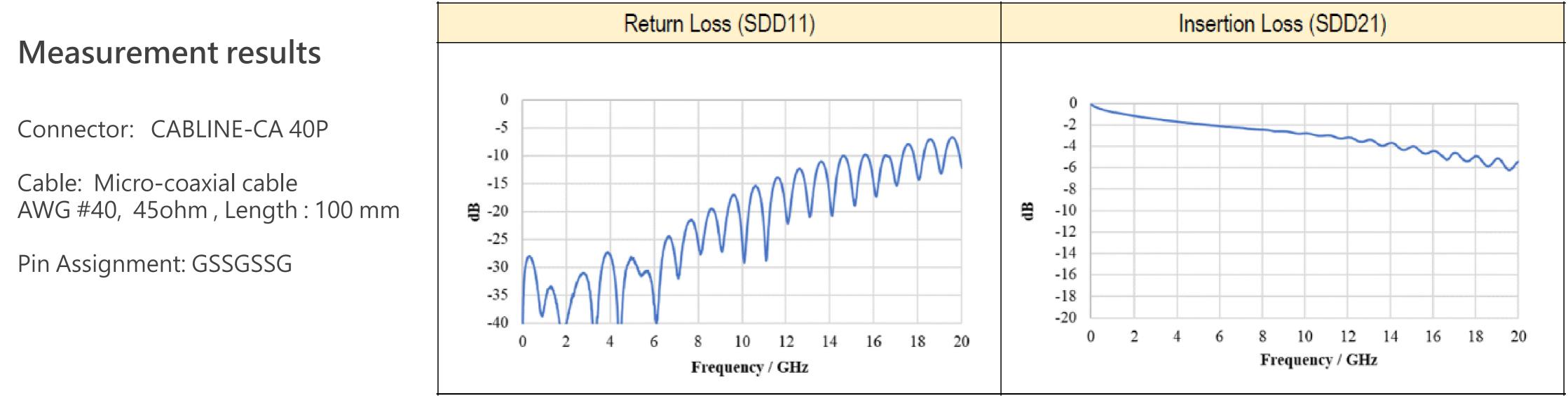
High-data-rate transfer (32 Gbps/Lane), mechanical lock with shielding and multipoint ground, 0.4 mm pitch, Horizontal mating type micro-coaxial connector \*For higher data rate up to 64 Gbps PAM4, please review <u>CABLINE-CAP harness solution</u> that mates to current

CABLINE-CA receptacle (20525-050E-02).

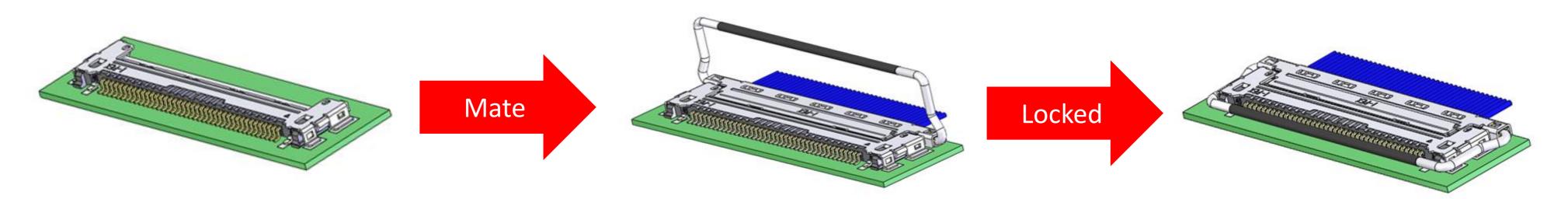
<b>Product Specifi</b>	cations:		Applicable Cable Size:	
Matin	ig type	Horizontal	Maximum O.D. (mm) 0.4	
Board Pi	tch (mm)	0.4	Micro-Coaxial 45 ohm: #38 or smaller	
Wiping Le	ngth (mm)	0.54	for Signal (AWG) 50 ohm: #40 or smaller	
	Height	1.10 Max	Twinax (AWG) #40	
Mated size	Width	Formula: 6.95 + (0.4*?p)	Discrete (AWG) #34 or smaller	
(mm)	Depth	5.73	Applicable Standards (Reference Only):	
Pin Counts	Range	Up to 60	32 Gbps/ Lane, USB4 Gen4 (40 Gbps/ Lane PAM3)	
	Available	10, 12, 20, 30, 40, 50, 60	Display Port UHBR20 (20 Gbps/Lane),	

\* Please inquire for pin counts not listed or outside of the pin count range.

#### High-data-rate transfer, ideal for 32 Gbps/Lane applications

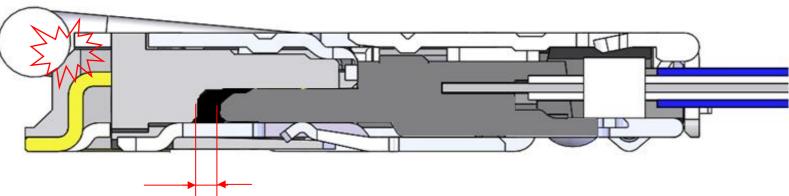


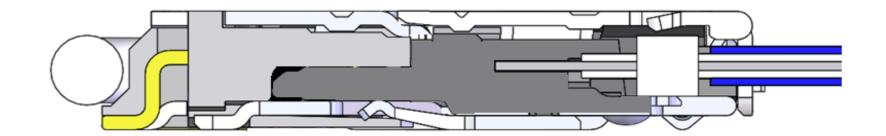
#### Mechanical locking bar prevents incomplete mating and back-out/unmating



Mechanical locking bar can be locked only when plug is fully mated to receptacle.

