MINIFLEX® 4-ST

0.4 mm pitch, super low profile 0.5 mm height, horizontal mating, backflip FPC connector

Product Specifications:

Contact Pitch		0.4 mm
Board Pitch		0.4 mm
Contact Mating Length		0.8 mm
Mated Size	Height	0.5 +/- 0.05 mm
	Width	1.9 + (0.4 x pin count) mm
	Depth	Open: 2.7 mm
		Close: 3.0 mm
Available Pin Count *		4, 6, 8, 10, 12

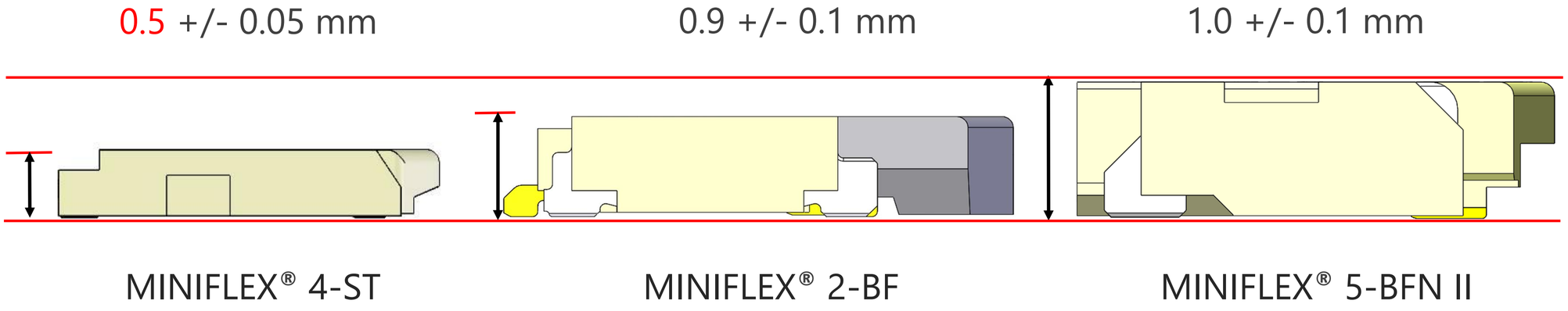
Applicable FPC/FFC:

FPC/FFC Contact Pitch	0.4 mm
FPC/FFC Contact Point	Top
FPC/FFC Thickness	0.12 +/- 0.03 mm

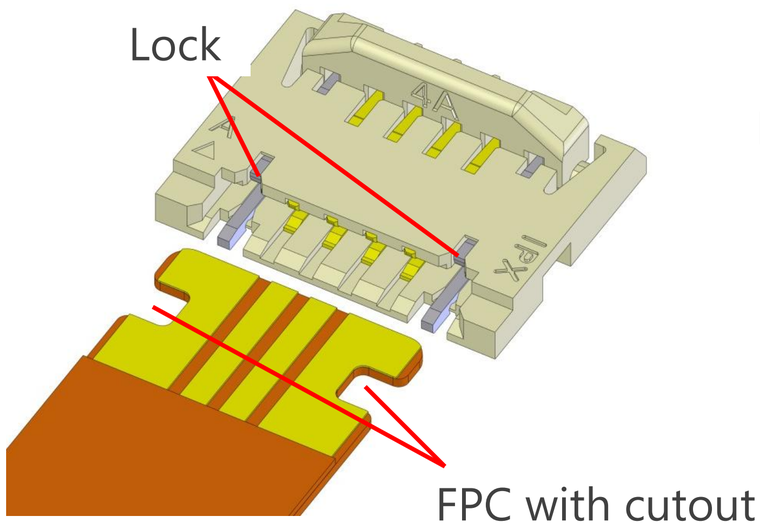
* Please inquire for pin counts not listed or outside of the pin count range.

