

# MINIFLEX® 3-BFN

Low profile (Height = 0.9 mm), 0.3 mm pitch, horizontal mating, backflip

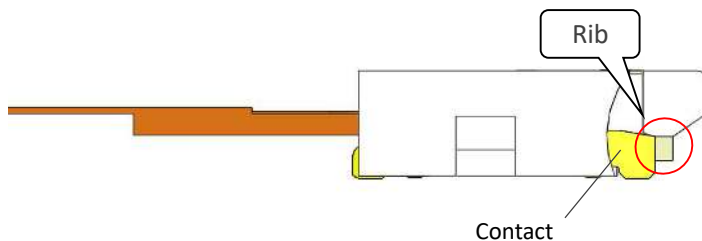
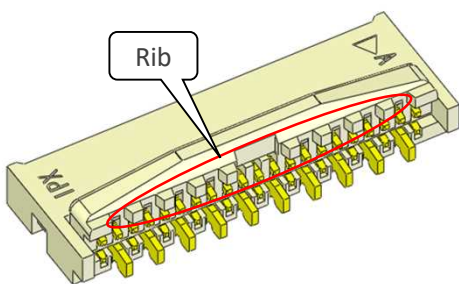


Product Specifications:		Short Actuator	Long Actuator
Board Pitch (mm)		0.3	
Wiping Length (mm)		Contact A: 0.9 Contact B: 0.45	
Size (mm)	Height	0.90 mm ± 0.10 mm	
	Width	Formula: 0.9 + (0.3 * ?P)	
	Depth	Open: 2.55 Close: 3	Close: 3.5
Pin counts	Range	13-41 (odd)	33-65 (odd)
	Available	13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41	33, 35, 39, 41, 45, 49, 51, 55, 57, 61, 65

Applicable FPC/FFC:	
FPC/FFC Contact Pitch	0.3
FPC/FFC Contact Point	Top and Bottom
FPC/FFC Thickness (mm)	0.2 +/- 0.03

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

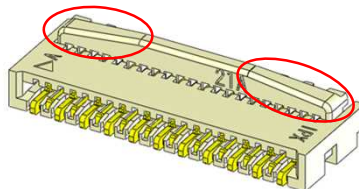
## ► Designed to prevent contact distortion



When opening the actuator, the rib will prevent the contacts from being pulled up

## ► Unique actuator holder design prevents half-locking

Curved design guides users to press center of the actuator to prevent half lock.



Easy-to-check that the actuator is in the closed position by looking at it from the top.



Actuator CLOSED

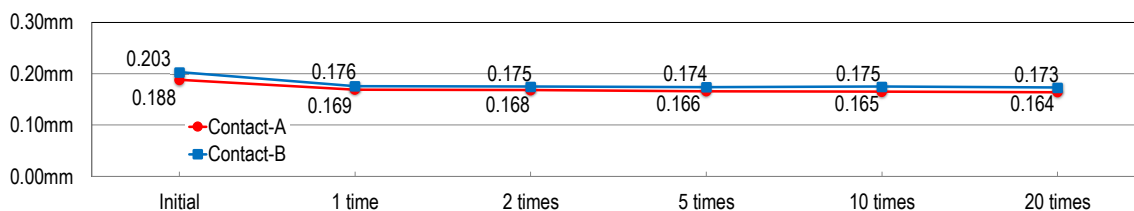


Actuator OPEN

## ► 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 35 pins before and after operating actuator without FPC inserted)