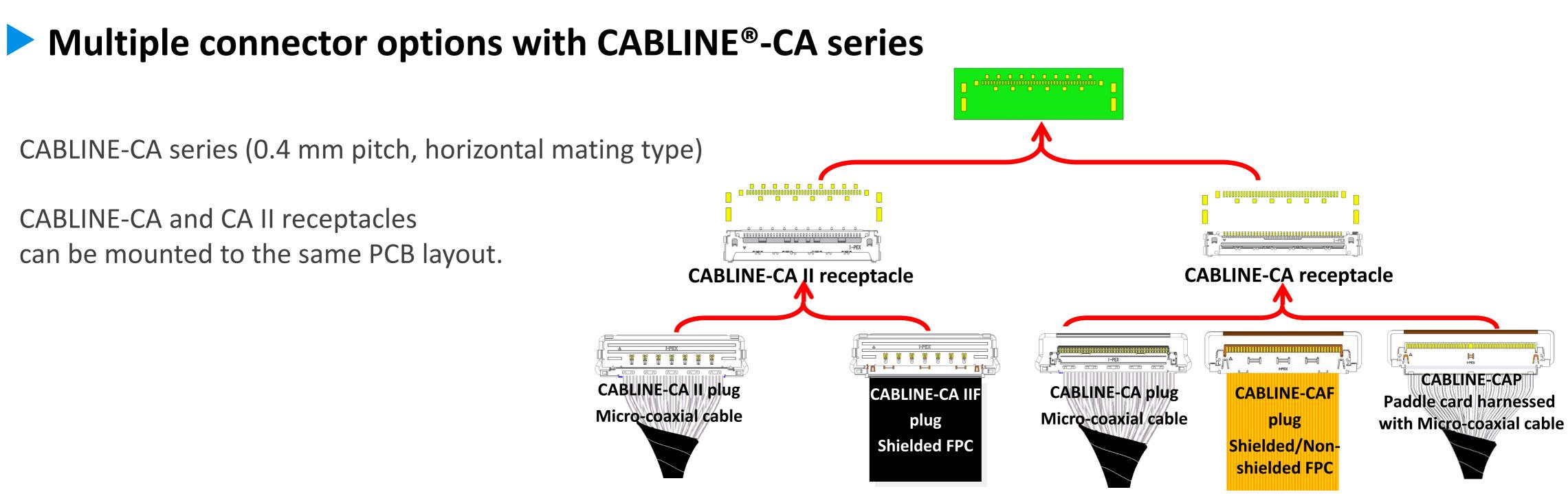
#### Interference







Complete mating

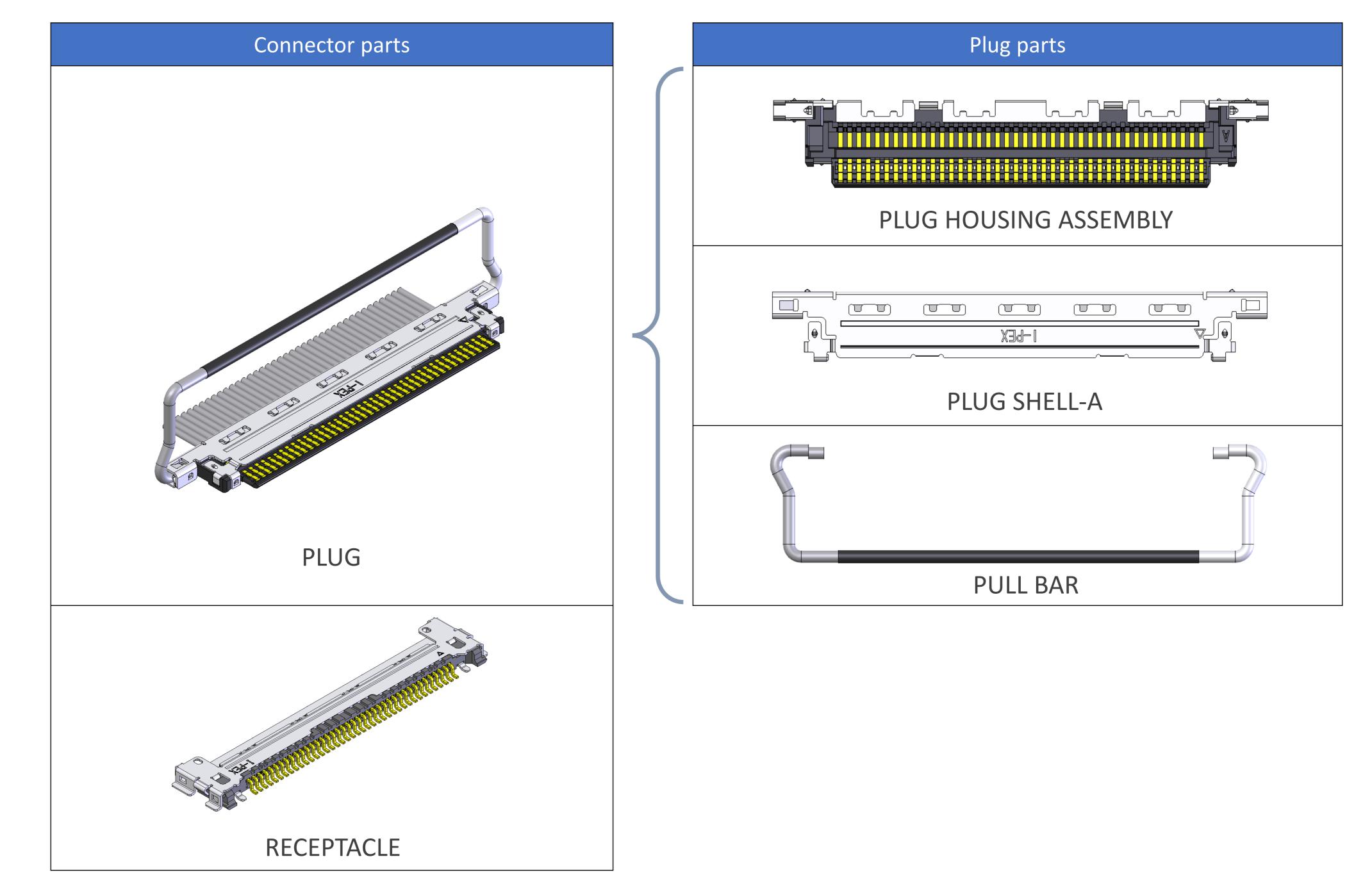


## I-PEX



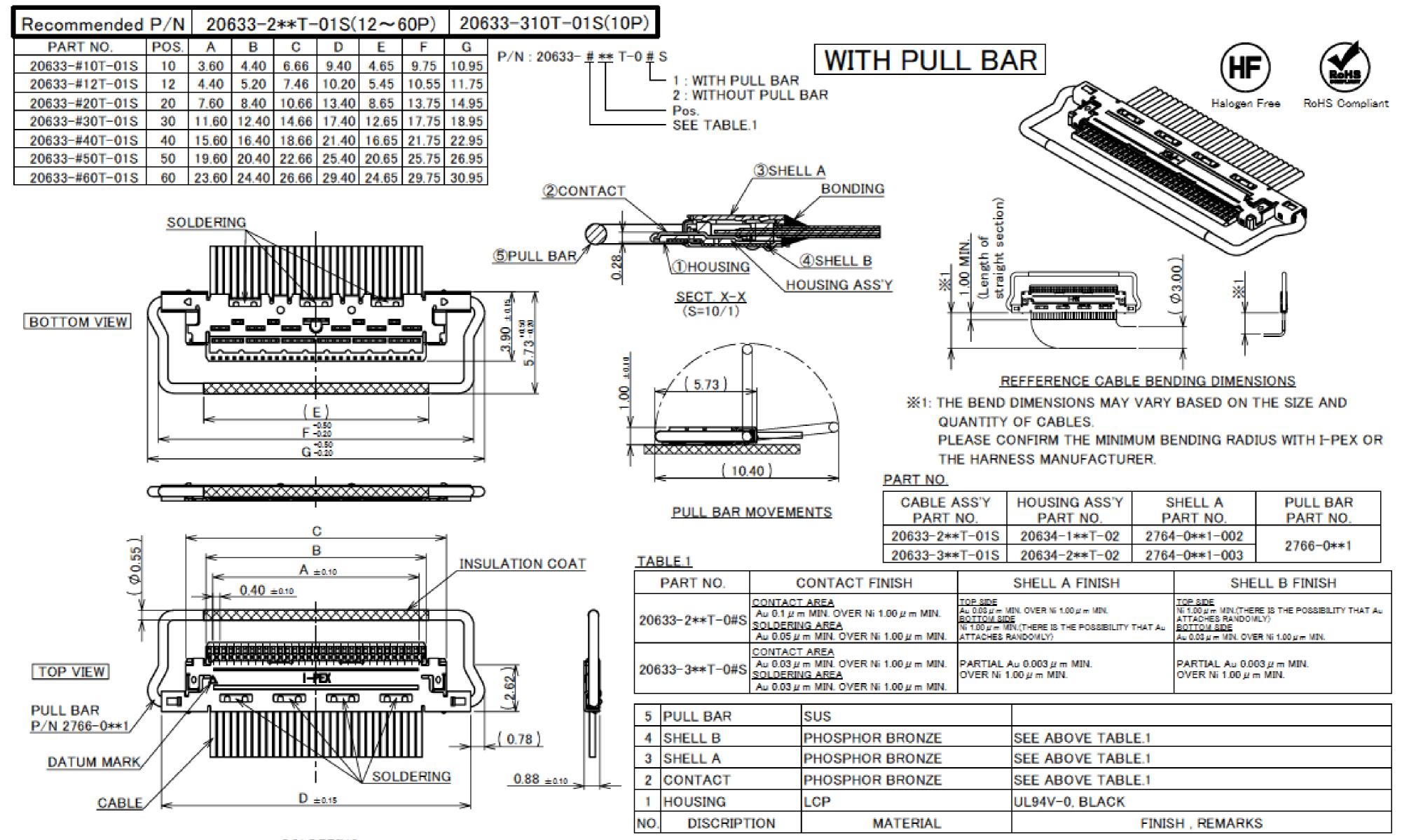
## **Component Parts Details**

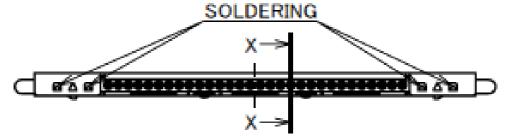
#### **Component Parts**



#### I-PEX

#### **Plug for Cable Assembly**

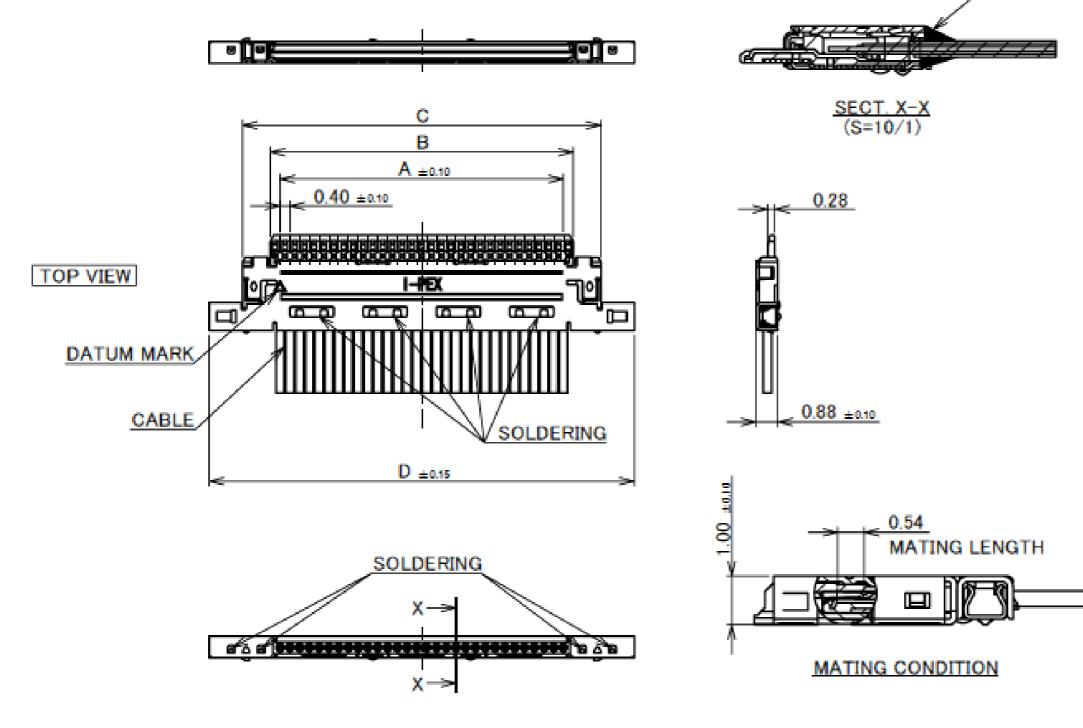


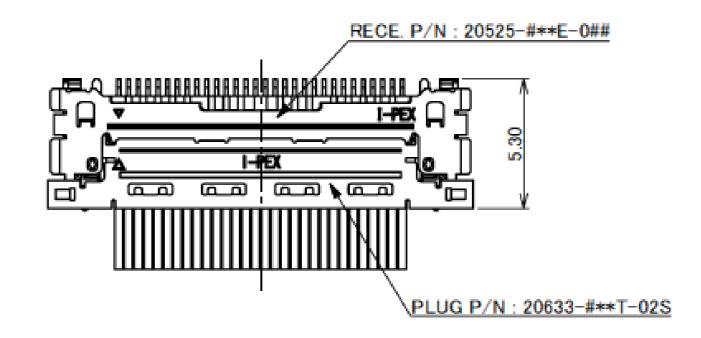


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Recommended P/N 20633-2**T-01S(12~60P) 20633-310T-01S(10P)	
PART NO. POS. A B C D	
20633-#10T-02S 10 3.60 4.40 6.66 9.40 20633-#12T-02S 12 4.40 5.20 7.46 10.20 P/N : 20633- <u># **</u> T-0 <u>#</u> S	WITHOUT PULL BAR
