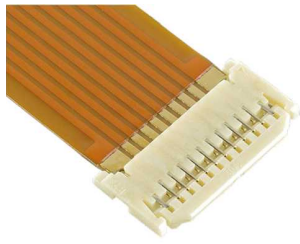


# MINIFLEX® 4-ST

Super low profile (height = 0.5 mm),  
0.4 mm pitch, horizontal mating, backflip



- ✓ Super low height 0.5 mm
- ✓ High FPC retention force with additional mechanical lock
- ✓ Usability for closing actuator without FPC

Pin counts:

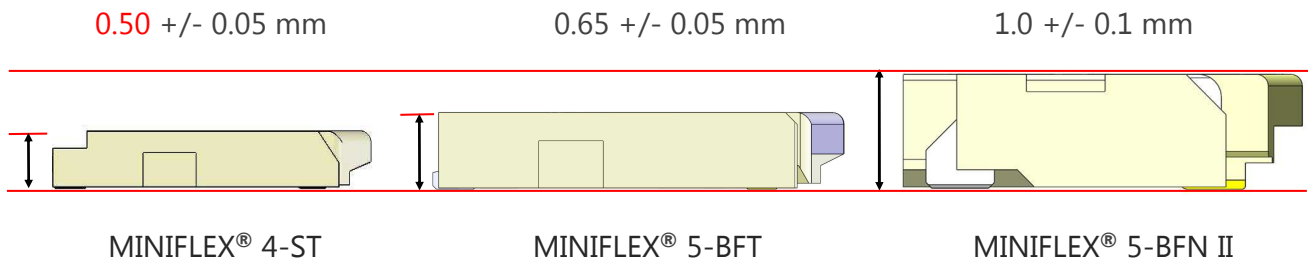
Range	Up to 15
Available	4, 6, 8, 10, 12

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

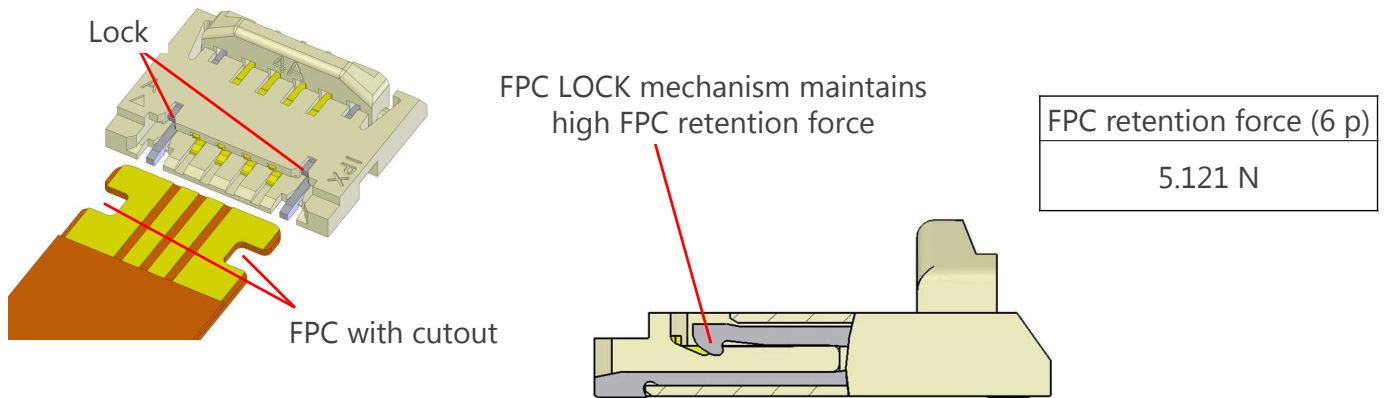
Part Number	20588	
Contact Pitch (mm)	0.40	
Board Pitch (mm)	0.40	
Height (mm)	0.50 +/- 0.05	
Width Formula (mm)	1.90 + (0.4 * ?p)	
Depth (mm)	Actuator Open	2.70
	Actuator Close	3.00
Wiping length (mm)	0.80	
FPC Insertion Depth (mm)	1.00	
FPC Thickness (mm)	0.12 +/- 0.03	
Current Rating	0.4A /pin(6A/conn.)	
Contact Point	Top	
Compatibility	Original	

