瀚荃股份有限公司
CviLux Corporation

CVILUX
2023.03.30
ISSUED

ENGINEERING DEPT.		PRODUCT SPECIFICATION	SPEC.NO.: SPCB043B
REVISIONS	ECNT120150	For CBRE Series 0.5mm Board to Board Connector	PAGE: 1/7

1. SCOPE:
   This specification contains the test requirement of subject connectors when tested under the condition and below standards base on CviLux test procedure

2. APPLICABLE STANDARDS:

MIL - STD - 202	Methods for test of connectors for electronic equipment
EIA-364	Test methods for electrical connectors
J-STD-020	Resistance to soldering Temperature for through hole Mounted Devices
SS-00254	Test methods for electronic components ,LEAD-FREE soldering Part design standards

3. APPLICABLE SERIES No. : CBRE Series

4. SHAPE,CONSTRUCTION AND DIMENSIONS
   See attached drawings

5. MATERIALS
   See attached drawings

6. ACCOMMODATED P.C.BOARD
   6.1 Thickness: 0.8 mm (.031″) ~ 1.6 mm (.063″)
   6.2 P.C. Board Layout: See attached drawings

REVIEWED : Eisley APPROVED : Sun VERIFIED : Jessie .

7.TEST REQUIREMENTS AND PROCEDURES SUMMARY:

	ITEM	TEST CONDITION	REQUIREMENT
7.1	Examination of Product	Visual, dimensional and functional per applicable quality inspection plan.	Product shall meet requirements of applicable product drawing and specification.

8. ELECTRICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
8.1	Rated current and voltage		0.5A/Per Pin 100V AC (r.m.s.)/DC
8.2	Low-signal Level Contact resistance	Mate connectors, measure by dry circuit, 20 mV Max., 10 mA Max. (EIA-364-23)	40 mΩ Max. Change allowed
8.3	Insulation resistance	Unmate connector, apply DV 500 V between adjacent terminals. (EIA-364-21)	1000 MΩ Min.
8.4	Dielectric Withstanding Voltage	Test between adjacent contacts of Unmated connectors. (EIA-364-20)	250 V AC Min. at sea level for 1 minute, No discharge, flashover Or breakdown. Current leakage: 1mA Max.
8.5	Temperature rise	Mate connector: measure the Temperature rise at rated current after:0.5A/Power contact. The Temperature rise above ambient Shell not exceed 30°C The ambient Condition is still air at 25°C (EIA-264-70 METHOD 2)	30°C Max. Change allowed

9. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
9.1	Durability	Connector shall be subjected to 30 cycles of insertion and withdrawal (EIA-364-09)	Contact resistance: Less than twice of initial
9.2	Mating force / Unmating force	Speed 25± 3 mm per minute Measure the force required to Mate/unmate connector. (EIA-364-13)	Mating force : 100 gf Max./CKT. Unmating force: 12 gf Min./CKT.
9.3	Contact retaining force in insulator	Apply axial pull out force at the speed rate Of 25± 3 mm/min. On the terminal assembled in the housing. (EIA-364-29)	0.4 kgf Min.
9.4	Vibration	The electrical load condition shall Be 100mA maximum for all contact. Subject to a simple harmonic motion having amplitude of 0.76mm(1.52mm maximum total excursion) in frequency between the limits of 10 and 55 Hz. The entire frequency range, from 10 to 55Hz. and return to 10 Hz, shall be traversed in approximately 1 minute. This motion shall be applied for 2 hours in each of three mutually perpendicular directions. (EIA-364-28)	1 μ s Max.
9.5	Shock (Mechanical)	Subject mated connectors to 50'G (peak value) half-sine shock pulses of 11 milliseconds duration. Three shocks in each direction shall be applied along the three mutually perpendicular axes of the test specimen (18 shocks). The electrical load condition shall be 100mA maximum for all contacts. (EIA-364-27, test condition A)	1 μ s Max.

10. ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
10.1	Resistance to Reflow soldering heat **(Lead Free)**	Refer Reflow temperature profile(12.1) Soldering time: 10 second Max. Soldering pot: 255~260 °C, 2 times	No damage
10.2	Hand Soldering Method	Use a soldering iron that has a sufficient head capacity and high stability of temperature. The tip of the iron should be shaped so as not to touch the part body directly. Temperature : 350 $^{+5}_{-0}$ °C 3 Sec. Max.	Appearance: No damage
10.3	Humidity-Temperature cycling	Mated Connector 25~65°C, 90-95% RH, 10 Cycles Reefer to Method IV. (EIA-364-31,Test condition A)	Appearance: No damage Contact resistance: Less than twice of initial
10.4	Temperature life	Subject mated connectors to temperature life at 85°C for 96 hours. Measure Signal. (EIA-364-17, Test condition A)	Appearance: No damage Contact resistance: Less than twice of initial Dielectric strength: To pass para 7-4
10.5	Salt Spray	Temperature: 35 ± 3°C Solution: 5 ± 1% Spray time: 48 ± 4 hours (Stamping before plated) Spray time: 24 ± 4 hours (Stamping after plated) Mate connectors and expose to the following salt mist conditions. Upon completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running water and dried naturally, after which the specified measurements shall be performed. The specimens shall be suspended from the top using waxed twine, string or nylon thread. The test only define the plating area, without plating area (as copper cross section) will not be defined. (EIA 364-26B / MIL-STD-202 Method 101)	Appearance: No damage Contact resistance: Less than twice of initial