20633-#20T-02S 20 7.60 8.40 10.66 13.40 20633-#30T-02S 30 11.60 12.40 14.66 17.40 2 : WITH PULL BAR 2 : WITHOUT PULL BAR	
20633-#40T-02S 40 15.60 16.40 18.66 21.40 Pos.	
20633-#50T-02S 50 19.60 20.40 22.66 25.40 SEE TABLE.1 (SHEET1/5)	
20633-#60T-02S 60 23.60 24.40 26.66 29.40	
	REFFERENCE CABLE BENDING DIMENSIONS
	BEND DIMENSIONS MAY VARY BASED ON THE SIZE AND QUANTITY OF CABLES. ASE CONFIRM THE MINIMUM BENDING RADIUS WITH I-PEX OR THE HARNESS MANUFACTURER.







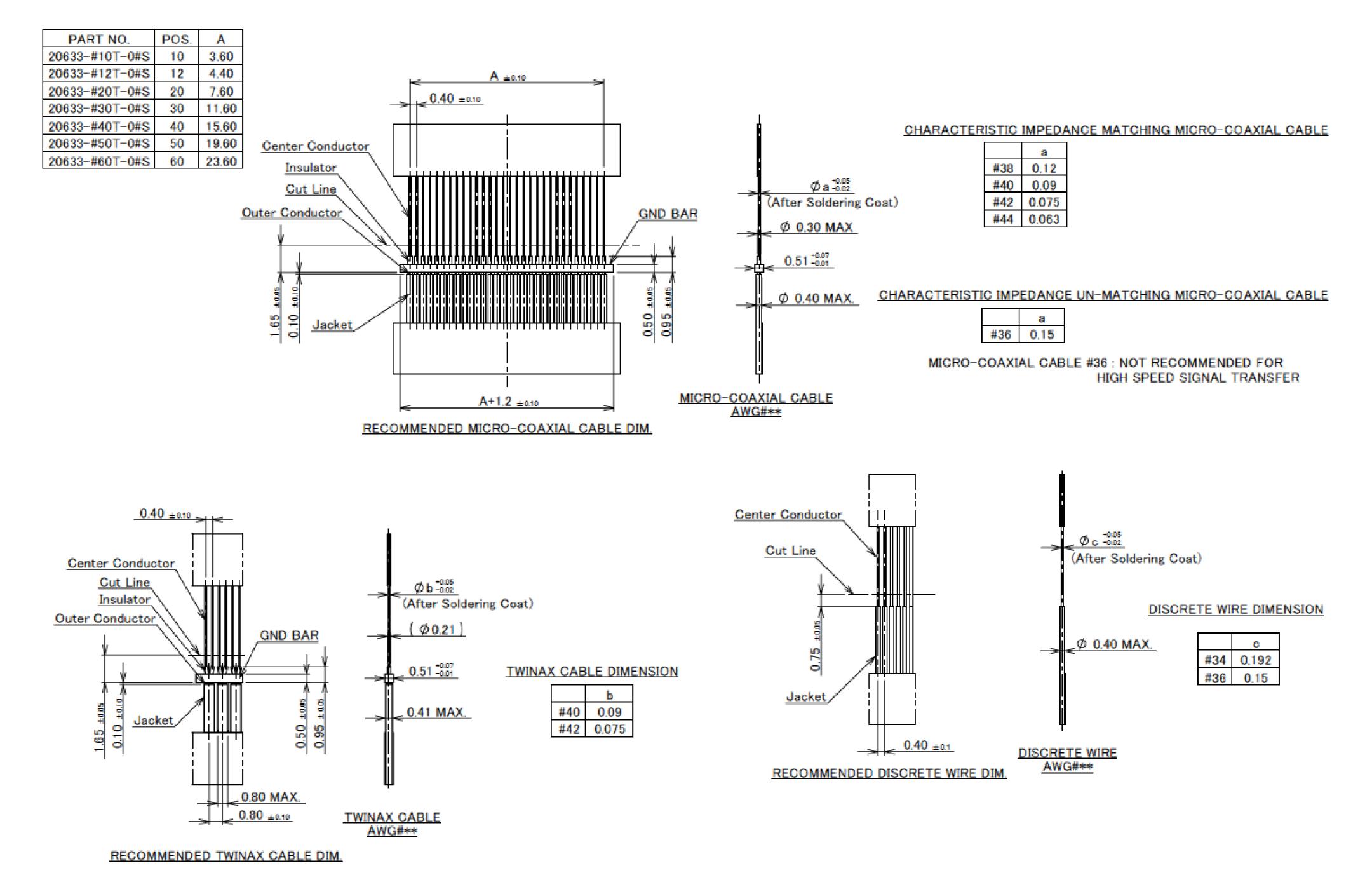
PA	RT	NO.
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CABLE ASS'Y PART NO.	HOUSING ASS'Y PART NO.	SHELL-A PART NO.	PULL BAR PART NO.
20633-2**T-02S	20634-1**T-02	2764-0**1-002	
20633-3**T-02S	20634-2**T-02	2764-0**1-003	-