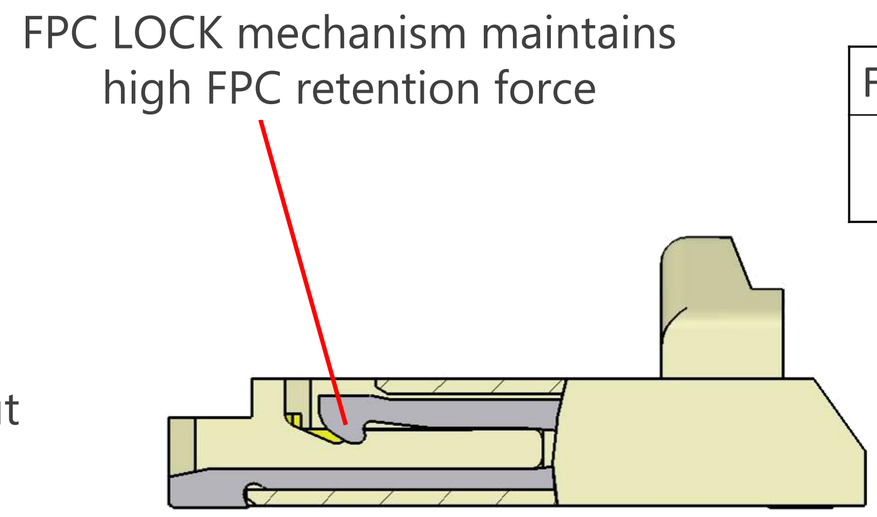
Super low height 0.5 mm

Lowest height in our MINIFLEX® series product lineup



High FPC retention force with additional mechanical lock



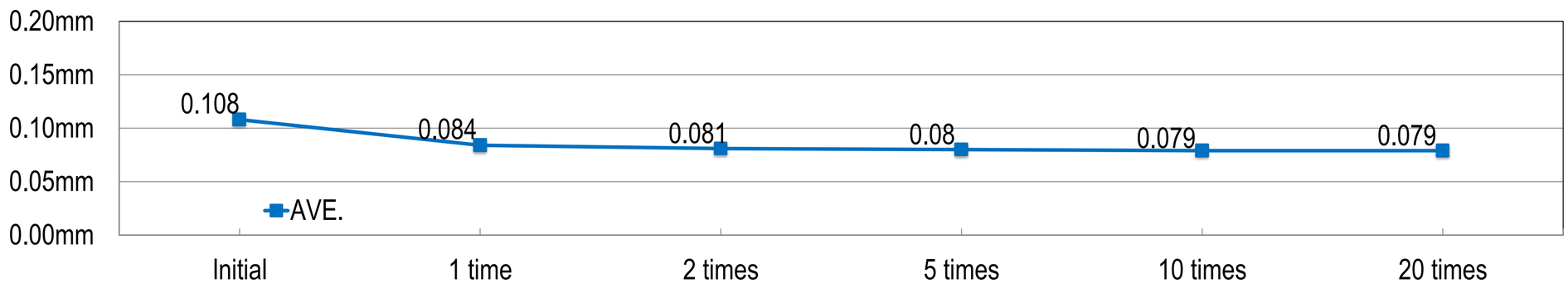


FPC retention force (6 pin)
5.121 N

Usability for closing actuator without FPC

The connector will still function even if the actuator is accidentally closed without the FPC being inserted after the SMT process

■ Connector will still function reliably (contact gap graph 10 pins before and after operating actuator without FPC inserted)



■ Insertion force of connector goes up

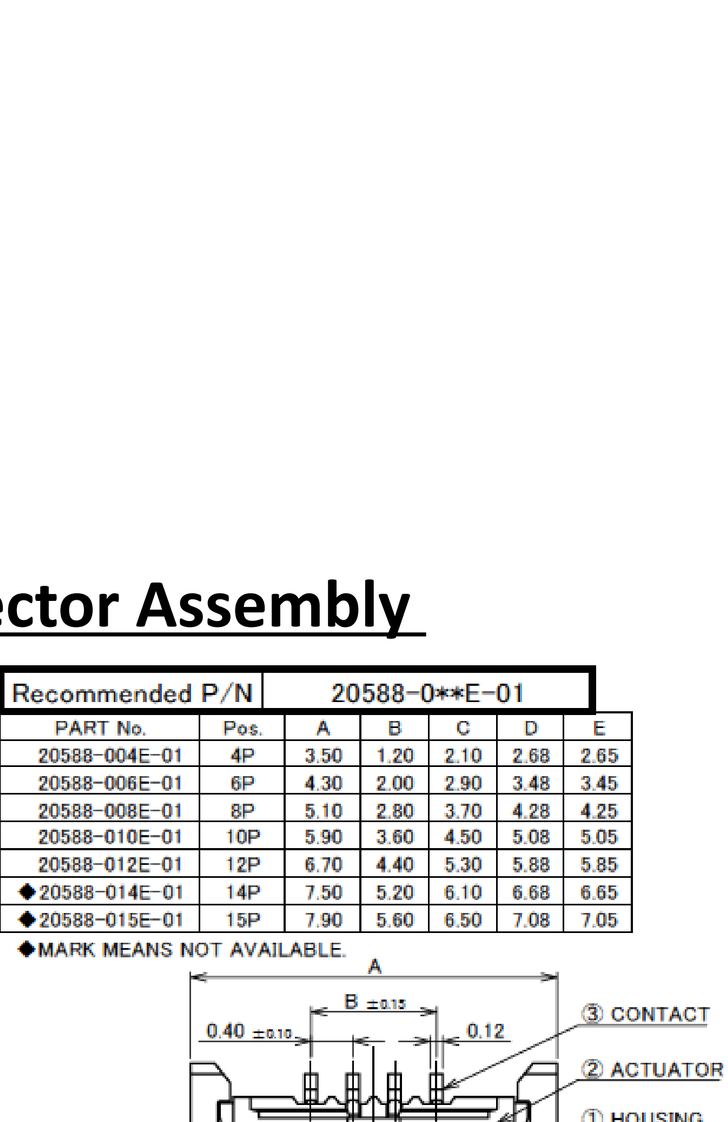
■ Retention force of connector does not change significantly