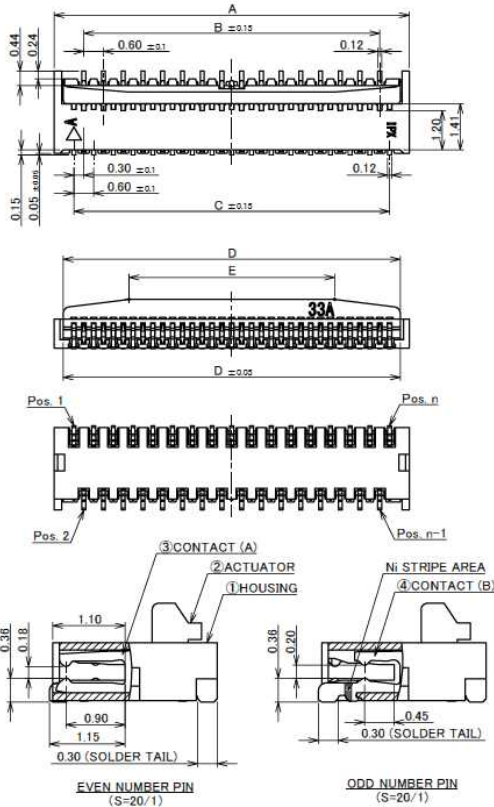


- Insertion force of connector goes up
- Retention force of connector does not change greatly

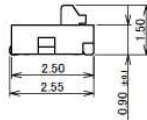
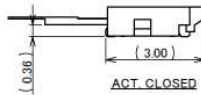
# Component Parts Details

## Connector Assembly

Recommended P/N 20527-0\*\*E-01



PART NO.	Pos.	A	B	C	D	E
20527-013E-0#	13P	4.80	3.00	3.60	4.25	2.25
20527-015E-0#	15P	5.40	3.60	4.20	4.85	2.85
20527-017E-0#	17P	6.00	4.20	4.80	5.45	3.45
20527-019E-0#	19P	6.60	4.80	5.40	6.05	4.05
20527-021E-0#	21P	7.20	5.40	6.00	6.65	4.65
20527-023E-0#	23P	7.80	6.00	6.60	7.25	5.25
20527-025E-0#	25P	8.40	6.60	7.20	7.85	5.85
20527-027E-0#	27P	9.00	7.20	7.80	8.45	6.45
20527-029E-0#	29P	9.60	7.80	8.40	9.05	7.05
20527-031E-0#	31P	10.20	8.40	9.00	9.65	7.65
20527-033E-0#	33P	10.80	9.00	9.60	10.25	8.25
20527-035E-0#	35P	11.40	9.60	10.20	10.85	8.85
20527-037E-0#	37P	12.00	10.20	10.80	11.45	9.45
20527-039E-0#	39P	12.60	10.80	11.40	12.05	10.05
20527-041E-0#	41P	13.20	11.40	12.00	12.65	10.65



NOTES  
1. CONTACT POINT: TOP AND BOTTOM CONTACT

CAUTION VISIT OUR WEBSITE FOR LATEST VERSIONS OF INSTRUCTION MANUAL NO. HIM-12007 TO HANDLE THE PRODUCT PROPERLY AND SAFELY.