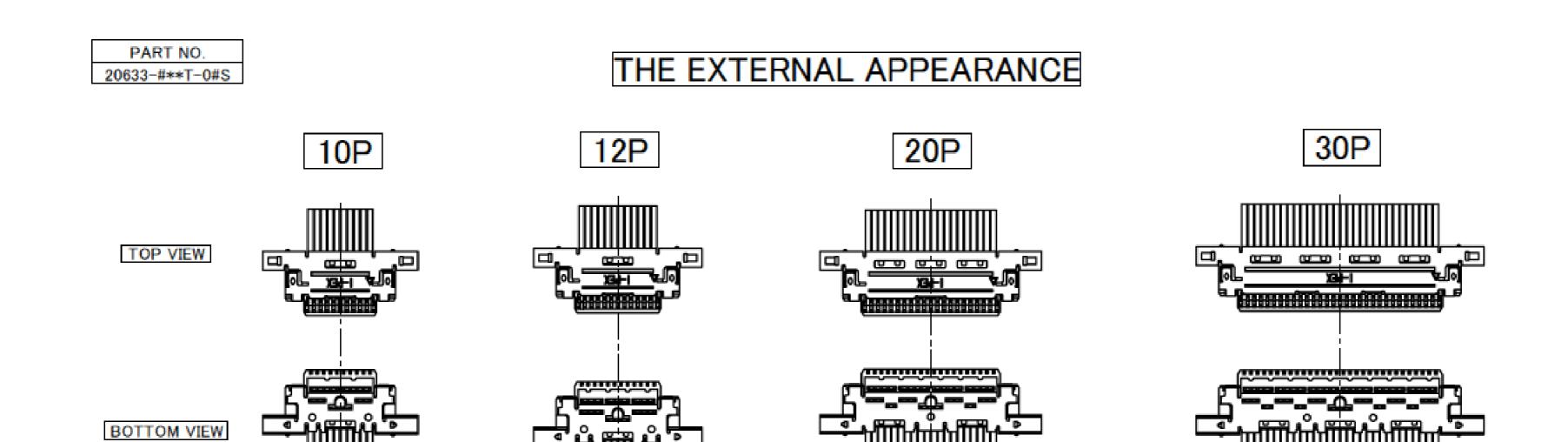
Rev.14

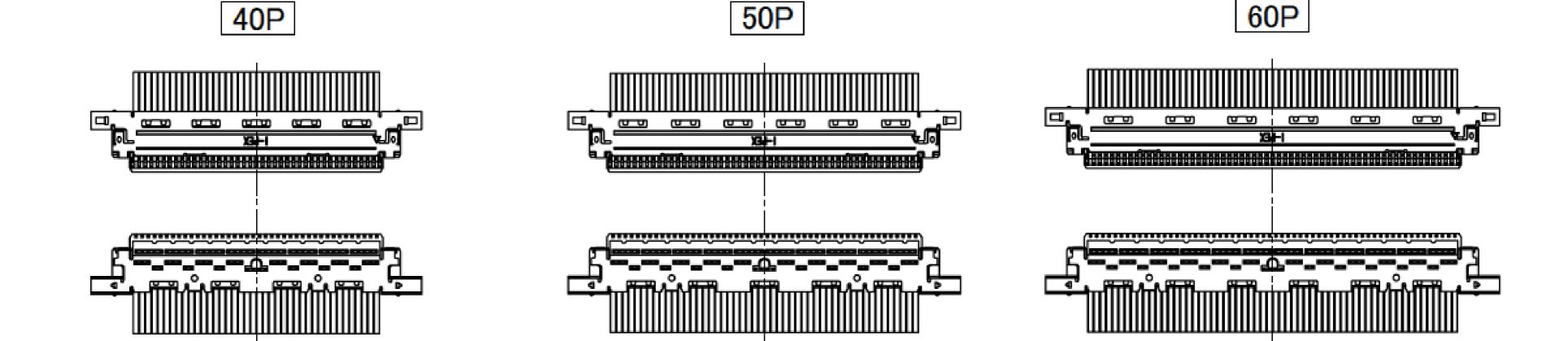
#### I-PEX

#### **Plug for Cable Assembly**









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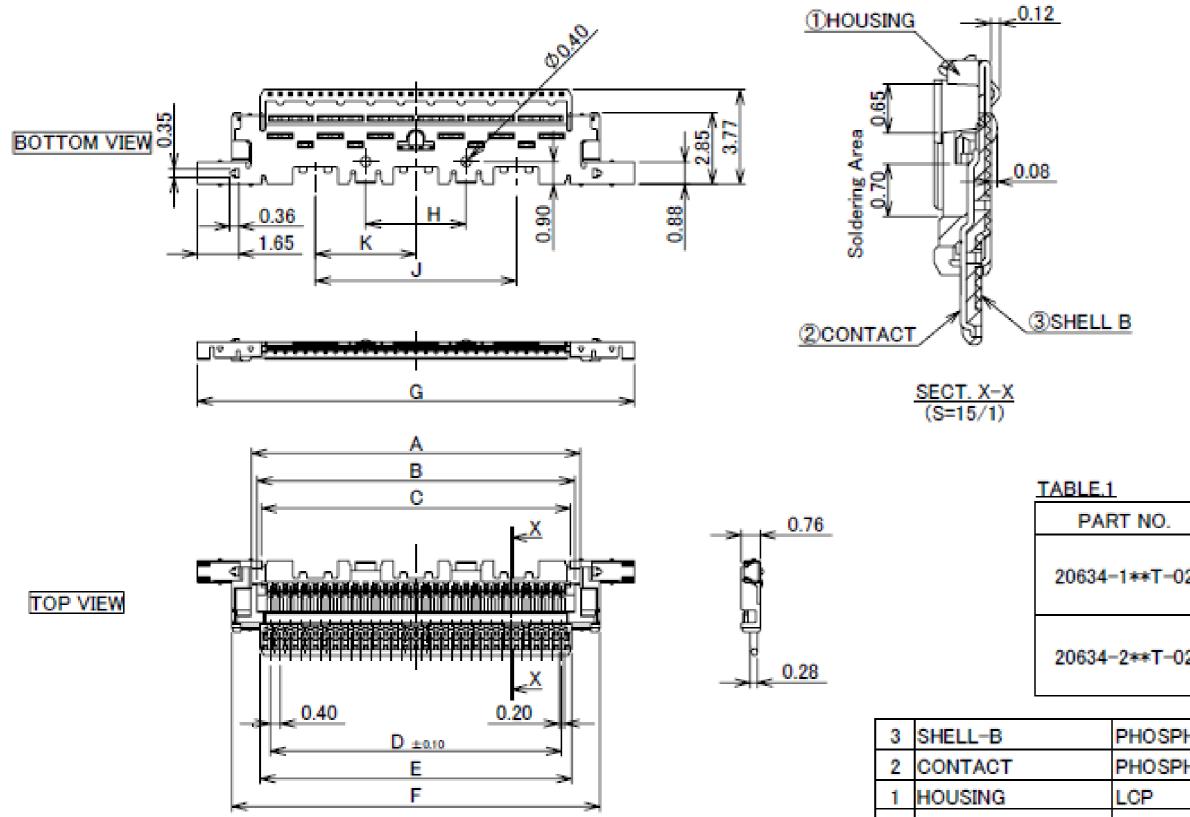


#### Plug for Cable Assembly

ITEMS	SPECIFICATION			
APPLICABLE CABLE	MICRO-COAXIAL CABLE : AWG# 44 , 42 , 40 , 38 , 36 DISCRETE WIRE : AWG# 36, 34 TWINAX CABLE : AWG# 40 , 42			
RATING VOLTAGE	100V AC (PER CONTACT PIN) %THIS IS THE RATED VOLTAGE OF THE CONNECTOR. PLEASE NOTE THAT THE RATED VOLTAGE MAY VARY IN THE HARNESS DEPENDING ON THE CABLES USED.			
RATING AMPERAGE (FOR CONTACT)	0.1A AC/DC [AWG#44] PER CONTACT PIN/UP TO 60 CONTACTS 0.24A AC/DC [AWG#42] PER CONTACT PIN/UP TO 50 CONTACTS 0.3A AC/DC [AWG#40] PER CONTACT PIN/UP TO 40 CONTACTS 0.5A AC/DC [AWG#38] PER CONTACT PIN/UP TO 14 CONTACTS 0.8A AC/DC [AWG#36] PER CONTACT PIN/UP TO 6 CONTACTS 1.0A AC/DC [AWG#34] PER CONTACT PIN/UP TO 6 CONTACTS TESTING BY A REAL MACHINE IS RECOMMENDED BECAUSE TEMPERATURE RISE MAY AFFECTED BY ACTUAL SITUATION.			
OPERATING TEMPERATURE	233~358K (-40°C~85°C)			
OPERATING HUMIDITY	85% MAX.			
CONTACT RESISTANCE	INITIAL : 180mohm MAX. (AWG#34) / AFTER TEST : ⊿40mohm MAX. 275mohm MAX. (AWG#36) 360mohm MAX. (AWG#38) 600mohm MAX. (AWG#40) 700mohm MAX. (AWG#42) 1080mohm MAX. (AWG#44)			
GROUND SHELL RESISTANCE	INITIAL : 50mohm MAX. / AFTER TEST : 240mohm MAX.			
INSULATION RESISTANCE	INITIAL : 1000Mohm MIN. / AFTER TEST : 500Mohm MIN.			
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min			
DURABILITY	30 CYCLES			
MATING FORCE (INITIAL / AFTER 30 CYCLES)	10P : 7.80N MAX. 40P : 19.40N MAX. 12P : 8.20N MAX. 50P : 24.25N MAX. 20P : 9.70N MAX. 60P : 29.10N MAX. 30P : 14.55N MAX.			
UNMATING FORCE (INITIAL / AFTER 30 CYCLES)	10P : 1.00N MIN. 40P : 4.00N MIN. 12P : 1.20N MIN. 50P : 5.00N MIN. 20P : 2.00N MIN. 60P : 6.00N MIN. 30P : 3.00N MIN.			
CABLE RETENTION FORCE	10P : 4.90N MIN. 40P : 19.60N MIN. 12P : 5.88N MIN. 50P : 24.50N MIN. 20P : 9.80N MIN. 60P : 29.40N MIN. 30P : 14.70N MIN.			
PRODUCT SPECIFICATION	PRS-1968			
TEST REPORT	TR-14122 (20525-0**E-0##) / TR-16023 (20525-2**E-0##)			
INSTRUCTION MANUAL	HIM-09008			
ASSEMBLY MANUAL	ASM-09005			
APPEARANCE CRITERIA No.	QLS-A***			

