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Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





PRODUCT SPECIFICATION



LANGUAGE

JAPANESE
ENGLISH

【 1. 適用範囲 SCOPE 】

本仕様書は、 _____ 殿 に納入する。

_____ 0.5 mm ピッチ 基板対基板用 コネクタ _____ について規定する。

This specification covers the 0.5 mm PITCH BOARD TO BOARD CONNECTOR series.

【 2. 製品名称及び型番 PRODUCT NAME AND PART NUMBER 】

| 製品名称 Product Name | 無鉛 LEAD FREE | 製品型番 Part Number |
|--|-----------------|---------------------|
| リセプタクル ハウジング アッセンブリ Receptacle Housing Assembly | 無鉛 LEAD FREE | 54722-***1 |
| 54722-***1 エンボス梱包品 Embossed Tape Package for 54722-***1 | 無鉛 LEAD FREE | 54722-***8 |
| プラグ Plug | 無鉛 LEAD FREE | 55560-***1 |
| 55560-***1 エンボス梱包品 Embossed Tape Package for 55560-***1 | 無鉛 LEAD FREE | 55560-***8 |

*: 図面参照 Refer to the drawing

【 3. 定格 RATINGS 】

| 項目 Item | 規 格 Standard |
|-------------------------------------|------------------|
| 最大許容電圧 Rated Voltage (MAX.) | 50 V |
| 最大許容電流 Rated Current (MAX.) | 0.5 A |
| 使用温度範囲 Ambient Temperature Range | -25°C ~ +85°C *1 |

*1: 通電による温度上昇分も含む。

Including terminal temperature rise.

| | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|---|---|---|---|--------|---|---|---|--|-------------------------|------------------------------|--------------------------------|--|--|-----------------|--|--|--|--|--|
| REV. | F | F | F | F | F | F | F | F | | | | | | | | | | | | |
| SHEET | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | |
| REVISE ON PC ONLY | | | | | | | | | TITLE: | | | | | | | | | | | |
| F | | | | | | | | | 0.5 BOARD TO BOARD Conn (Hgt=1.5) -LEAD FREE- 製品仕様書 | | | | | | | | | | | |
| REV. DESCRIPTION | | | | | | | | | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | | | | | | | | | | |
| DESIGN CONTROL J | | | | | STATUS | | | | WRITTEN BY: S. AIHARA | CHECKED BY: T. ITO | APPROVED BY: T. YAMAGUCHI | DATE : YR/MO/DAY 2000/06/14 | | | | | | | | |
| DOCUMENT NUMBER PS-54722-005 | | | | | | | | | | FILE NAME PS54722005 | | | | | SHEET 1 OF 8 | | | | | |



【 4. 性能 PERFORMANCE 】

4-1. 電気的性能 Electrical Performance

| 項目 Item | | 条件 Test Condition | 規格 Requirement |
|------------|-------------------------------|--|------------------------|
| 4-1-1 | 接触抵抗 Contact Resistance | コネクタを嵌合させ、開放電圧 20mV 以下、短絡電圧 10mA にて測定する。 (JIS C5402 5.4) Mate connectors, measured by dry circuit, 20mV MAX., 10mA. (JIS C5402 5.4) | 40 milliohm MAX. |
| 4-1-2 | 絶縁抵抗 Insulation Resistance | コネクタを嵌合させ、隣接するターミナル間及びターミナル、アース間に、DC 500Vを印加し測定する。 (JIS C5402 5.2/MIL-STD-202 試験法 302) Mate connectors, apply 500V DC between adjacent terminal or ground. (JIS C5402 5.2/MIL-STD-202 Method 302) | 100 Megohm MIN. |
| 4-1-3 | 耐電圧 Dielectric Strength | コネクタを嵌合させ、隣接するターミナル間及びターミナル、アース間に、AC(rms) 500V (実効値) を 1分間 印加する。 (JIS C5402 5.1/MIL-STD-202 試験法 301) Mate connectors, apply 500V AC(rms) for 1 minute between adjacent terminal or ground. (JIS C5402 5.1/MIL-STD-202 Method 301) | 異状なきこと No Breakdown |

