

# MINIFLEX® 5-BF III

Footprint and FPC pattern compatibility products, height = 2.0 mm, 0.5 mm pitch, horizontal, backflip

## Product Specifications:

Board Pitch (mm)		0.5
Wiping Length (mm)		1.35
Size (mm)	Height	2.0 +/-0.2
	Width	Formula: 3.5+(0.5*?p)
	Depth	Open: 4.92
Close: 5.9		
Pin counts	Range	10-60 (even)
	Available	8,10,12,14,18,20,22,24,30,34,36,38,40,45,50

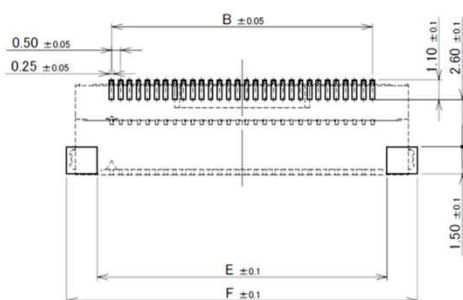
\* Please inquire for pin counts not listed or outside of the pin count range.

## Applicable FPC/FFC:

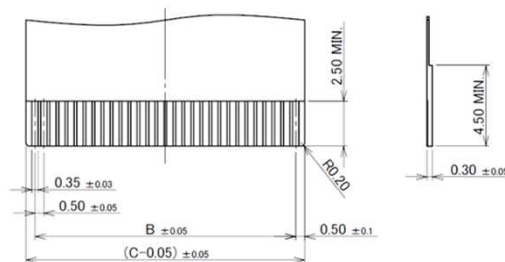
FPC/FFC Contact Pitch	0.5
FPC/FFC Contact Point	Top and Bottom
FPC/FFC Thickness (mm)	0.3 +/- 0.05



## FPC and footprint compatible with industry standard products



Recommended PCB layout and metal mask layout  
Metal mask thickness:  $t=0.12\text{ mm}$

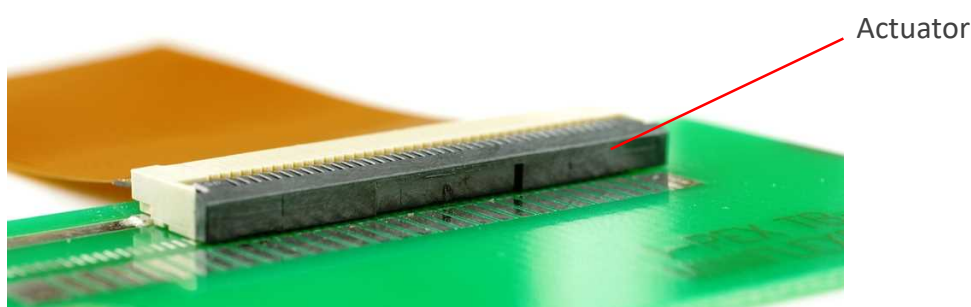


Recommended FPC/FFC layout

Pos.	B	C	E	F
8P	3.50	4.55	5.10	8.50
10P	4.50	5.55	6.10	9.50
12P	5.50	6.55	7.10	10.50
14P	6.50	7.55	8.10	11.50
18P	8.50	9.55	10.10	13.50
20P	9.50	10.55	11.10	14.50
22P	10.50	11.55	12.10	15.50
24P	11.50	12.55	13.10	16.50
30P	14.50	15.55	16.10	19.50
34P	16.50	17.55	18.10	21.50
36P	17.50	18.55	19.10	22.50
38P	18.50	19.55	20.10	23.50
40P	19.50	20.55	21.10	24.50
45P	22.00	23.05	23.60	27.00
50P	24.50	25.55	26.10	29.50

## Full cover actuator to prevent dust and contact distortion

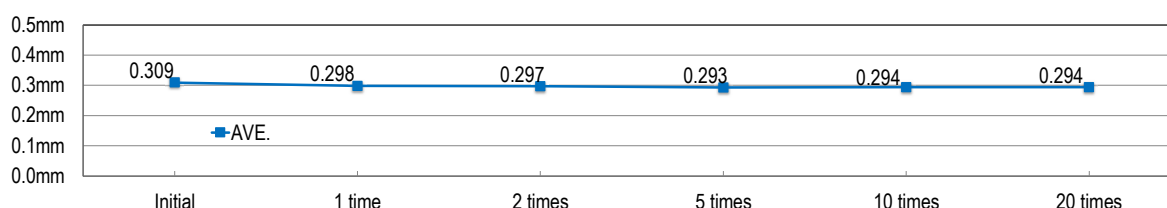
When the actuator is locked, the actuator functions as a full cover to protect contact damage when opening and also preventing dust contamination and short circuiting