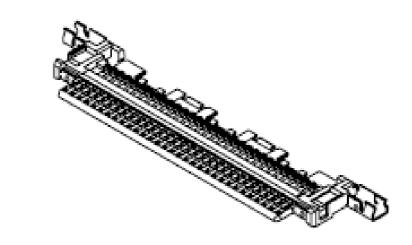
**Plug Housing Assembly** 

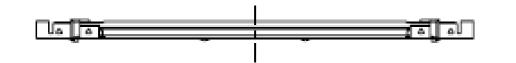
Recommended	P/N	20	634-	1**T	-02(1	2~6	0P)	20	634-:	210T-	-02(1	0P)
PART NO.	Pos.	Α	В	С	D	Ε	F	G	Η	J	K	
20634-#10T-02	10	5.10	4.65	4.30	3.60	4.40	6.66	9.40	3.40	I	I	
20634-#12T-02	12	5.90	5.45	5.10	4.40	5.20	7.46	10.20	4.10	-	I	
20634-#20T-02	20	9.10	8.65	8.30	7.60	8.40	10.66	13.40	-	5.00	-	
20634-#30T-02	30	13.10	12.65	12.30	11.60	12.40	14.66	17.40	4.00	8.00	4.00	
20634-#40T-02	40	17.10	16.65	16.30	15.60	16.40	18.66	21.40	8.00	12.00	4.00	
20634-#50T-02	50	21.10	20.65	20.30	19.60	20.40	22.66	25.40	12.00	16.00	4.00	
20634-#60T-02	60	25.10	24.65	24.30	23.60	24.40	26.66	29.40	16.00	20.00	4.00	



P/N: 20634- # \*\* T-02 POS. -SEE TABLE.1







NOTES 1. THIS PART IS ASSEMBLED WITH SHELL A(P/N 2764-0\*\*1-00#) AND PULL BAR(P/N 2766-0\*\*1) AFTER SOLDERED THE CABLE, AND IT BECOMES P/N 20633-#\*\*T-0#S

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PART NO.	CONTACT FINISH	SHELL B FINISH
20634-1**T-02	<u>CONTACT AREA</u> Au 0.1 μ m MIN. OVER Ni 1.00 μ m MIN. <u>SOLDERING AREA</u> Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN.	TOP SIDE Ni 1.00 μ m MIN.(THERE IS THE POSSIBILITY THAT Au ATTACHES RANDOMLY) BOTTOM SIDE Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN.
20634-2**T-02	CONTACT AREA Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN. SOLDERING AREA Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN.	PARTIAL Au $0.003 \mu$ m MIN. OVER Ni $1.00 \mu$ m MIN.

3	SHELL-B	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
2	CONTACT	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
1	HOUSING	LCP	UL94V-0, BLACK
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

### I-PEX

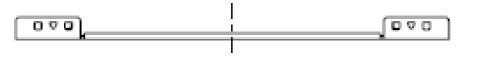
Contact your sales representative for more detailed information. <u>www.i-pex.com</u>

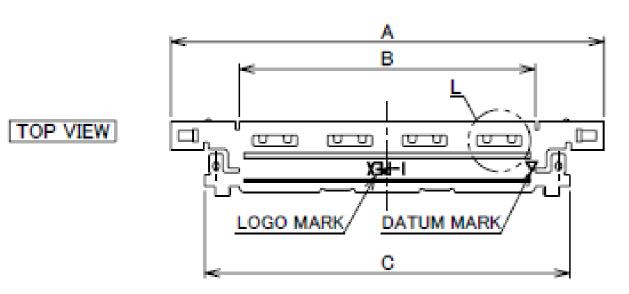
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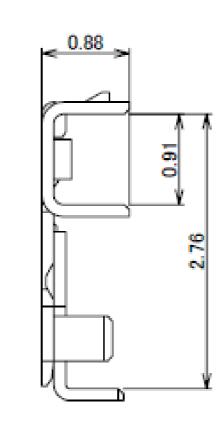
#### **Plug Shell-A**

Recommended	P/N	276	64-0*	*1-00	2(12~60P) 2764-0	101-003(10P)
PART NO.	Α	В	С	D	E	
2764-0101-00#	9.40	3.88	6.66	-	-	
2764-0121-00#	10.20	4.68	7.46	-	-	
2764-0201-00#	13.40	7.88	10.66	2.50	$5.00 = 2.50 \times (3 - 1)$	
2764-0301-00#	17.40	11.88	14.66	3.00	$9.00 \{ = 3.00 \times (4 - 1) \}$	P/N: 2764-0 ** 1 - 00 #
2764-0401-00#	21.40	15.88	18.66	3.25	$13.00 = 3.25 \times (5 - 1)$	
2764-0501-00#	25.40	19.88	22.66	3.40	$17.00 \{ = 3.40 \times (6 - 1) \}$	
2764-0601-00#	29.40	23.88	26.66	4.00	$20.00 \{= 4.00 \times (6 - 1)\}$	

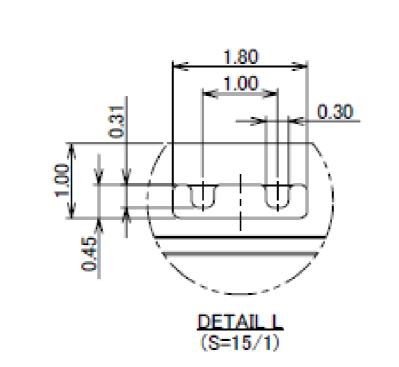












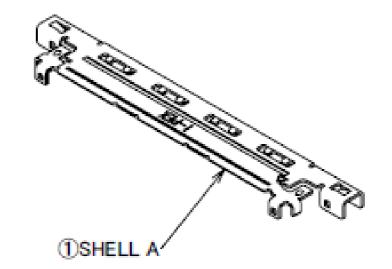
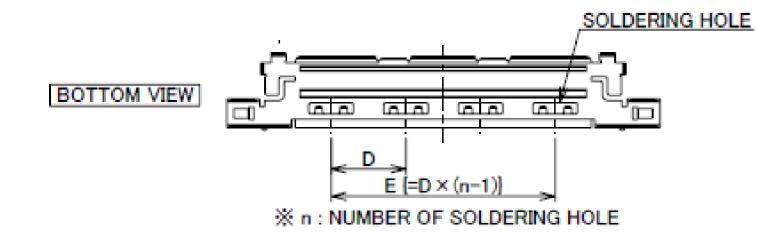


TABLE.1	
PART NO.	SHELL A FINISH
	TOP SIDE
2764-0**1-002	Au 0.03 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN. BOTTOM SIDE
2704-0**1-002	Ni 1.00 $\mu$ m MIN.(THERE IS THE POSSIBILITY



THAT Au ATTACHES RANDOMLY)

2764-0\*\*1-003 PARTIAL Au 0.003 μ m MIN. OVER Ni 1.00 μ m MIN.