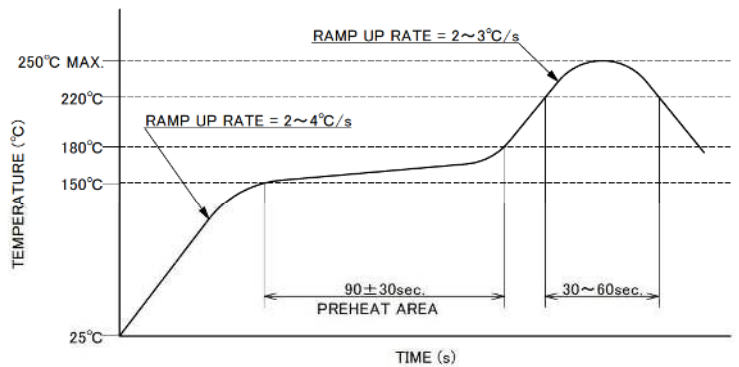
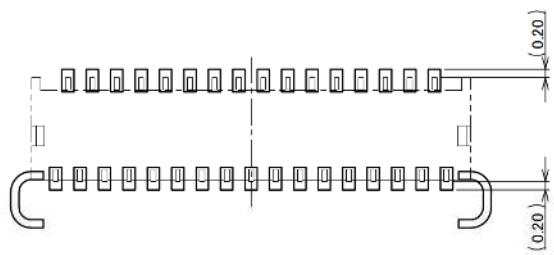
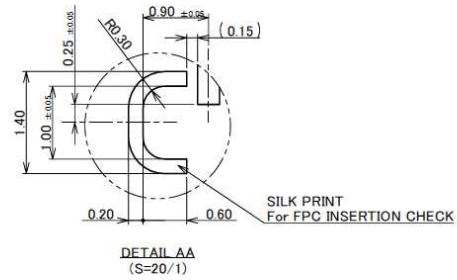
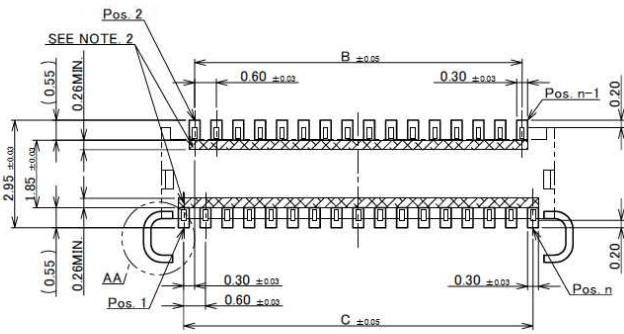
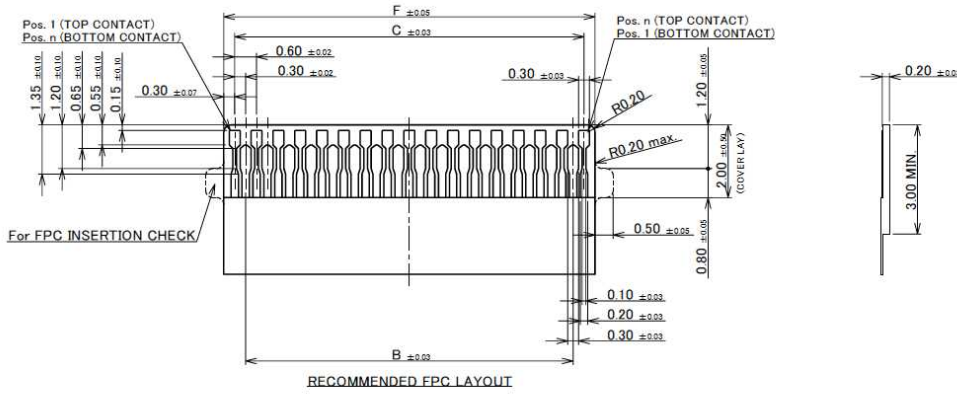
TABLE 1		FINISH	
20527-0**E-01	CONTACT AREA : Au 0.10 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.		
20527-0**E-02	CONTACT AREA : Au 0.254 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.		

NO	DISCRIPTION	MATERIAL	FINISH , REMARKS
4	CONTACT (B)	PHOSPHOR BRONZE	SEE TABLE 1, WITH Ni STRIPE
3	CONTACT (A)	PHOSPHOR BRONZE	SEE TABLE 1
2	ACTUATOR	LCP	UL94V-0, BEIGE
1	HOUSING	LCP	UL94V-0, BEIGE

# Connector Assembly

PART NO.	Pos.	B	C	F
20527-013E-0#	13P	3.00	3.60	4.20
20527-015E-0#	15P	3.60	4.20	4.80
20527-017E-0#	17P	4.20	4.80	5.40
20527-019E-0#	19P	4.80	5.40	6.00
20527-021E-0#	21P	5.40	6.00	6.60
20527-023E-0#	23P	6.00	6.60	7.20
20527-025E-0#	25P	6.60	7.20	7.80
20527-027E-0#	27P	7.20	7.80	8.40
20527-029E-0#	29P	7.80	8.40	9.00
20527-031E-0#	31P	8.40	9.00	9.60
20527-033E-0#	33P	9.00	9.60	10.20
20527-035E-0#	35P	9.60	10.20	10.80
20527-037E-0#	37P	10.20	10.80	11.40
20527-039E-0#	39P	10.80	11.40	12.00
20527-041E-0#	41P	11.40	12.00	12.60

NOTES  
 2. SOLDER RESIST SHALL BE APPLIED TO PREVENT SHORT CIRCUITS WHEN PLACING SIGNAL LINES ON GROUND AREA.