## 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 40 pins before and after operating actuator without FPC inserted)



■ Insertion force of connector goes up

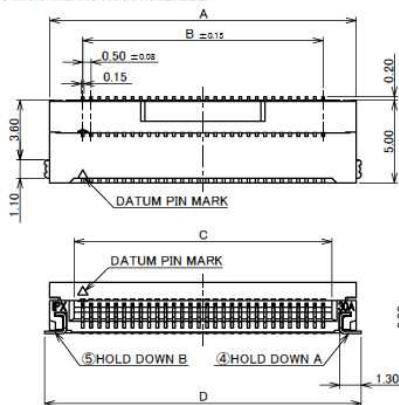
■ Retention force of connector does not change significantly

# Component Parts Details

## Connector Assembly

Recommended P/N		20593-0**E-01			
PART NO.	Pos.	A	B	C	D
20593-008E-01#	8	7.50	3.50	4.55	8.10
20593-010E-01#	10	8.50	4.50	5.55	9.10
20593-012E-01#	12	9.50	5.50	6.55	10.10
20593-014E-01#	14	10.50	6.50	7.55	11.10
20593-018E-01#	18	12.50	8.50	9.55	13.10
20593-020E-01#	20	13.50	9.50	10.55	14.10
20593-022E-01#	22	14.50	10.50	11.55	15.10
20593-024E-01#	24	15.50	11.50	12.55	16.10
20593-030E-01#	30	18.50	14.50	15.55	19.10
20593-034E-01#	34	20.50	16.50	17.55	21.10
20593-036E-01#	36	21.50	17.50	18.55	22.10
20593-038E-01#	38	22.50	18.50	19.55	23.10
20593-040E-01#	40	23.50	19.50	20.55	24.10
20593-045E-01#	45	26.00	22.00	23.05	26.60
20593-050E-01#	50	28.50	24.50	25.55	29.10
◆ 20593-060E-01#	60	33.50	29.50	30.55	34.10

◆ MARK MEANS NOT AVAILABLE.



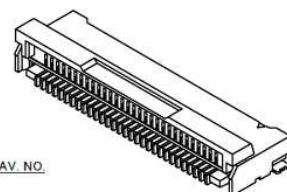
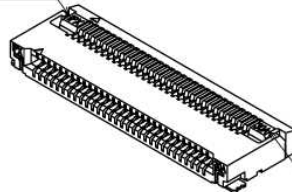
### NOTES

1. CONTACT POINT : Top and Bottom

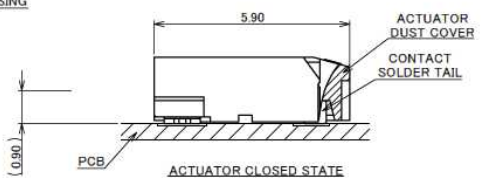
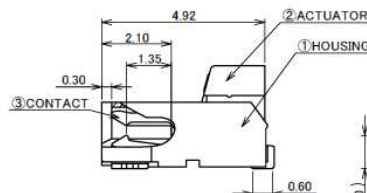
△ VISIT OUR WEBSITE FOR LATEST VERSIONS OF INSTRUCTION MANUAL  
NO. HEM-06004 TO HANDLE THE PRODUCT PROPERLY AND SAFELY.

P/N : 20593-0\*\*E-01 M  
WITHOUT : 2,000pcs/REEL  
WITH : 500pcs/REEL  
Pos.

LOGO MARK



POS. & CAV. NO.

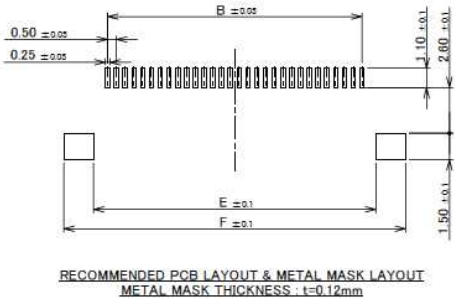
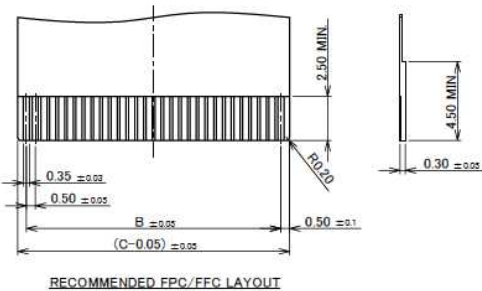