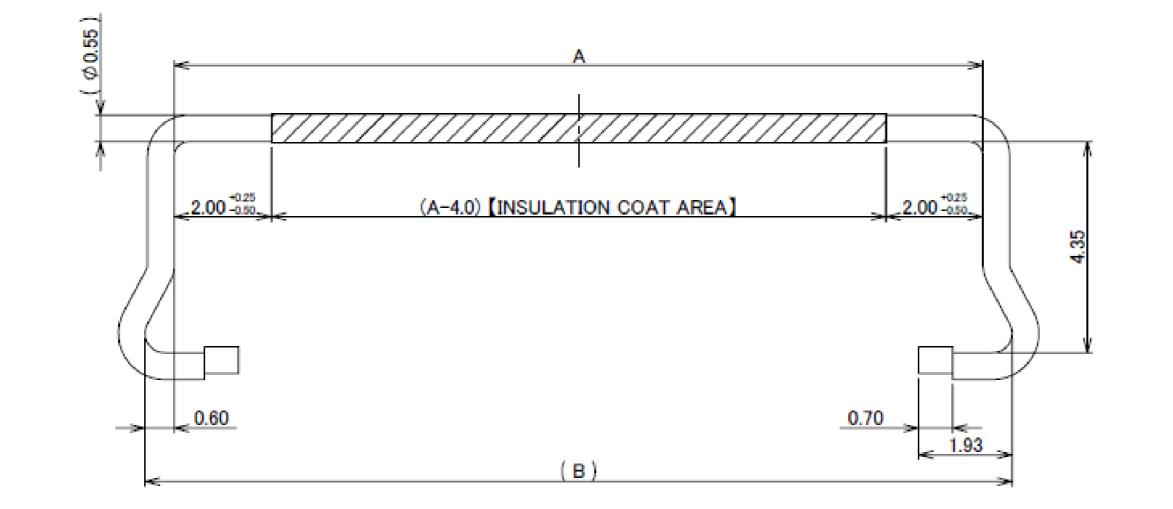
	1 SHELL A		PHOSPHOR BRONZE	SEE ABOVE TABLE.1		
N	NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS		

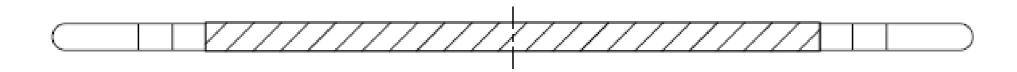
Plug Pull Bar

Recommended	P/N		2766-0**1
PART NO.	Α	В	
2766-0101	8.65	9.85	
2766-0121	9.45	10.65	P/N: 2
2766-0201	12.65	13.85	
2766-0301	16.65	17.85	
2766-0401	20.65	21.85	
2766-0501	24.65	25.85	
2766-0601	28.65	29.85	

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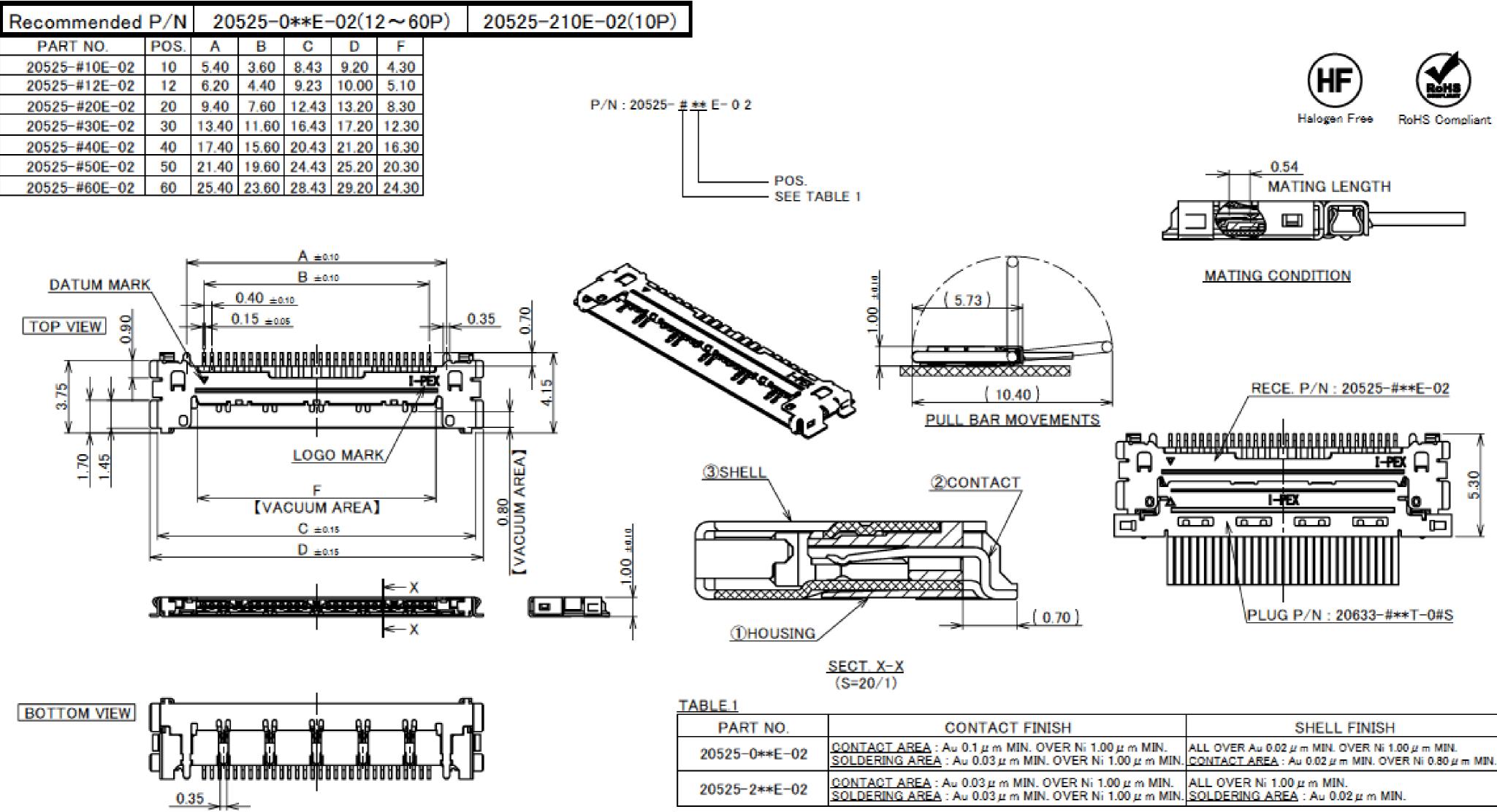


1	PULL BAR	SUS	_
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

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#### **Receptacle Assembly**



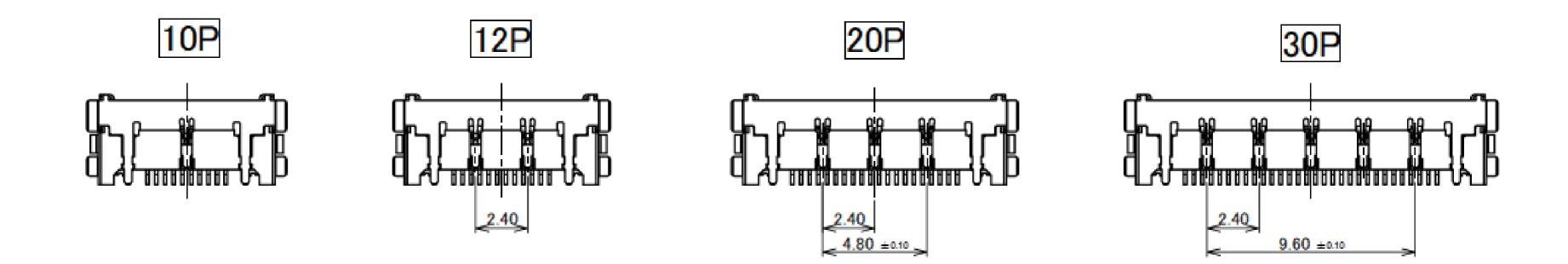
L	PART NU.	CONTACT FINISH	SHELL FINISH		
		$\frac{\text{CONTACT AREA}}{\text{SOLDERING AREA}}: Au 0.1 \mu \text{ m MIN. OVER Ni} 1.00 \mu \text{ m MIN.}$			
		$\frac{\text{CONTACT AREA}}{\text{SOLDERING AREA}}: Au 0.03\mu\text{ m MIN. OVER Ni} 1.00\mu\text{ m MIN.} \\ \frac{\text{SOLDERING AREA}}{\text{SOLDERING AREA}}: Au 0.03\mu\text{ m MIN. OVER Ni} 1.00\mu\text{ m MIN.} \\ \frac{\text{SOLDERING AREA}}{\text{SOLDERING AREA}}: Au 0.03\mu\text{ m MIN.} \\ \frac{1}{100}$			