4-2. 機械的性能 Mechanical Performance

| 項目 Item | | 条件 Test Condition | 規格 Requirement |
|------------|--|---|-------------------------------|
| 4-2-1 | 挿入力及び抜去力 Insertion and Withdrawal Force | 毎分 25±3mm の速さで挿入、抜去を行う。 Insert and withdraw connectors at the speed rate of 25±3 mm/minute. | 第6項参照 Refer to paragraph 6 |
| 4-2-2 | ターミナル保持力 Terminal / Housing Retention Force | ハウジングに装着されたターミナルを毎分 25±3mm の速さで引張る。 Apply axial pull out force at the speed rate of 25±3 mm/minute on the terminal assembled in the housing. | 0.98N { 0.1 kgf } MIN. |

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PRODUCT SPECIFICATION



LANGUAGE

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4-3. その他 Environmental Performance and Others

| 項目 Item | | 条件 Test Condition | 規格 Requirement | |
|------------|--|---|-------------------------------|---------------------|
| 4-3-1 | 繰返し挿抜 Repeated Insertion / Withdrawal | 1分間 10回 以下の速さで挿入、抜去を 30回繰返す。 When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute. | 接触抵抗 Contact Resistance | 80 milliohm MAX. |
| 4-3-2 | 温度上昇 Temperature Rise | コネクタを嵌合させ、最大許容電流を通電し、コネクタの温度上昇分を測定する。 (UL 498) Carrying rated current load. (UL 498) | 温度上昇 Temperature Rise | 30 °C MAX. |
| 4-3-3 | 耐振動性 Vibration | DC 1mA 通電状態にて、嵌合軸を含む互いに垂直な 3方向 に掃引割合 10~55~10 Hz/分、全振幅 1.5mm の振動を各2時間 加える。 (MIL-STD-202 試験法 201) Amplitude : 1.5mm P-P Frequency : 10~55~10 Hz in 1 minute. Duration : 2 hours in each X.Y.Z. axes. (MIL-STD-202 Method 201) | 外観 Appearance | 異常なきこと No Damage |
| | | | 接触抵抗 Contact Resistance | 80 milliohm MAX. |
| | | | 瞬断 Discontinuity | 1.0 microsec. MAX. |
| 4-3-4 | 耐衝撃性 Shock | DC 1mA 通電状態にて、嵌合軸を含む互いに垂直な 6方向 に 490m/s ² { 50G } の衝撃を 各3回 加える。 (JIS C0041/MIL-STD-202 試験法 213) 490m/s ² { 50G } , 3 strokes in each X.Y.Z. axes. (JIS C0041/MIL-STD-202 Method 213) | 外観 Appearance | 異常なきこと No Damage |
| | | | 接触抵抗 Contact Resistance | 80 milliohm MAX. |
| | | | 瞬断 Discontinuity | 1.0 microsec. MAX. |
| 4-3-5 | 耐熱性 Heat Resistance | コネクタを嵌合させ、85±2°C の雰囲気中に 96時間 放置後取り出し、1~2時間 室温に放置する。 (JIS C0021/MIL-STD-202 試験法 108) 85±2°C, 96 hours (JIS C0021/MIL-STD-202 Method 108) | 外観 Appearance | 異常なきこと No Damage |
| | | | 接触抵抗 Contact Resistance | 80 milliohm MAX. |
| 4-3-6 | 耐寒性 Cold Resistance | コネクタを嵌合させ、-25±3°C の雰囲気中に 96時間 放置後取り出し、1~2時間 室温に放置する。 (JIS C0020) -25±3°C, 96 hours (JIS C0020) | 外観 Appearance | 異常なきこと No Damage |
| | | | 接触抵抗 Contact Resistance | 80 milliohm MAX. |