5	HOLD DOWN B	PHOSPHOR BRONZE	Sn 2.00 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.
4	HOLD DOWN A	PHOSPHOR BRONZE	Sn 2.00 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.
3	CONTACT	PHOSPHOR BRONZE	Au 0.03 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.
2	ACTUATOR	LCP	UL94V-0, BLACK
1	HOUSING	LCP	UL94V-0, BEIGE
NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS

Connector Assembly

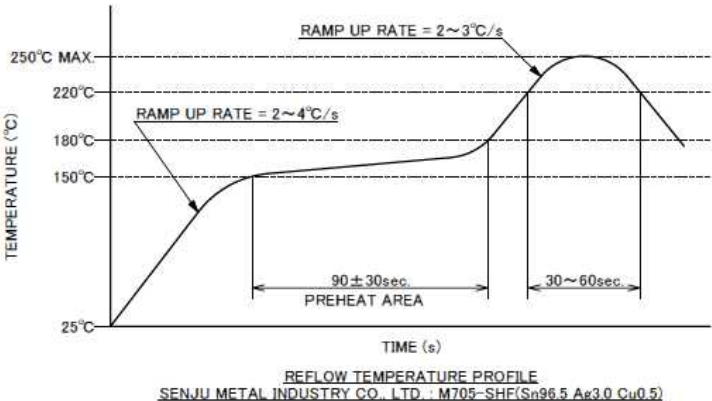
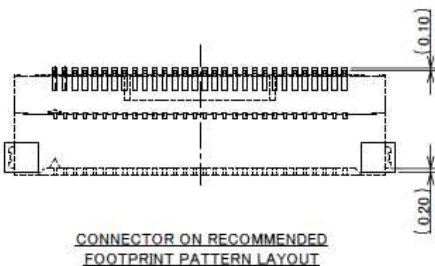
PART No.	Pos.	B	C	E	F
20593-008E-01#	8	3.50	4.55	5.10	8.50
20593-010E-01#	10	4.50	5.55	6.10	9.50
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20593-014E-01#	14	6.50	7.55	8.10	11.50
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20593-034E-01#	34	16.50	17.55	18.10	21.50
20593-036E-01#	36	17.50	18.55	19.10	22.50
20593-038E-01#	38	18.50	19.55	20.10	23.50
20593-040E-01#	40	19.50	20.55	21.10	24.50
20593-045E-01#	45	22.00	23.05	23.60	27.00
20593-050E-01#	50	24.50	25.55	26.10	29.50
◆20593-060E-01#	60	29.50	30.55	31.10	34.50

◆MARK MEANS NOT AVAILABLE.



- NOTES.
- 2. THIS AREA CANNOT MOUNT ANOTHER COMPONENTS.
  - 3. SOLDER RESIST SHALL BE APPLIED TO PREVENT SHORT CIRCUITS WHEN PLACING SIGNAL LINES ON GROUND AREA.

Rev.12



## Connector Assembly

ITEMS	SPECIFICATION
RATING VOLTAGE	50V AC/DC (PER CONTACT)
RATING AMPERAGE	0.5A AC/DC (PER CONTACT)/ 13A AC/DC(TOTAL)
OPERATING TEMPERATURE	233~358K(-40°C~+85°C)
OPERATING HUMIDITY	20~85%RH (NON-CONDENSING, NON-FREEZING)
CONTACT RESISTANCE	INITIAL: 50mohm MAX. / AFTER TEST: 70mohm MAX.
INSULATION RESISTANCE	100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	20 CYCLES
ACTUATOR LOCKING FORCE (INITIAL / 20 CYCLES)	INITIAL / 20 CYCLES: 0.50N (51gf) × nN MAX.
ACTUATOR UNLOCKING FORCE (INITIAL / 20 CYCLES)	INITIAL / 20 CYCLES: 0.10N (10gf) × nN MIN.
FPC/FFC RETENTION FORCE	INITIAL / 20 CYCLES: 0.18N (18gf) × nN MIN.
COPLANARITY	0.10mm MAX.
PRODUCT SPECIFICATION	PRS-1937
TEST REPORT	TR-14023
PACKING STANDARD	PST-14015
INSTRUCTION MANUAL	HIM-06004
APPEARANCE CRITERIA No.	QLS-A***

Rev.12

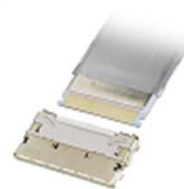
Board to  
Board



High-Density



Autolocking  
FPC/FFC



High-Density



FPC/FFC



Micro-Coaxial  
/ Discrete Cable



High-Speed



RF



High-Frequency



Optical  
Module



High-Speed



Power



High-Power



I/O  
(Input/Output)



Quick charge



Effector



Custom  
Connectors  
Available

Inquiry



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