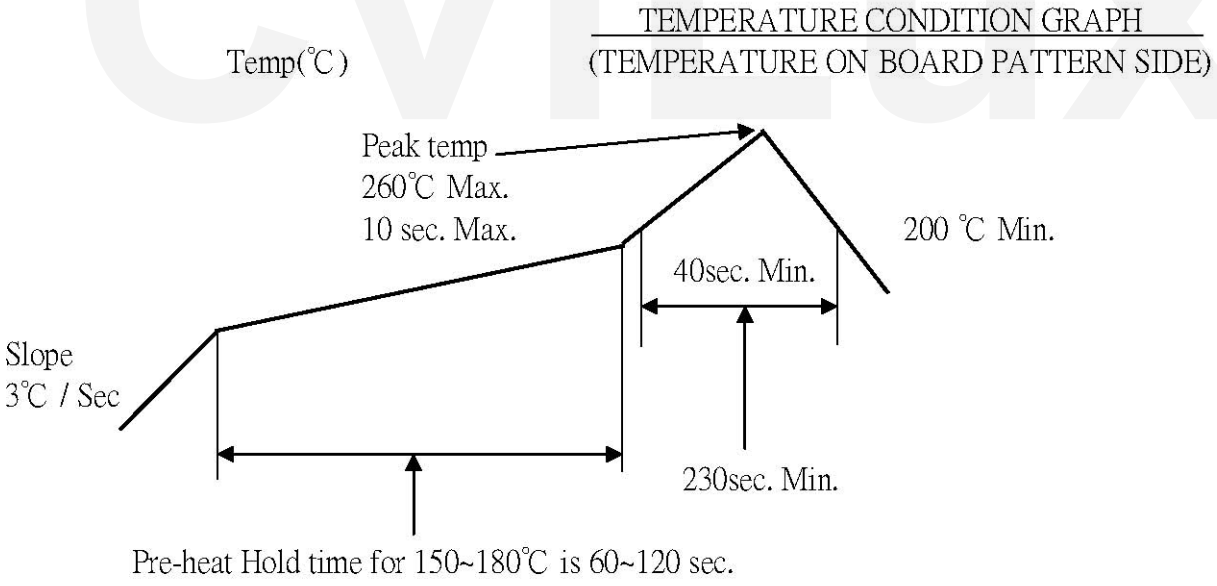
ENGINEERING DEPT.		PRODUCT SPECIFICATION	SPEC.NO.: SPCB043B
REVISIONS	ECNT120150	For CBRE Series 0.5mm Board to Board Connector	PAGE: 5/7

	ITEM	TEST CONDITION	REQUIREMENT
10.6	Solder ability	Subject the test area of contacts into the flux for 5-10 sec. And then into solder bath, Temperature at 245 ± 5°C, for 4 – 5 second (EIA-364-52)	Minimum: 95% of solder coverage.

11. AMBIENT TEMPERATURE RANGE: -40 ～ +85°C

12. RECOMMENDED IR REFLOW TEMPERATURE PROFILE:

12.1 USING LEAD-FREE SOLDER PASTE



ENGINEERING DEPT.		PRODUCT SPECIFICATION	SPEC.NO.: SPCB043B
REVISIONS	ECNT120150	For CBRE Series 0.5mm Board to Board Connector	PAGE: 6/7

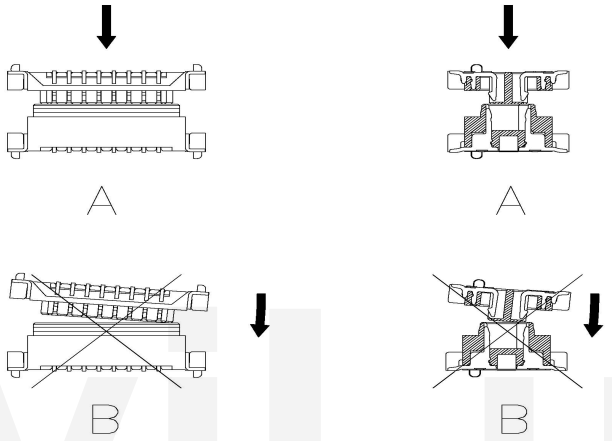
13. PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group								
	1	2	3	4	5	6	7	8	9
Examination of Product				1、6	1、6	1、4			1、3
Low-signal Level Contact Resistance		1、5	1、4	2、9	2、9	2、5			
Insulation Resistance				3、8	3、8				
Dielectric Withstanding Voltage				4、7	4、7				
Temperature rise	1								
Mating force/Unmating force		2、4							
Durability		3							
Contact Retention force									4
Vibration			2						
Shock			3						
Humidity				5					
Temperature life					5				
Salt spray						3			
Solder ability							1		
Terminal/Housing Retention Force								1	
Resistance to soldering heat									2
Sample Size	2	4	4	4	4	4	2	4	4

14. INSTRUCTION UPON USAGE

14.1 At Mating:

Please do not insert diagonally in following figure B when the connector mating starts.
Please insert as in parallel as possible to the utmost to mating with connector as shown in following figure A .Please insert until the connector bumps.



14.2 At Extraction:

As regard extraction is as in parallel as possible to straight at mating axis to the utmost to the mating With connector.
Or. please swing right to left slightly.(Refer to following figure C)
Please do not excess twist extraction. .(Refer to following figure D)