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| 項目 Item | | 条件 Test Condition | 規格 Requirement | |
|------------|--------------------------------|--|-------------------------------|--------------------------------|
| 4-3-7 | 耐湿性 Humidity | コネクタを嵌合させ、40±2°C、相対湿度90~95%の雰囲気中に96時間放置後取り出し、1~2時間室温に放置する。 (JIS C0022/MIL-STD-202 試験法 103) Temperature : 40±2°C Relative Humidity : 90~95% Duration : 96 hours (JIS C0022/MIL-STD-202 Method 103) | 外観 Appearance | 異常なきこと No Damage |
| | | | 接触抵抗 Contact Resistance | 80 milliohm MAX. |
| | | | 耐電圧 Dielectric Strength | 4-1-3項満足のこと Must meet 4-1-3 |
| | | | 絶縁抵抗 Insulation Resistance | 100 Megohm MIN. |
| 4-3-8 | 温度サイクル Temperature Cycling | コネクタを嵌合させ、-55°Cに30分、+85°Cに30分これを1サイクルとし、5サイクル繰返す。但し、温度移行時間は5分以内とする。試験後1~2時間室温に放置する。 (JIS C0025) 5 cycles of : a) -55°C 30 minutes b) +85°C 30 minutes (JIS C0025) | 外観 Appearance | 異常なきこと No Damage |
| | | | 接触抵抗 Contact Resistance | 80 milliohm MAX. |
| 4-3-9 | 塩水噴霧 Salt Spray | コネクタを嵌合させ、35±2°Cにて5±1%重量比の塩水を48±4時間噴霧し、試験後常温で水洗いした後、室温で乾燥させる。 (JIS C0023/MIL-STD-202 試験法101) 48±4 hours exposure to a salt spray from the 5±1% solution at 35±2°C. (JIS C0023/MIL-STD-202 Method 101) | 外観 Appearance | 異常なきこと No Damage |
| | | | 接触抵抗 Contact Resistance | 80 milliohm MAX. |
| 4-3-10 | 亜硫酸ガス SO ₂ Gas | コネクタを嵌合させ、40±2°Cにて50±5ppmの亜硫酸ガス中に24時間放置する。 24 hours exposure to 50±5ppm SO ₂ gas at 40±2°C. | 外観 Appearance | 異常なきこと No Damage |
| | | | 接触抵抗 Contact Resistance | 80 milliohm MAX. |
| 4-3-11 | 耐アンモニア性 NH ₃ Gas | コネクタを嵌合させ、濃度28%のアンモニア水を入れた容器中に40分間放置する。 (1Lに対して25mlの割合) 40 minutes exposure to NH ₃ gas evaporating from 28% Ammonia solution. | 外観 Appearance | 異常なきこと No Damage |
| | | | 接触抵抗 Contact Resistance | 80 milliohm MAX. |

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LANGUAGE

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| 項 目 Item | | 条 件 Test Condition | 規 格 Requirement | |
|-------------|--|---|--------------------------|---|
| 4-3-12 | 半田付け性 Solderability | ターミナルまたはピンをフラックスに浸し、 245±5°C の半田に 3±0.5秒 浸す。 Soldering Time : 3±0.5 sec. Solder Temperature : 245±5 °C | 濡れ性 Solder Wetting | 浸漬面積の 95%以上 95% of immersed area must show no voids, pin holes. |
| 4-3-13 | 半田耐熱性 Resistance to Soldering Heat | リフロー時 第7項 の条件にてリフローを 2回 実施する。 <u>Reflow soldering method</u> Repeat paragraph 7, condition twice. | 外 観 Appearance | 端子ガタ、割れ等 異状なきこと No Damage |

() :参考規格 Reference Standard

{ } :参考単位 Reference Unit

【 5. 外観形状、寸法及び材質 PRODUCT SHAPE, DIMENSIONS AND MATERIALS 】

図面参照 Refer to the drawing.

