

**【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 product specification covers the performance requirements for 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	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	5 4 7 2 2 - * * * 3
5 4 7 2 2 - * * * 3 エンボス梱包品 Embossed Tape Package for 54722-***3	5 4 7 2 2 - * * * 4
5 4 7 2 2 - * * * 5 エンボス梱包品 (静電気対策梱包) Embossed Tape Package for 54722-***5 (Antistatic Package)	5 4 7 2 2 - * * * 5
プラグ ハウジング アッセンブリー Plug Housing Assembly	5 5 5 6 0 - * * * 1
5 5 5 6 0 - * * * 1 エンボス梱包品 Embossed Tape Package for 55560-***1	5 5 5 6 0 - * * * 7
5 5 5 6 0 - 0 1 6 1 エンボス梱包品 (2000 PCS/REEL) Embossed Tape Package for 55560-0161 (2000 PCS/REEL)	5 5 5 6 0 - 0 1 6 8

\* : 図面参照 Refer to the drawing.

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<b>G</b>	変更 REVISED J2016-0345 2015/10/05 N.SASAYAMA				<b>製品仕様書</b>				
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REV.	DESCRIPTION				WRITTEN BY: N.AIDA	CHECKED BY: K.TOYODA	APPROVED BY: N.UKITA	DATE: YR/MO/DAY 2005/07/11	
DESIGN CONTROL J			STATUS					FILE NAME PS-54722-010.docx	SHEET 1 OF 17
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【3. 定 格 RATINGS】

項 目 Item	規 格 Standard	
最大許容電圧 Rated Voltage (MAX.)	50 V	[ AC ( 実効値 rms ) / DC ]
最大許容電流 Rated Current (MAX.)	0.5 A	
使用温度範囲 *1 Ambient Temperature Range	-40°C ~ +105°C *2	
保管条件 Storage Condition	温度 Temperature	-10°C~+50°C
	湿度 Humidity	85%R.H.以下 (但し結露しないこと) 85%R.H. MAX. (No Condensation)
	期間 Terms	出荷後6ヶ月 (未開封の場合) For 6 months after shipping (unopened package)

\*1 : 基板実装後の無通電状態は、使用温度範囲が適用されます。

Non-operating connectors after reflow must follow the operating temperature range condition.

\*2 : 通電による温度上昇分も含む。

Including terminal temperature rise.

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【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、短絡電流 10mA以下にて測定する。 (JIS C5402 5.4) Mate connectors, measured at the open circuit voltage 20mV MAXIMUM and short circuit 10mA MAXIMUM. (JIS C5402 5.4)	40 milliohm MAXIMUM
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に、DC 500V を印加し測定する。 (JIS C5402 5.2/MIL-STD-202 試験法 302) Mate connectors, measured by applying DC 500V between adjacent terminal. (JIS C5402 5.2/MIL-STD-202 Method 302)	100 Megohm MINIMUM
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 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 for 1 minute between adjacent terminal or ground. (JIS C5402 5.1/MIL-STD-202 Method 301)	異常なきこと 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+/-3mm/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。尚、PLUG側コネクタはオーバーモールド品の為、PLUG TERM.以外の測定とする。 Pull the terminal mated with the housing at the speed of 25+/-3mm/minute. The connector on the side of the plug is overmolded. Therefore, measure the retention force except Plug Term.	0.98N {0.1 kgf} MINIMUM

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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	無通電状態にて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 in the power-off state.	接触抵抗 Contact Resistance	80 milliohm MAXIMUM
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) Mate connectors, measure the temperature rise of contact when the maximum AC rated current is passed. (UL 498)	温度上昇 Temperature Rise	30 °C MAXIMUM
4-3-3	耐振動性 Vibration	コネクタを嵌合させ、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。 (JIS C 60068-2-6 /MIL-STD-202 試験法 201) Mate connectors, add to each 2 hours with ratio sweep 10-55-10 Hz per minute and total amplitude 1.5 mm vibration at 3 directions mutually vertical including fitting axis in DC 1 mA electricity state. (JIS C 60068-2-6 /MIL-STD-202 Method 201)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	80 milliohm MAXIMUM
			瞬断 Discontinuity	1.0 microsec. MAXIMUM
4-3-4	耐衝撃性 Mechanical Shock	コネクタを嵌合させ、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 <sup>2</sup> { 50G } の衝撃を作用時間11ミリ秒で各3回 加える。 (JIS C60068-2-27/MIL-STD-202 試験法 213) Mate connectors, add to each 3 times with impact of 490m/s <sup>2</sup> {50G} on action time 11 milliseconds at 6 directions mutually vertical including fitting axis in DC 1 mA electricity state. (JIS C60068-2-27/MIL-STD-202 Method 213)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	80 milliohm MAXIMUM
			瞬断 Discontinuity	1.0 microsec. MAXIMUM

