

- ✓ Supports 8+ Gbps high-speed signal
- ✓ Foot Pattern compatible with CABLINE®-VS/VESA® standard notebook PC LCD connector
- ✓ Highly reliable contact by using I-PEX's unique W-Point contact structure

Pin counts:

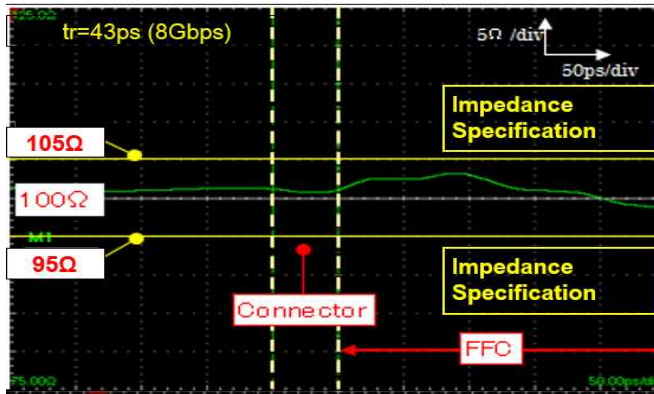
Range	10 – 54
Available	10, 15, 20, 24, 30, 40

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

Part number	20535	20720 (type CH)
Board pitch (mm)	0.5	
Height (mm)	1.9 +/- 0.1	
Width formula (mm)	6.25+ (0.5*P)	
Depth(mm)	4.95	
Wiping length(mm)	1.1	
FFC/FPC insertion depth (mm)	3.3	
FFC/FPC type	Shield / Non-shielded FFC/FPC	
FFC/FPC thickness(mm)	0.33 +/- 0.03	
Contact point	Signal: Upper / GND: Lower	
Compatibility (Footprint pattern)	CABLINE - VS	
Current rating	0.5A/pin (7.5A/conn)	
Supportable standard (Reference only)	PCI Express 3.0 (8 Gbps)	
Operating condition	233-378 (-40°C-105°C) 85%RH max (type CH)	

Supports 8+ Gbps High-Speed Signal

Input rising time (tr) vs. Impedance characteristics

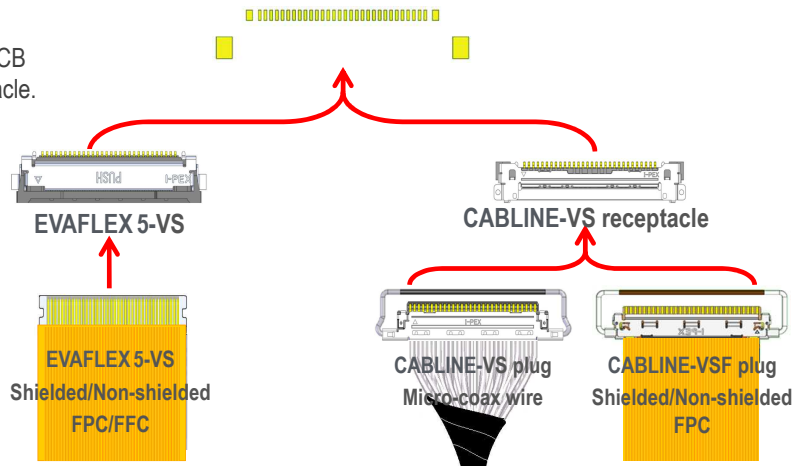


Test condition:
Double-sided shielded FFC
(100 ohm matching)

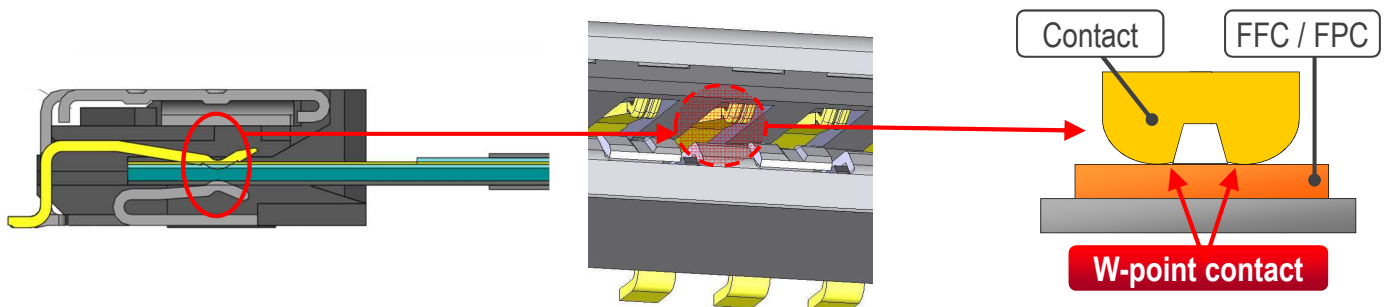
PCI Express® 3.0 (8 Gbps)