Component Parts Details

Connector Assembly

Recommended P/N	20588-0**E-01					
PART No.	Pos.	A	B	C	D	E
20588-004E-01	4P	3.50	1.20	2.10	2.68	2.65
20588-006E-01	6P	4.30	2.00	2.90	3.48	3.45
20588-008E-01	8P	5.10	2.80	3.70	4.28	4.25
20588-010E-01	10P	5.90	3.60	4.50	5.08	5.05
20588-012E-01	12P	6.70	4.40	5.30	5.88	5.85
◆20588-014E-01	14P	7.50	5.20	6.10	6.68	6.65
◆20588-015E-01	15P	7.90	5.60	6.50	7.08	7.05

◆MARK MEANS NOT AVAILABLE.



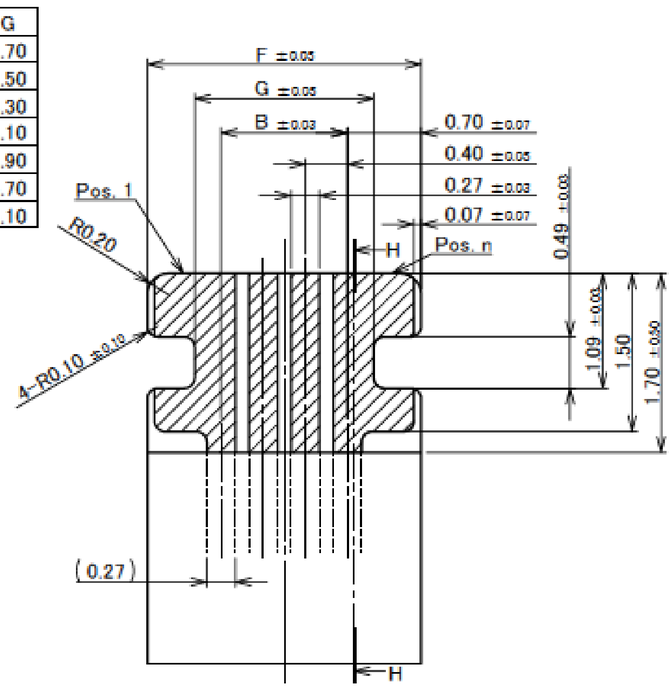
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
4	LOCK	PHOSPHOR BRONZE	SOLDER AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN. OTHER : Ni 1.00 μm MIN.
3	CONTACT	PHOSPHOR BRONZE	CONTACT AREA : Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDER AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
2	ACTUATOR	LCP	UL94V-0, BEIGE
1	HOUSING	LCP	UL94V-0, BEIGE