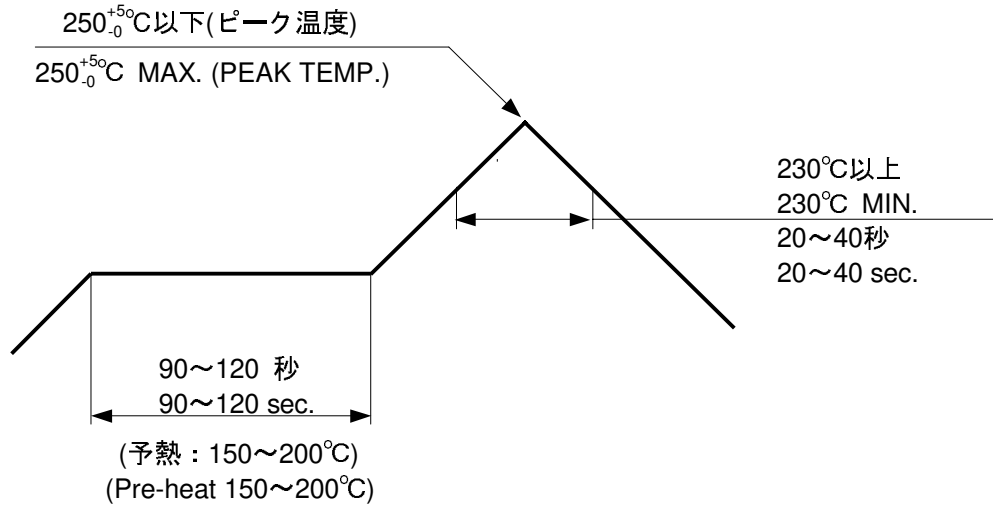
【 6. 挿入力及び抜去力 INSERTION/WITHDRAWAL FORCE 】

| 極 数 No. of CKT | 単位 UNIT | 挿入力 (最大値) Insertion (MAX.) | | | 抜去力 (最小値) Withdrawal (MIN.) | | |
|----------------------|------------|-------------------------------|---------------|---------------|--------------------------------|----------------|----------------|
| | | 初回 1st | 6 回目 6th | 30 回目 30th | 初回 1st | 6 回目 6th | 30 回目 30th |
| 16 | N {kgf} | 39.2 {4.0} | 39.2 {4.0} | 39.2 {4.0} | 5.49 {0.56} | 3.92 {0.40} | 3.92 {0.40} |
| 20 | N {kgf} | 49.0 {5.0} | 49.0 {5.0} | 49.0 {5.0} | 6.90 {0.70} | 4.90 {0.50} | 4.90 {0.50} |
| 22 | N {kgf} | 49.0 {5.0} | 49.0 {5.0} | 49.0 {5.0} | 6.90 {0.70} | 4.90 {0.50} | 4.90 {0.50} |
| 24 | N {kgf} | 49.0 {5.0} | 49.0 {5.0} | 49.0 {5.0} | 6.90 {0.70} | 4.90 {0.50} | 4.90 {0.50} |
| 30 | N {kgf} | 49.0 {5.0} | 49.0 {5.0} | 49.0 {5.0} | 6.90 {0.70} | 4.90 {0.50} | 4.90 {0.50} |
| 40 | N {kgf} | 49.0 {5.0} | 49.0 {5.0} | 49.0 {5.0} | 6.90 {0.70} | 4.90 {0.50} | 4.90 {0.50} |
| 50 | N {kgf} | 49.0 {5.0} | 49.0 {5.0} | 49.0 {5.0} | 6.90 {0.70} | 4.90 {0.50} | 4.90 {0.50} |

| | | | |
|--|------------------|--|-------------------|
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【 7. 赤外線リフロー条件 INFRARED REFLOW CONDITION 】



温度条件グラフ
(温度は基板パターン面)
TEMPERATURE CONDITION GRAPH
(TEMPERATURE ON THE SURFACE OF P.C.BOARD PATTERN)

注記 ; 本リフロー条件に関しては、リフロー装置及び基板などにより条件が異なりますので、事前にリフロー評価の確認をお願い致します。

NOTE ; Please check the reflow soldering condition by your own devices beforehand.
Because the condition changes by the soldering devices, P.C.Boards, and so on.