Foot Pattern Compatible with CABLINE®-VS/VESA® Standard Notebook PC LCD Connector

EVAFLEX® 5-VS can be mounted to the same PCB layout with VESA standard CABLINE-VS receptacle.



Highly Reliable Contact by Using I-PEX's Unique W-Point Contact Structure



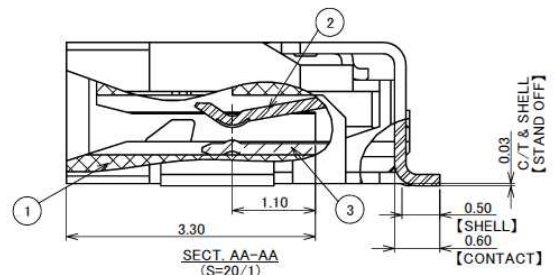
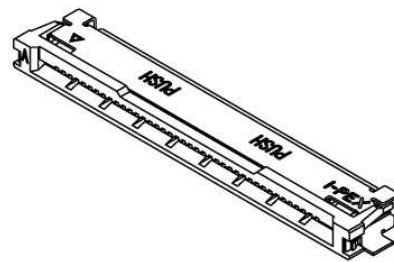
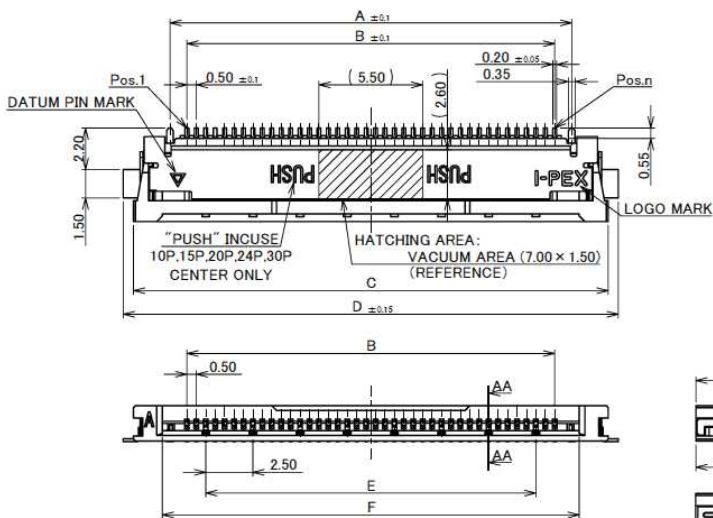
I-PEX W-point contact prevents poor contact with foreign particles between contact and FFC/FPC conductor. Provides better contact reliability than typical single point contact designs.

EVAFLEX® 5-VS

Component Parts Detail

Connector Assembly :

Recommended P/N	20535-0**E-02						
PART NO.	POS.	A	B	C	D	E	F
20535-010E-02	10P	6.30	4.50	10.17	11.25	2.50	7.10
20535-015E-02	15P	8.80	7.00	12.67	13.75	5.00	9.60
20535-020E-02	20P	11.30	9.50	15.17	16.25	7.50	12.10
20535-024E-02	24P	13.30	11.50	17.17	18.25	7.50	14.10
20535-030E-02	30P	16.30	14.50	20.17	21.25	12.50	17.10
20535-040E-02	40P	21.30	19.50	25.17	26.25	17.50	22.10