NOTES
1.CONTACT POINT : ONLY UPPER CONTACT

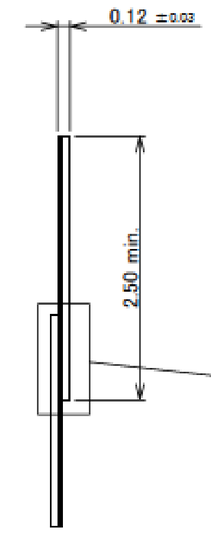
Rev.8

Connector Assembly

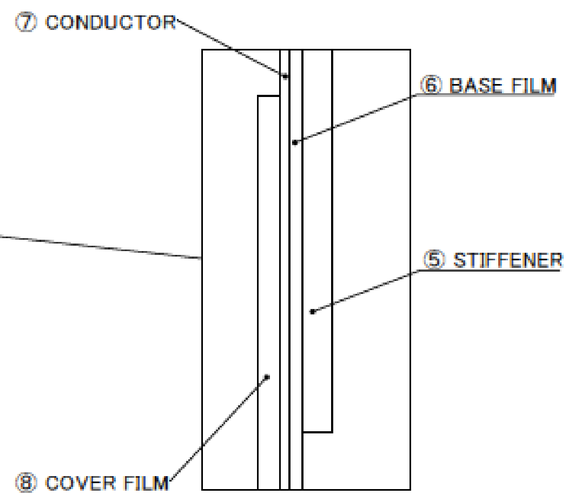
Pos.	B	C	F	G
4P	1.20	2.10	2.60	1.70
6P	2.00	2.90	3.40	2.50
8P	2.80	3.70	4.20	3.30
10P	3.60	4.50	5.00	4.10
12P	4.40	5.30	5.80	4.90
14P	5.20	6.10	6.60	5.70
15P	5.60	6.50	7.00	6.10