3	SHELL	PHOSPHOR BRONZE	SEE TABLE 1
2	CONTACT	PHOSPHOR BRONZE	SEE TABLE 1
1	HOUSING	LCP	UL94V-0, BLACK
NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS

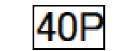
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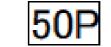
PART NO. 20525-#\*\*E-02

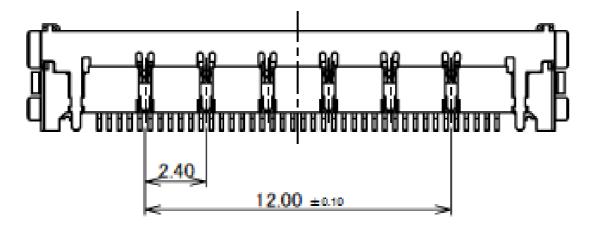
BOTTOM VIEW

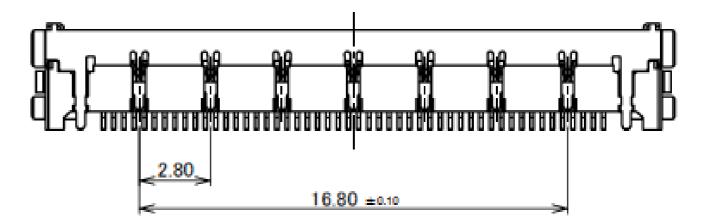


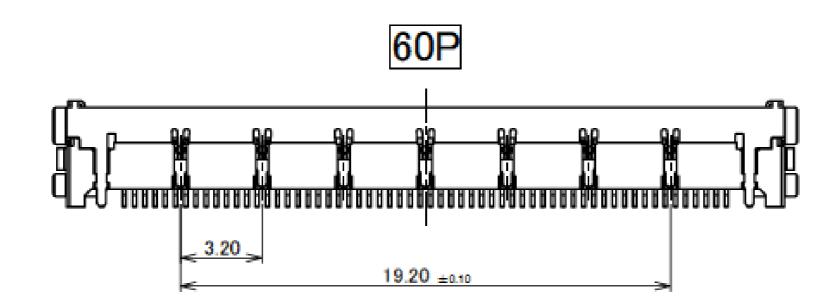
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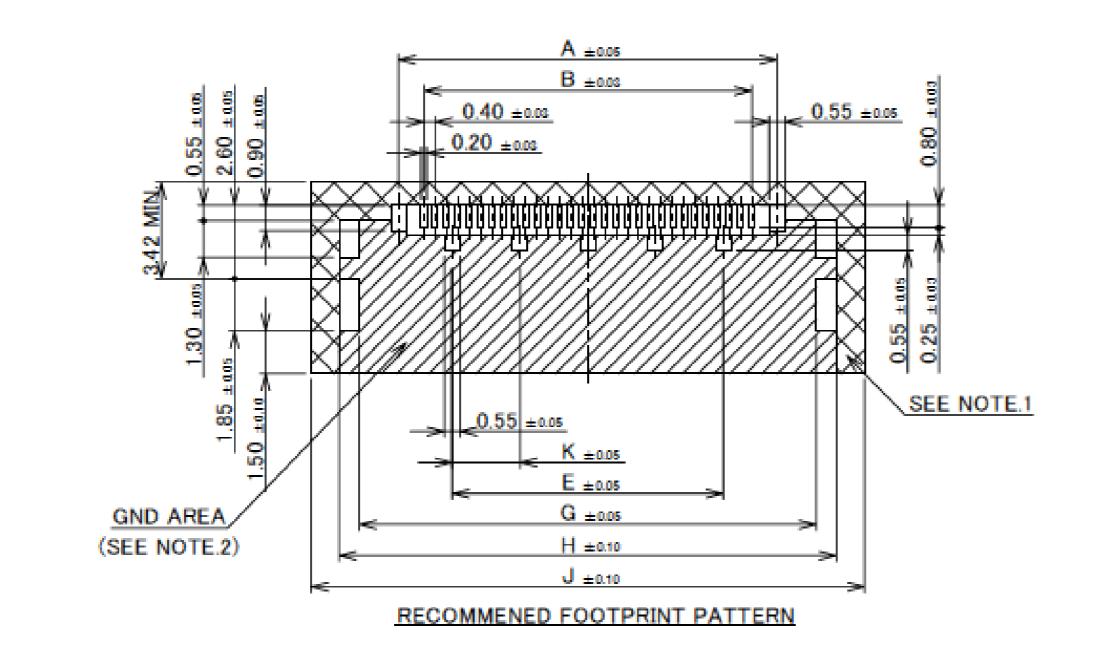


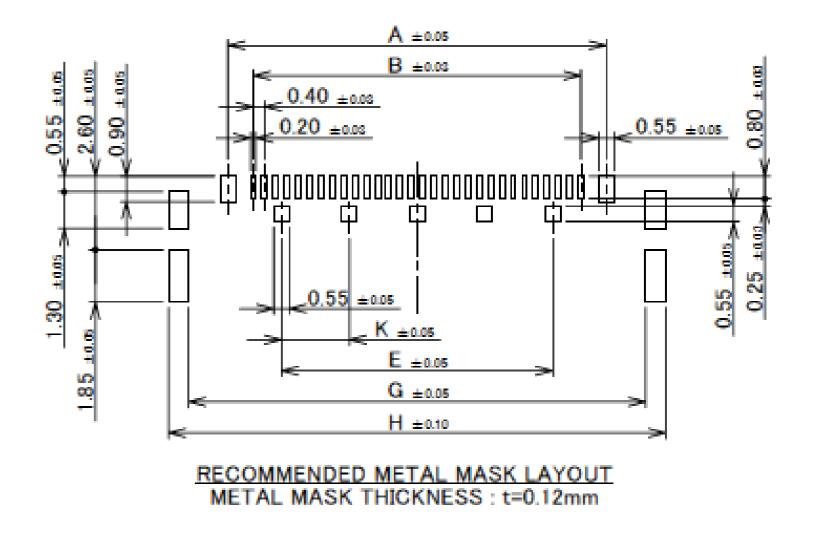
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#### **Receptacle Assembly**

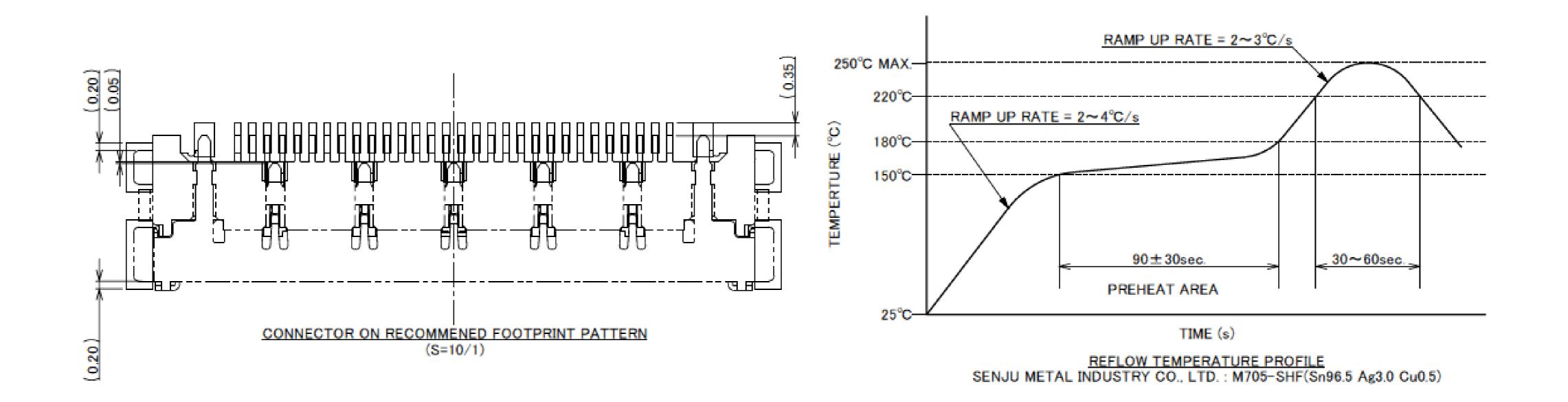
POS.	Α	В	E	G	н	J	Κ
10	5.40	3.60	I	8.18	9.60	11.60	
12	6.20	4.40	2.40	8.98	10.40	12.40	-
20	9.40	7.60	4.80	12.18	13.60	15.60	2.40
30	13.40	11.60	9.60	16.18	17.60	19.60	2.40
40	17.40	15.60	12.00	20.18	21.60	23.60	2.40
50	21.40	19.60	16.80	24.18	25.60	27.60	2.80
60	25.40	23.60	19.20	28.18	29.60	31.60	3.20
	10 12 20 30 40 50	105.40126.20209.403013.404017.405021.40	105.403.60126.204.40209.407.603013.4011.604017.4015.605021.4019.60	10     5.40     3.60     -       12     6.20     4.40     2.40       20     9.40     7.60     4.80       30     13.40     11.60     9.60       40     17.40     15.60     12.00       50     21.40     19.60     16.80	10     5.40     3.60     -     8.18       12     6.20     4.40     2.40     8.98       20     9.40     7.60     4.80     12.18       30     13.40     11.60     9.60     16.18       40     17.40     15.60     12.00     20.18       50     21.40     19.60     16.80     24.18	105.403.60-8.189.60126.204.402.408.9810.40209.407.604.8012.1813.603013.4011.609.6016.1817.604017.4015.6012.0020.1821.605021.4019.6016.8024.1825.60	105.403.60-8.189.6011.60126.204.402.408.9810.4012.40209.407.604.8012.1813.6015.603013.4011.609.6016.1817.6019.604017.4015.6012.0020.1821.6023.605021.4019.6016.8024.1825.6027.60