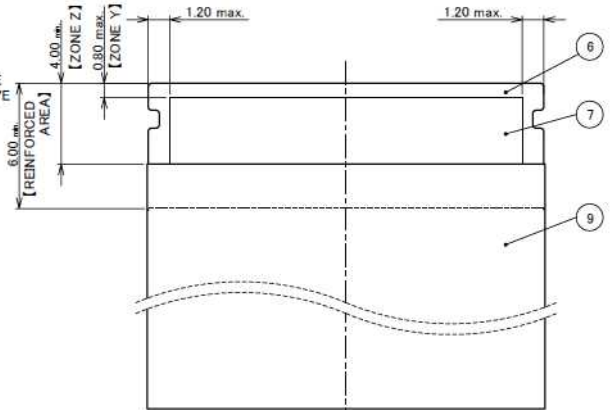
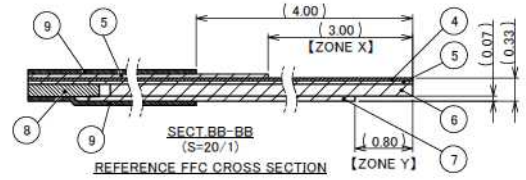
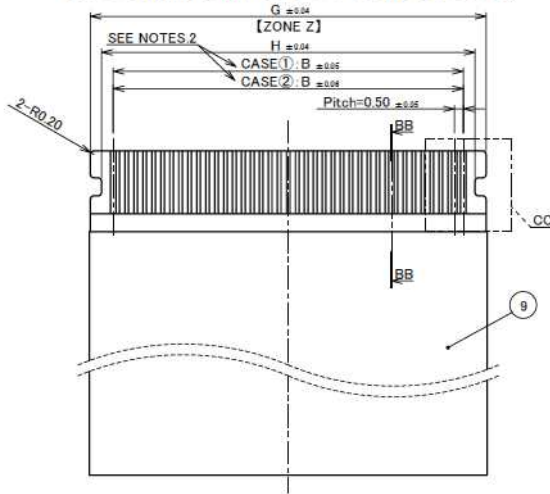


NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
3	SHELL	PHOSPHOR BRONZE	Sn OVER Ni PLATING
2	CONTACT	PHOSPHOR BRONZE	Au OVER Ni PLATING
1	HOUSING	LCP	CONTACT AREA: Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN.
			UL94V-0, BLACK

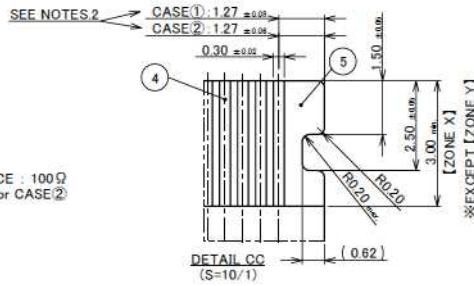
Connector Assembly :

FOR	POS	B	G	H
20535-010E-0*	10P	4.50	7.04	5.80
20535-015E-0*	15P	7.00	9.54	8.30
20535-020E-0*	20P	9.50	12.04	10.80
20535-024E-0*	24P	11.50	14.04	12.80
20535-030E-0*	30P	14.50	17.04	15.80
20535-040E-0*	40P	19.50	22.04	20.80

RECOMMENDED FFC DIMENSION



NO.	DISCRIPTION	MATERIAL	FINISH . REMARKS
9	SHIELD TAPE	METALIC FILM	-
8	INTERLAYER	ARBITRARY	-
7	GROUND PLATE	METARIC FILM	POLISH or HALF POLISH Sn PLATING
6	REINFORCED TAPE	ARBITRARY	-
5	INSULATION FILM	ARBITRARY	-
4	CONDUCTOR	COPPER ALLOY	CONTACT AREA: Au 0.05 μm MIN. OVER Ni 0.5 μm MIN.

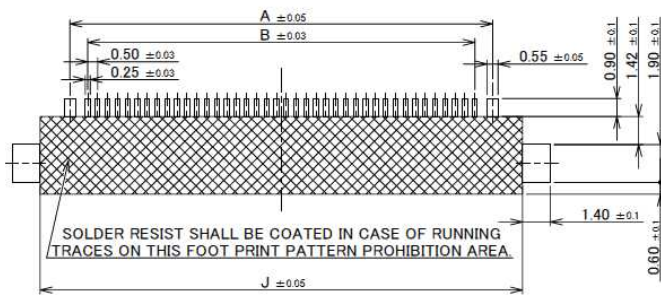


NOTES
 1 DIFFERENTIAL IMPEDANCE : 100 Ω
 2 MANUFACTURE CASE① or CASE②

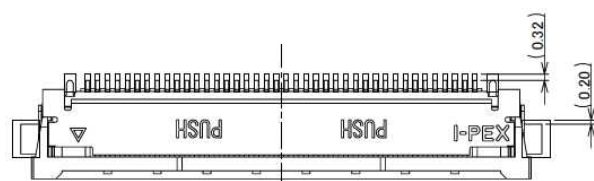
QKE-DFE06-02 REV.11

Connector Assembly :