Rev.20

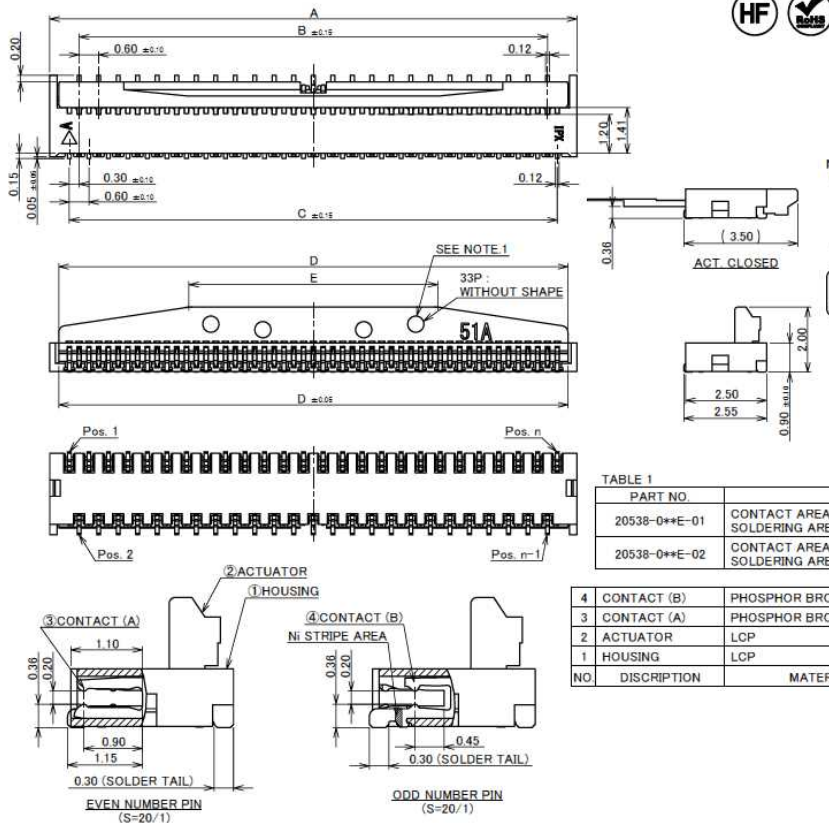
# Connector Assembly

ITEMS	SPECIFICATION
RATING VOLTAGE	50V AC (PER CONTACT)
RATING AMPERAGE	0.3A DC (PER CONTACT)
OPERATING TEMPERATURE	233~358K (-40°C~+85°C)
OPERATING HUMIDITY	20~80%RH (NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 60mohm MAX. / AFTER TEST : $\triangleleft$ 40mohm MAX.
INSULATION RESISTANCE	100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	20 CYCLES
ACTUATOR LOCKING FORCE (INITIAL / 20 CYCLES)	INITIAL / 20 CYCLES 0.31N (31gf) $\times$ n MAX.
ACTUATOR UNLOCKING FORCE (INITIAL / 20 CYCLES)	INITIAL / 20 CYCLES 0.02N (2gf) $\times$ n MIN.
FPC RETENTION FORCE (INITIAL / AFTER TEST)	INITIAL: 0.13N (13gf) $\times$ n MIN. / AFTER TEST: 0.10N (10gf) $\times$ n MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1512
TEST REPORT	TR-10011
PACKING STANDARD	300-826
INSTRUCTION MANUAL	HIM-12007
APPEARANCE CRITERIA No.	QLS-A***

※ "n" IS THE NUMBER OF PIN

Rev.20

Recommended P/N 20538-0\*\*E-01



PART NO.	Pos.	A	B	C	D	E
20538-033E-0#	33P	10.80	9.00	9.60	10.25	8.25
20538-035E-0#	35P	11.40	9.60	10.20	10.85	8.85
20538-039E-0#	39P	12.60	10.80	11.40	12.05	8.05
20538-041E-0#	41P	13.20	11.40	12.00	12.65	4.65
20538-045E-0#	45P	14.40	12.00	13.20	13.85	5.85
20538-049E-0#	49P	15.60	13.80	14.40	15.05	7.05
20538-051E-0#	51P	16.20	14.40	15.00	15.65	7.65
20538-055E-0#	55P	17.40	15.60	16.20	16.85	8.85
20538-057E-0#	57P	18.00	16.20	16.80	17.45	9.45
20538-061E-0#	61P	19.20	17.40	18.00	18.65	10.65
20538-065E-0#	65P	20.40	18.60	19.20	19.85	11.85