NOTES.

IN CASE OF PLUG WITH PULL BAR(20633-#\*\*T-01S), DO NOT MOUNT ANOTHER COMPONENT IN THIS AREA.
SOLDER RESIST MUST BE APPLIED TO THIS AREA.



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#### **Receptacle Assembly**

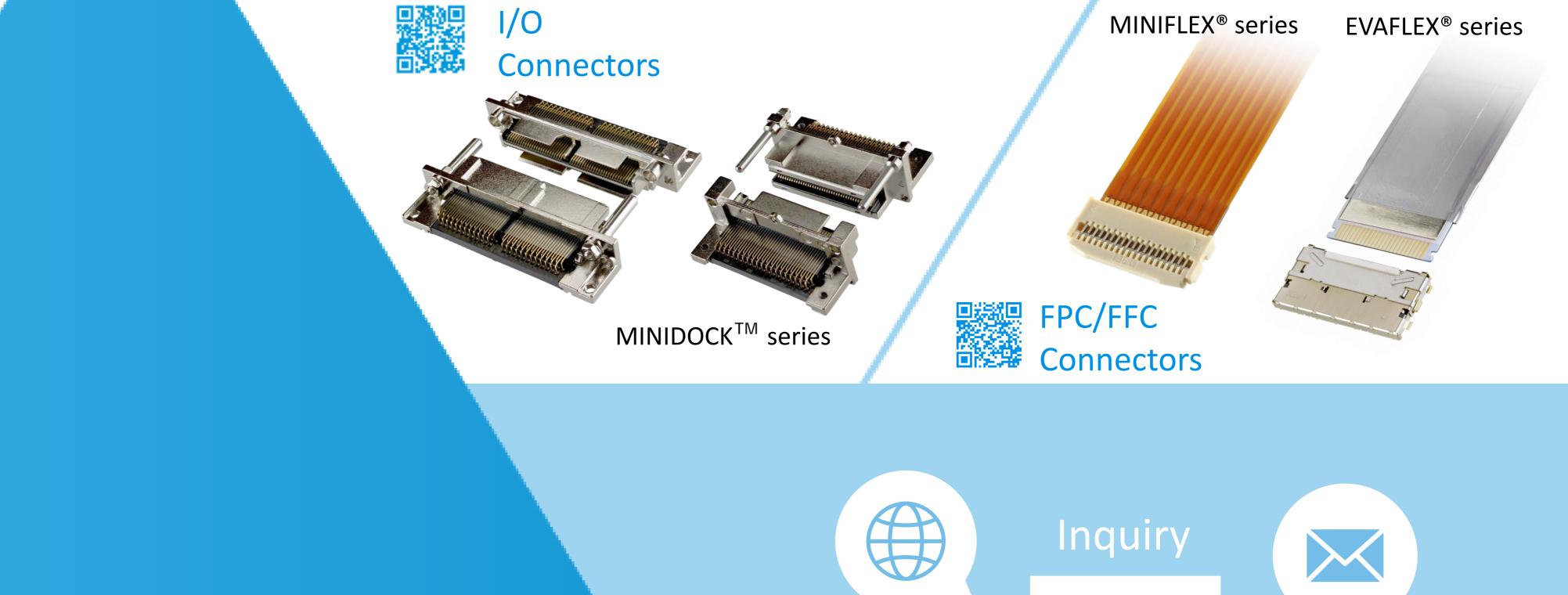
FOR CABLINE-CA PLUG CABLE ASSEMBLY (DWG NO. 20633)

ITEMS	SPECIFICATION				
APPLICABLE CABLE	MICRO-COAXIAL CABLE : AWG# 44 , 42 , 40 , 38 , 36 DISCRETE WIRE : AWG# 36 , 34 TWINAX CABLE : AWG# 40 , 42				
RATING VOLTAGE	100V AC (PER CONTACT PIN) XTHIS IS THE RATED VOLTAGE OF THE CONNECTOR. PLEASE NOTE THAT THE RATED VOLTAGE MAY VARY IN THE HARNESS DEPENDING ON THE CABLES USED.				
RATING AMPERAGE (FOR CONTACT)	0.1A AC/DC [AWG#44] PER CONTACT PIN/UP TO 60 CONTACTS 0.24A AC/DC [AWG#42] PER CONTACT PIN/UP TO 50 CONTACTS 0.3A AC/DC [AWG#40] PER CONTACT PIN/UP TO 40 CONTACTS 0.5A AC/DC [AWG#38] PER CONTACT PIN/UP TO 14 CONTACTS 0.8A AC/DC [AWG#36] PER CONTACT PIN/UP TO 6 CONTACTS 1.0A AC/DC [AWG#34] PER CONTACT PIN/UP TO 4 CONTACTS XTESTING BY A REAL MACHINE IS RECOMMENDED BECAUSE TEMPERATURE RISE MAY AFFECTED BY ACTUAL SITUATION.				
OPERATING TEMPERATURE	233~358K (-40°C~85°C)				
OPERATING HUMIDITY	85% MAX.				
CONTACT RESISTANCE	INITIAL : 180mohm MAX. (AWG#34) / AFTER TEST : ⊿40mohm MAX. 275mohm MAX. (AWG#36) 360mohm MAX. (AWG#38) 600mohm MAX. (AWG#40) 700mohm MAX. (AWG#42) 1080mohm MAX. (AWG#44)				
GROUND SHELL RESISTANCE	INITIAL : 50mohm MAX. / AFTER TEST : ⊿40mohm MAX.				
INSULATION RESISTANCE	INITIAL : 1000Mohm MIN. / AFTER TEST : 500Mohm MIN.				
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min				
DURABILITY	30 CYCLES				
MATING FORCE (INITIAL / AFTER 30 CYCLES)	10P : 7.80N MAX. 40P : 19.40N MAX. 12P : 8.20N MAX. 50P : 24.25N MAX. 20P : 9.70N MAX. 60P : 29.10N MAX. 30P : 14.55N MAX.				
UNMATING FORCE (INITIAL / AFTER 30 CYCLES)	10P : 1.00N MIN. 40P : 4.00N MIN. 12P : 1.20N MIN 50P : 5.00N MIN				
CABLE RETENTION FORCE	10P : 4.90N MIN. 40P : 19.60N MIN. 12P : 5.88N MIN. 50P : 24.50N MIN. 20P : 9.80N MIN. 60P : 29.40N MIN. 30P : 14.70N MIN.				
COPLANARITY	0.10 MAX.				
PRODUCT SPECIFICATION	PRS-1968				
TEST REPORT	TR-14122 (20525-0**E-0#) / TR-16023 (20525-2**E-0#)				
PACKING STANDARD	300-824				
INSTRUCTION MANUAL	HIM-09008				
APPEARANCE CRITERIA No.	QLS-A***				

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## I-PEX





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