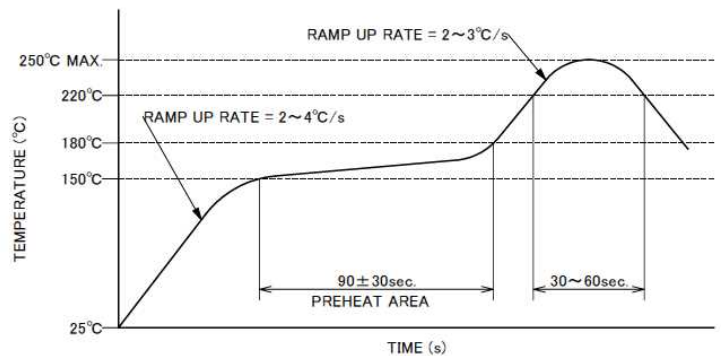
PART NO.	POS.	A	B	J
20535-010E-0*	10P	6.30	4.50	9.30
20535-015E-0*	15P	8.80	7.00	11.80
20535-020E-0*	20P	11.30	9.50	14.30
20535-024E-0*	24P	13.30	11.50	16.30
20535-030E-0*	30P	16.30	14.50	19.30
20535-040E-0*	40P	21.30	19.50	24.30



RECOMMENDED PCB & METAL MASK LAYOUT
 METALMASK THICKNESS : t=0.12



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



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

QKE-DFE06-02 REV.11

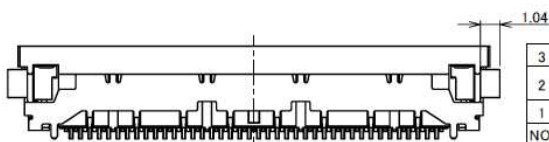
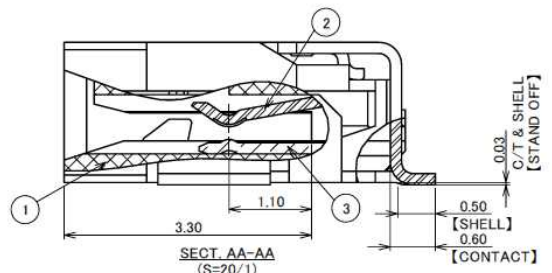
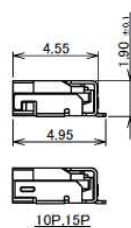
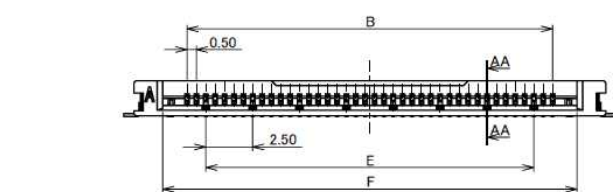
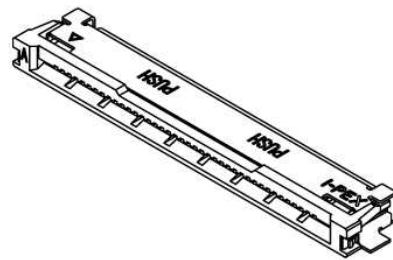
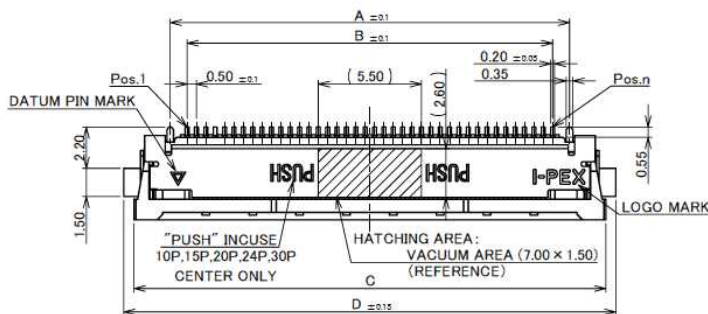
Connector Assembly :