## Super Low Height 0.5 mm

Lowest height in our MINIFLEX® series product lineup



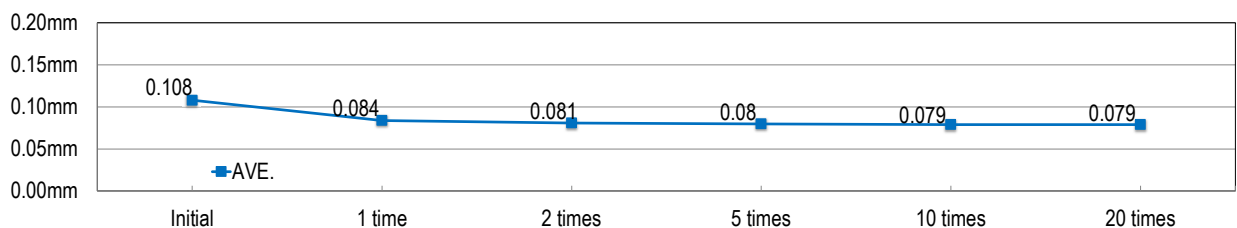
## High FPC retention force with additional mechanical lock



## 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

# MINIFLEX® 4-ST

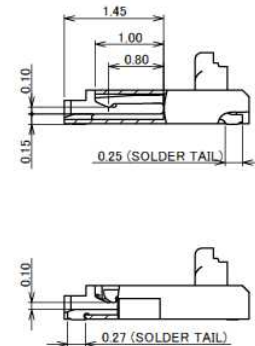
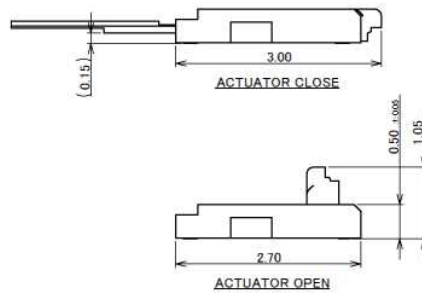
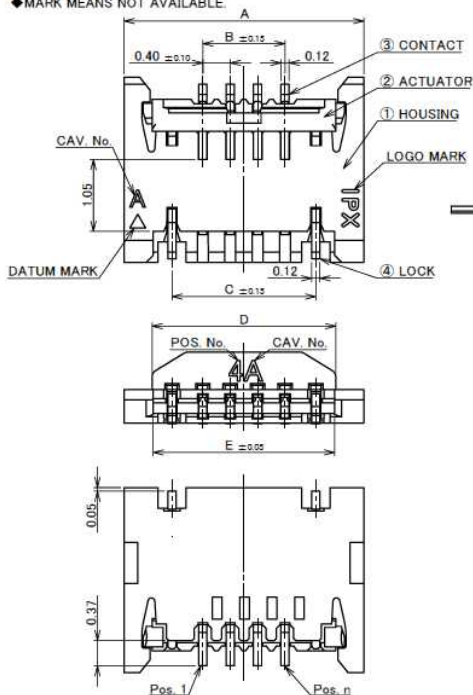
## Component Parts Detail