- NOTES:
- THIS DENT SHAPE IS PURPOSED FOR GOOD INJECTION QUALITY. THIS DENT SHAPE WILL NOT AFFECT CONNECTR FUNCTION. DENT SHAPE SHOWN ON DRAWING IS. JUST FOR REFERENCE. DENT SHAPE AND QUANTITY MIGHT CHABGE FROM DIFFERENT PIN COUNT AND DIFFERENT TOOLING.
  - CONTACT POINT: TOP AND BOTTOM CONTACT

CAUTION VISIT OUR WEBSITE FOR LATEST VERSIONS OF INSTRUCTION MANUAL NO. HIM-12007 TO HANDLE THE PRODUCT PROPERLY AND SAFELY.

PART NO.	FINISH
20538-0**E-01	CONTACT AREA : Au 0.10 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN. SOLDERING AREA : Au 0.03 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.
20538-0**E-02	CONTACT AREA : Au 0.254 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN. SOLDERING AREA : Au 0.03 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.

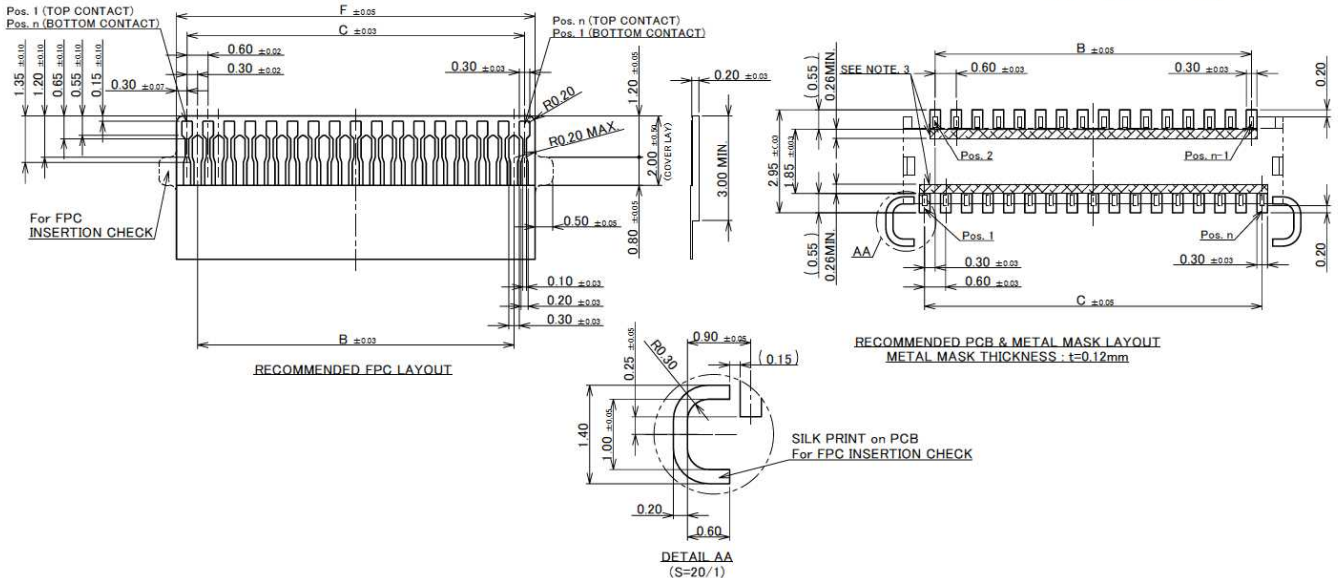
NO.	DISCRPTION	MATERIAL	FINISH . REMARKS
4	CONTACT (B)	PHOSPHOR BRONZE	SEE TABLE 1, WITH Ni STRIPE
3	CONTACT (A)	PHOSPHOR BRONZE	SEE TABLE 1
2	ACTUATOR	LCP	UL94V-0, BEIGE
1	HOUSING	LCP	UL94V-0, BEIGE