ITEMS	SPECIFICATION
RATING VOLTAGE	200V AC/DC
RATING AMPERAGE (FOR CONTACT)	0.3A AC/DC / Pin IN CASE OF APPLYING 0.5A/Pin, THE TOTAL CURRENT OF THE WHOLE CONNECTOR SHALL BE 15.0A OR LOWER.
OPERATING TEMPERATURE	233~358K(-40°C~+85°C)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE (FOR SIGNAL CONTACT)	INITIAL : 60mohm MAX. / AFTER TEST : \triangle 40mohm MAX.
INSULATION RESISTANCE	INITIAL : 100Mohm MIN. / AFTER TEST : 100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	10P : 6.0N MAX. 15P : 9.0N MAX. 20P : 12.0N MAX. 24P : 14.4N MAX. 30P : 18.0N MAX. 40P : 24.0N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	10P : 1.0N MIN. 15P : 1.5N MIN. 20P : 2.0N MIN. 24P : 2.4N MIN. 30P : 3.0N MIN. 40P : 4.0N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1670
TEST REPORT	TR-12108
PACKING STANDARD	300-997
INSTRUCTION MANUAL	HIM-12003

QKE-DFE06-02 REV.11

Connector Assembly :

Recommended P/N	20720-0**E-02						
PART NO.	POS.	A	B	C	D	E	F
20720-010E-02	10P	6.30	4.50	10.17	11.25	2.50	7.10
20720-015E-02	15P	8.80	7.00	12.67	13.75	5.00	9.60
20720-020E-02	20P	11.30	9.50	15.17	16.25	7.50	12.10
20720-024E-02	24P	13.30	11.50	17.17	18.25	7.50	14.10
20720-030E-02	30P	16.30	14.50	20.17	21.25	12.50	17.10
20720-040E-02	40P	21.30	19.50	25.17	26.25	17.50	22.10



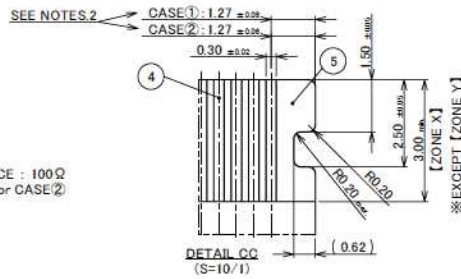
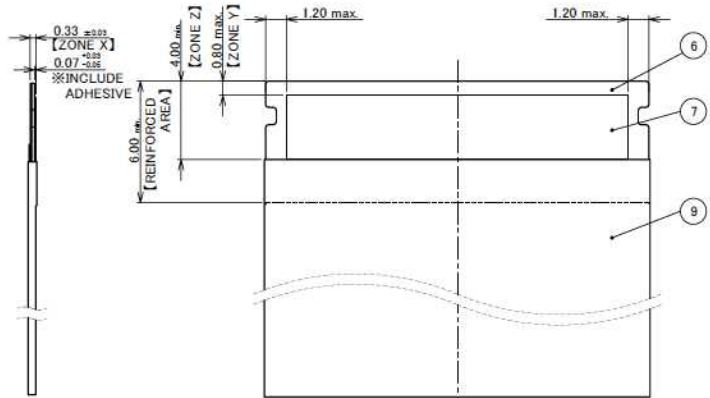
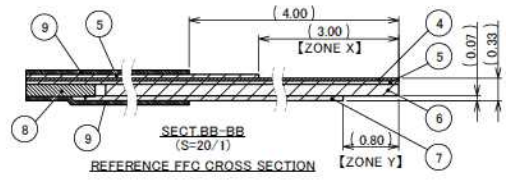
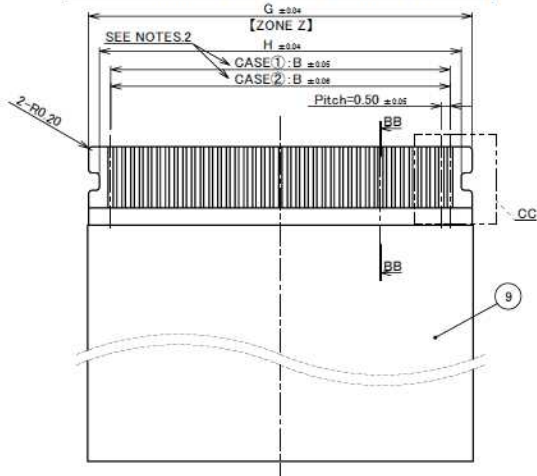
3	SHELL	PHOSPHOR BRONZE	Sn OVER Ni PLATING
2	CONTACT	CORSON ALLOY	Au OVER Ni PLATING CONTACT AREA: Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
1	HOUSING	LCP	UL94V-0, BLACK
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

QKE-DFE06-02 REV.11

Connector Assembly :

FOR	POS.	B	G	H
20720-010E-02	10P	4.50	7.04	5.80
20720-015E-02	15P	7.00	9.54	8.30
20720-020E-02	20P	9.50	12.04	10.80
20720-024E-02	24P	11.50	14.04	12.80
20720-030E-02	30P	14.50	17.04	15.80
20720-040E-02	40P	19.50	22.04	20.80