### 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



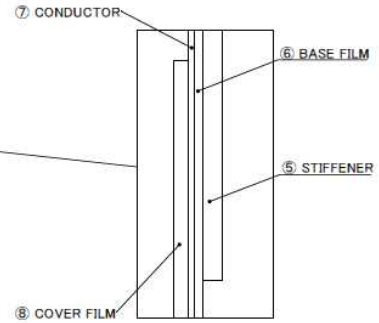
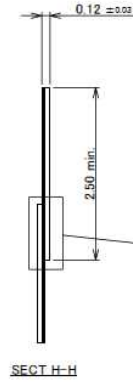
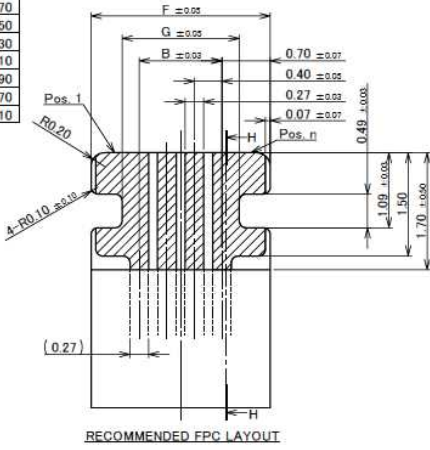
4	LOCK	PHOSPHOR BRONZE	SOLDER AREA : Au 0.03 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN. OTHER : Ni 1.00 $\mu$ m MIN.
3	CONTACT	PHOSPHOR BRONZE	CONTACT AREA : Au 0.1 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN. SOLDER AREA : Au 0.03 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.
2	ACTUATOR	LCP	UL94V-0, BEIGE
1	HOUSING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

NOTES  
1. CONTACT POINT : ONLY UPPER CONTACT

Rev.8

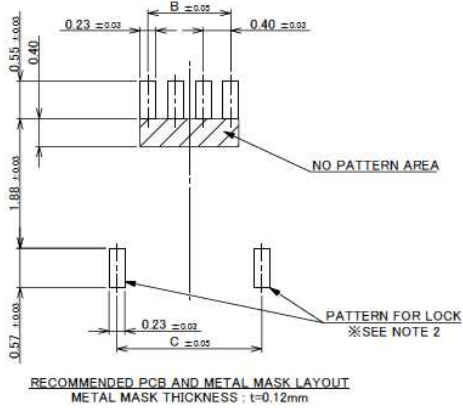
# Connector Assembly :

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



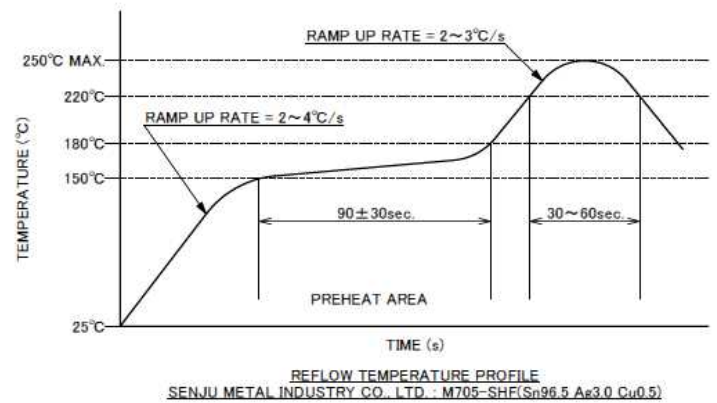
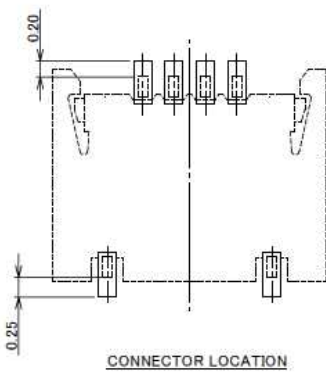
- NOTES:  
 2. PLEASE DO NOT CONNECT THESE TWO SOLDER PADS TO THE ELECTRICAL CIRCUIT. (SIGNAL OR GROUND)  
 3. ADHESIVE SHOULD USE THERMOSETTING.

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



Rev.8

# Connector Assembly :



Rev.8

# 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°C~+85°C)
OPERATING HUMIDITY	20~80% (NON-CONDENSING)
CONTACT RESISTANCE (FOR SIGNAL CONTACT)	INITIAL : 60mohm MAX. / AFTER TEST : $\triangleleft$ 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***

Rev.8



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