Rev.17

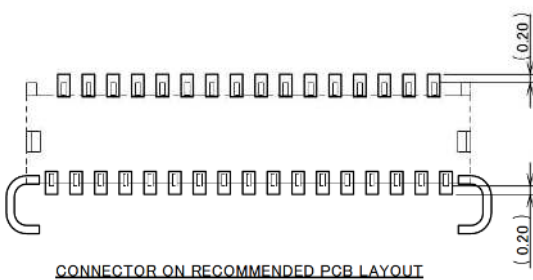
# Connector Assembly

PART NO.	Pos.	B	C	F
20538-033E-0#	33P	9.00	9.60	10.20
20538-035E-0#	35P	9.60	10.20	10.80
20538-039E-0#	39P	10.80	11.40	12.00
20538-041E-0#	41P	11.40	12.00	12.60
20538-045E-0#	45P	12.60	13.20	13.80
20538-049E-0#	49P	13.80	14.40	15.00
20538-051E-0#	51P	14.40	15.00	15.60
20538-055E-0#	55P	15.60	16.20	16.80
20538-057E-0#	57P	16.20	16.80	17.40
20538-061E-0#	61P	17.40	18.00	18.60
20538-065E-0#	65P	18.60	19.20	19.80

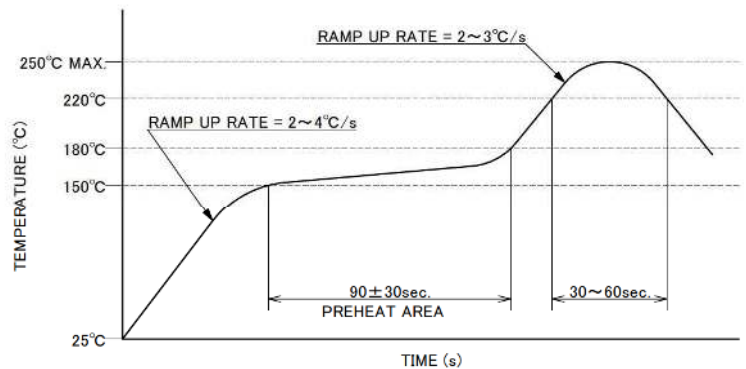
NOTES  
 3. SOLDER RESIST SHALL BE APPLIED TO PREVENT SHORT CIRCUITS WHEN PLACING SIGNAL LINES ON GROUND AREA.



Rev.17



CONNECTOR ON RECOMMENDED PCB LAYOUT



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	0.3A DC (PER CONTACT)
OPERATING TEMPERATURE	233~358K (-40°C~+85°C)
OPERATING HUMIDITY	20~80%RH (NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 60mohm MAX. / AFTER TEST : $\leq$ 40mohm MAX.
INSULATION RESISTANCE	100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	20 CYCLES
ACTUATOR LOCKING FORCE (INITIAL / 20 CYCLES)	INITIAL / 20 CYCLES 0.21N (21gf) $\times$ n MAX.
ACTUATOR UNLOCKING FORCE (INITIAL / 20 CYCLES)	INITIAL / 20 CYCLES 0.014N (1.4gf) $\times$ n MIN.
FPC RETENTION FORCE (INITIAL / AFTER TEST)	INITIAL: 0.13N (13gf) $\times$ n MIN. / AFTER TEST: 0.10N (10gf) $\times$ n MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1579
TEST REPORT	TR-12040
PACKING STANDARD	300-920
INSTRUCTION MANUAL	HIM-12007
APPEARANCE CRITERIA No.	QLS-A***

※ "n" IS THE NUMBER OF PIN

Rev.17

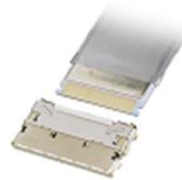
Board to Board



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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