RECOMMENDED FFC DIMENSION



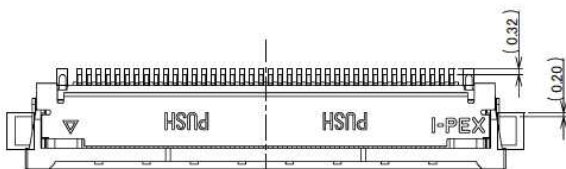
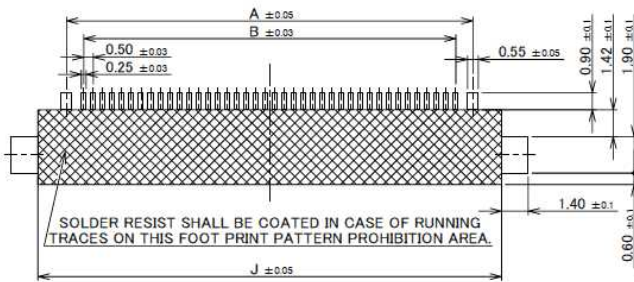
NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS
9	SHIELD TAPE	METALIC FILM	-
8	INTERLAYER	ARBITRARY	-
7	GROUND PLATE	METARIC FILM	POLISH or HALF POLISH Sn PLATING
6	REINFORCED TAPE	ARBITRARY	-
5	INSULATION FILM	ARBITRARY	-
4	CONDUCTOR	COPPER ALLOY	CONTACT AREA: Au 0.05 μ m MIN. OVER Ni 0.5 μ m MIN.
NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS

NOTES
1 DIFFERENTIAL IMPEDAMCE : 100 Ω
2 MANUFACTURE CASE 1 or CASE 2

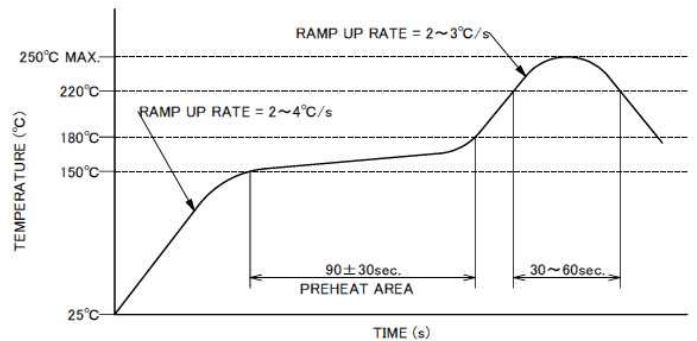
QKE-DFFDE06-02 REV.11

Connector Assembly :

PART NO.	POS.	A	B	J
20720-010E-02	10P	6.30	4.50	9.30
20720-015E-02	15P	8.80	7.00	11.80
20720-020E-02	20P	11.30	9.50	14.30
20720-024E-02	24P	13.30	11.50	16.30
20720-030E-02	30P	16.30	14.50	19.30
20720-040E-02	40P	21.30	19.50	24.30



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



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

QKE-DFFDE06-02 REV.11

Connector Assembly :

ITEMS	SPECIFICATION
RATING VOLTAGE	200V AC/DC
RATING AMPERAGE (FOR CONTACT)	0.3A AC/DC / Pin IN CASE OF APPLYING 0.5A/Pin, THE TOTAL CURRENT OF THE WHOLE CONNECTOR SHALL BE 15.0A OR LOWER.
OPERATING TEMPERATURE	233~378K(-40°C~+105°C)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE (FOR SIGNAL CONTACT)	INITIAL : 60mohm MAX. / AFTER TEST : \triangle 40mohm MAX.
INSULATION RESISTANCE	INITIAL : 100Mohm MIN. / AFTER TEST : 100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	10P : 6.0N MAX. 15P : 9.0N MAX. 20P : 12.0N MAX. 24P : 14.4N MAX. 30P : 18.0N MAX. 40P : 24.0N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	10P : 1.0N MIN. 15P : 1.5N MIN. 20P : 2.0N MIN. 24P : 2.4N MIN. 30P : 3.0N MIN. 40P : 4.0N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-2224
TEST REPORT	TR-16039
PACKING STANDARD	300-997
INSTRUCTION MANUAL	HIM-12003

QKE-DFE06-02 REV.11



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