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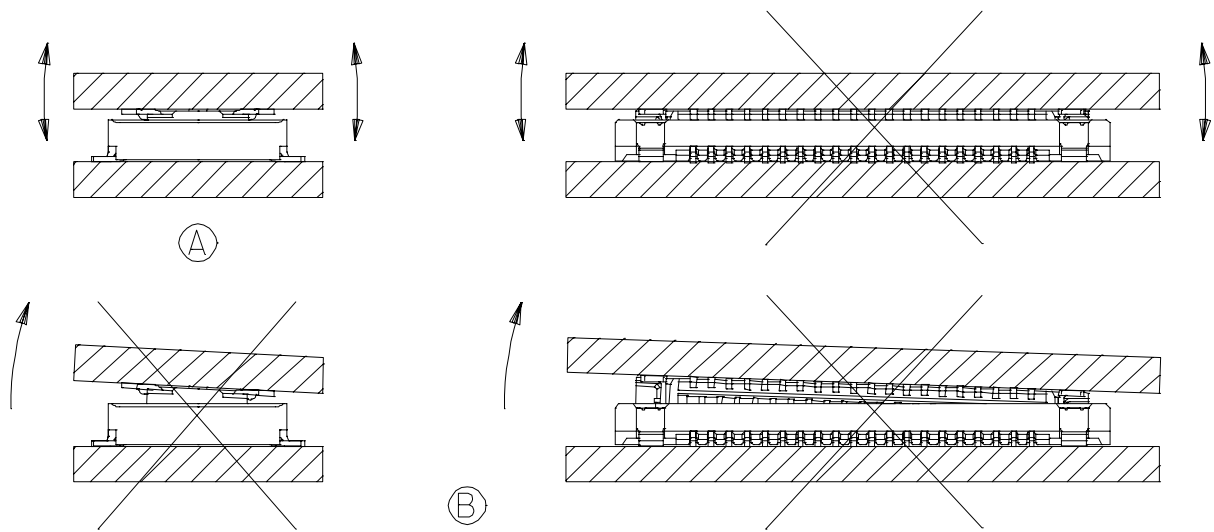
【 8. 取り扱いの注意事項 INSTRUCTION UPON USAGE 】

抜去に関しては極力嵌合軸に沿って行って下さい。又は、下図のA方向で左右に少しずつ振りながら行って下さい。

(過度のこじり抜去には注意願います。[図B])

As regards extraction is straight at mating axis to the utmost, or swing right to left slightly.

(direction of following figure A) [Please take care of excess twist extraction. (refer to following figure B)]



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PRODUCT SPECIFICATION



LANGUAGE

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| REV. | REV. RECORD | DATE | EC NO. | WRITTEN: | CH'K: |
|------|---------------|-----------|-------------|------------|---------|
| A | 新規作成 RELEASED | '00/06/14 | JC2000-0839 | S.AIHARA | T.ITO |
| B | 変更 REVISED | '00/11/28 | JC2001-0402 | S.AIHARA | T.ITO |
| C | 変更 REVISED | '01/09/19 | JC2002-0650 | R.TAKEUCHI | T.ITO |
| D | 変更 REVISED | '01/10/15 | J2002-0909 | R.TAKEUCHI | T.ITO |
| E | 変更 REVISED | '03/04/10 | J2003-2604 | S.AIHARA | M.SASAO |
| F | 変更 REVISED | '04/04/22 | J2004-3963 | J.SASAMORI | K.TOJO |
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