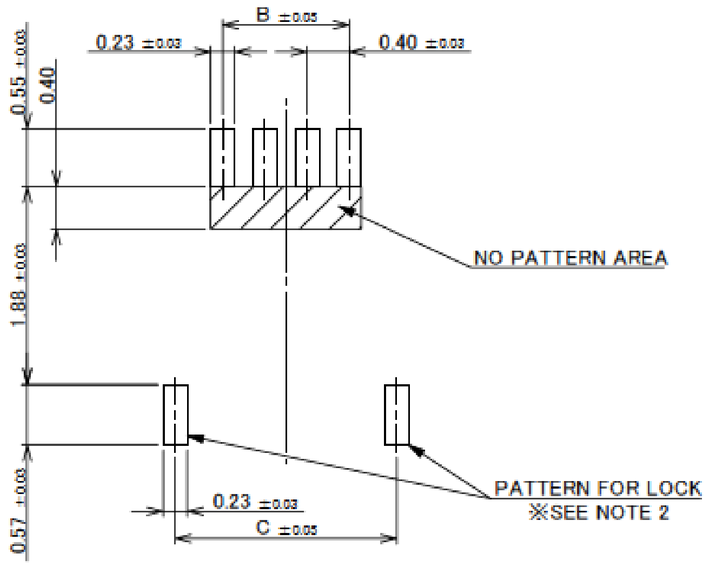


RECOMMENDED FPC LAYOUT



SECT H-H

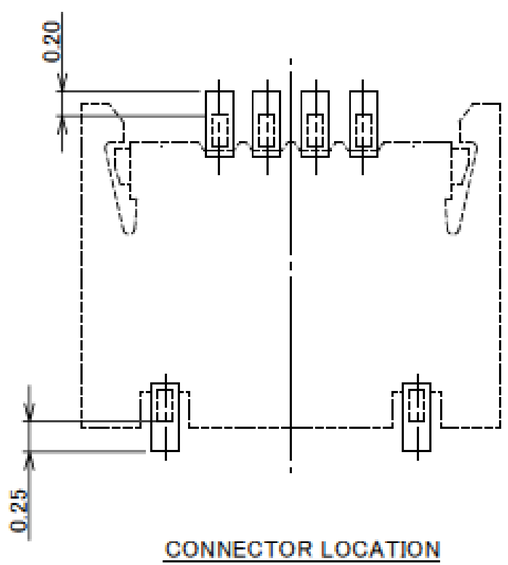




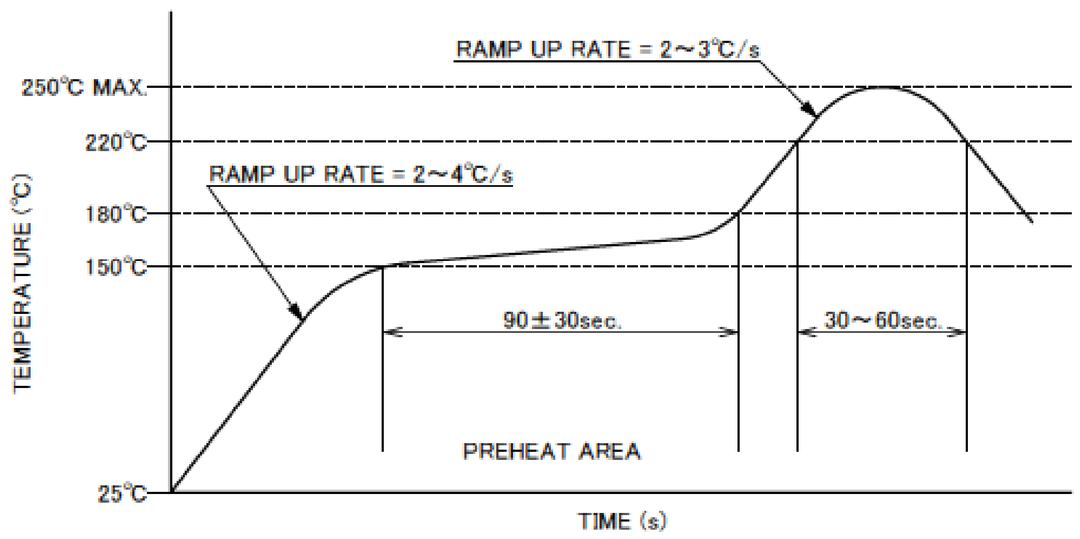
RECOMMENDED PCB AND METAL MASK LAYOUT
METAL MASK THICKNESS : t=0.12mm

NOTES.
2. PLEASE DO NOT CONNECT THESE TWO SOLDER PADS TO THE ELECTRICAL CIRCUIT. (SIGNAL OR GROUND)
3. ADHESIVE SHOULD USE THERMOSETTING.

NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
8	COVER FILM	PI	
7	CONDUCTOR	COPPER	Au OVER Ni UNDER PLATING
6	BASE FILM	PI	
5	STIFFENER	PI	



CONNECTOR LOCATION



REFLOW TEMPERATURE PROFILE

SENJU METAL INDUSTRY CO., LTD. : M705-SHF(Sn96.5 Ag3.0 Cu0.5)

Connector Assembly

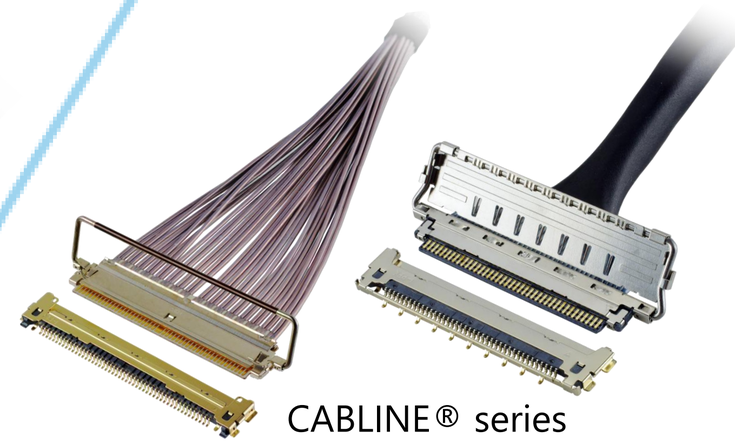
ITEMS	SPECIFICATION
RATING VOLTAGE	50V AC (PER CONTACT)
RATING AMPERAGE (FOR SIGNAL CONTACT)	0.4A DC (PER CONTACT)/ 6.0A DC (PER CONNECTOR)
OPERATING TEMPERATURE	233～358K(−40℃～+85℃)
OPERATING HUMIDITY	20～80% (NON-CONDENSING)
CONTACT RESISTANCE (FOR SIGNAL CONTACT)	INITIAL : 60mohm MAX. / AFTER TEST : ⊿40mohm MAX.
INSULATION RESISTANCE	INITIAL : 100Mohm MIN. / AFTER TEST : 100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC200V
DURABILITY	20 CYCLES
ACT CLOSING FORCE (INITIAL / AFTER TEST)	4P : 1.8N MAX. / 6P : 2.4N MAX. / 8P : 3.0N MAX. 10P : 3.6N MAX. / 12P : 4.2N MAX.
ACT RELEASING FORCE (INITIAL / AFTER TEST)	4P : 0.06N MIN. / 6P : 0.08N MIN. / 8P : 0.10N MIN. 10P : 0.12N MIN. / 12P : 0.14N MIN.
FPC RETENTION FORCE (INITIAL / AFTER TEST)	4P : 2.50N MIN. / 6P : 2.62N MIN. / 8P : 2.74N MIN. 10P : 2.86N MIN. / 12P : 2.98N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1863
TEST REPORT	TR-13088
PACKING STANDARD	PST-13049
INSTRUCTION MANUAL	HIM-14024
APPEARANCE CRITERIA No.	QLS-A***

Custom Connectors Available

RF Connectors

MHF® series

Micro-Coaxial/Twinaxial Connectors



CABLINE® series

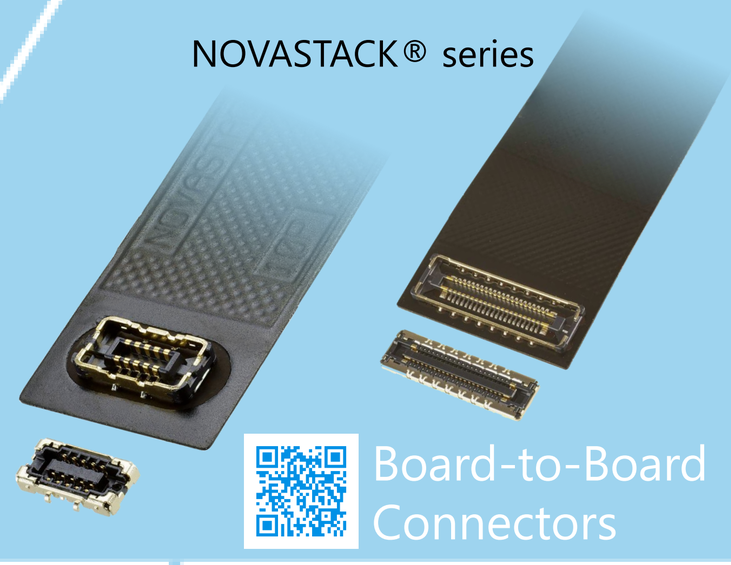
Wire-to-Board Connectors/ Terminals

AP series

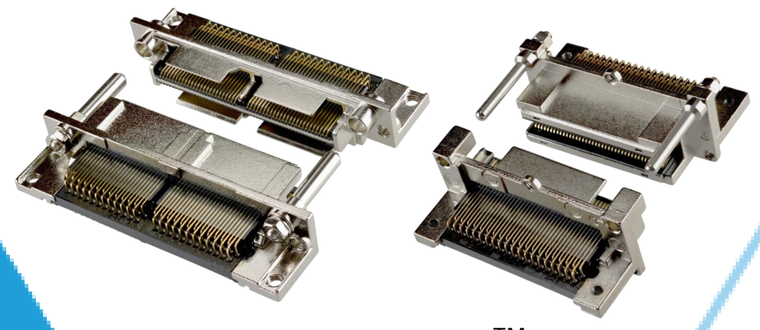
ISH® series

Board-to-Board Connectors

NOVASTACK® series



I/O Connectors

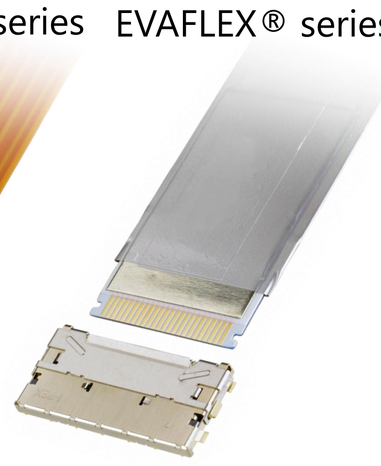


MINIDOCK™ series

FPC/FFC Connectors

MINIFLEX® series

EVAFLEX® series



Inquiry

I-PEX, MHF, CABLINE, NOVASTACK, ISH, IARPB, MINIFLEX, EVAFLEX, MINIDOCK, i-Fit and ZenShield are registered trademarks of I-PEX Inc. Please note that the contents in the catalog might be changed without prior notification. I-PEX Inc. assumes no responsibility for any inaccuracies or obligation to update Information on these documents. Please be sure to read and understand the latest "Precautions for Use" and "Instruction Manual" before you use our products. We shall not be responsible for any defects, damages or troubles in case you use our products without following the precautions for use. Please feel free to contact our sales representatives when you use our products for any applications that require very high reliability and safety, or that relate to human life (ex. nuclear power control, aerospace, transportation, medical equipment, safety equipment etc.).

Contact your sales representative or more detailed information.

www.i-pex.com

I-PEX

© I-PEX Inc. 2026
All rights reserved