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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 C60068-2-2/MIL-STD-202 試験法 108) Mate connectors, exposing for 96 hours in the atmosphere of 85+/-2 degree C. After the test, allowed to stand at room temperature for 1 to 2 hours before checking functionality. (JIS C60068-2-2/MIL-STD-202 Method 108)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	80 milliohm MAXIMUM
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 C60068-2-1) Mate connectors, exposing -25+/-3 degree C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. (JIS C60068-2-1)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	80 milliohm MAXIMUM
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 C60068-2-3/MIL-STD-202 試験法 103) Mate connectors, exposing for 96 hours in an atmosphere of 40+/-2 degree C, relative humidity 90 to 95%. After the test, allowed to stand at room temperature for 1 to 2 hours before checking functionality. (JIS C60068-2-3/MIL-STD-202 Method 103)	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	80 milliohm MAXIMUM
			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 MINIMUM

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4-3-8	温度サイクル Temperature Cycling	<p>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 C60068-2-14) Mate connectors, exposing to 85+/-2 degree C and -55+/-3 degree C temperature extremes for 30 minutes each including a 0-5 minutes transition time. The above-mentioned condition is repeated 5 cycles. After the test, allowed to stand at the room temperature for 1 to 2 hours before checking functionality. (JIS C60068-2-14)</p>	外 観 Appearance	異常なきこと No Damage
			接 触 抵 抗 Contact Resistance	80 milliohm MAXIMUM
4-3-9	塩水噴霧 Salt Spray	<p>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 C60068-2-11/MIL-STD-202 試験法 101) Mate connectors, exposing to the atmosphere where salt mist is diffused in. Other condition is written below. NaCl solution : 5+/-1% by weight Temperature : 35+/-2 degree C Duration : 48 hours After the test, they should be washed well by water and dried at room temperature before checking functionality. (JIS C60068-2-11/MIL-STD-202 Method</p>	外 観 Appearance	異常なきこと No Damage
			接 触 抵 抗 Contact Resistance	80 milliohm MAXIMUM

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# molex PRODUCT SPECIFICATION

LANGUAGE

JAPANESE  
ENGLISH

4-3-10	亜硫酸ガス SO <sub>2</sub> Gas	<p>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。</p> <p>Mate connectors, exposing to the atmosphere is written below. Gas Concentration : SO<sub>2</sub>=50+/-5ppm Temperature : 40+/-2 degree C Duration : 24h</p>	外 観 Appearance	異常なきこと No Damage
			接 触 抵 抗 Contact Resistance	80 milliohm MAXIMUM
4-3-11	耐アンモニア性 NH <sub>3</sub> Gas	<p>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)</p> <p>40 minutes exposure to NH<sub>3</sub> gas evaporating from 28% Ammonia solution.</p>	外 観 Appearance	異常なきこと No Damage
			接 触 抵 抗 Contact Resistance	80 milliohm MAX.
4-3-12	半田付け性 Solderability	<p>端子先端より0.3mm、 金具先端より0.3mmの位置まで245±3°Cの半田に3±0.5秒浸す。</p> <p>Dip terminal and fitting nail (held at 245±3°C) up to 0.3mm from the tip for 3±0.5seconds.</p>	濡れ性 Solder Wetting	浸漬面積の95%以上 95% of immersed area must show no voids, no pin holes.

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4-3-13	半田耐熱性 Resistance to Soldering Heat	赤外線リフロー時 Infrared Reflow Method 第7項参照 2回リフロー実施 Refer to the paragraph 7 2 times reflow enforcement	外 観 Appearance	端子ガタ、割れ等 異状なきこと No Damage
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( ) :参考規格 Reference Standard

{ } :参考単位 Reference Unit

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【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】

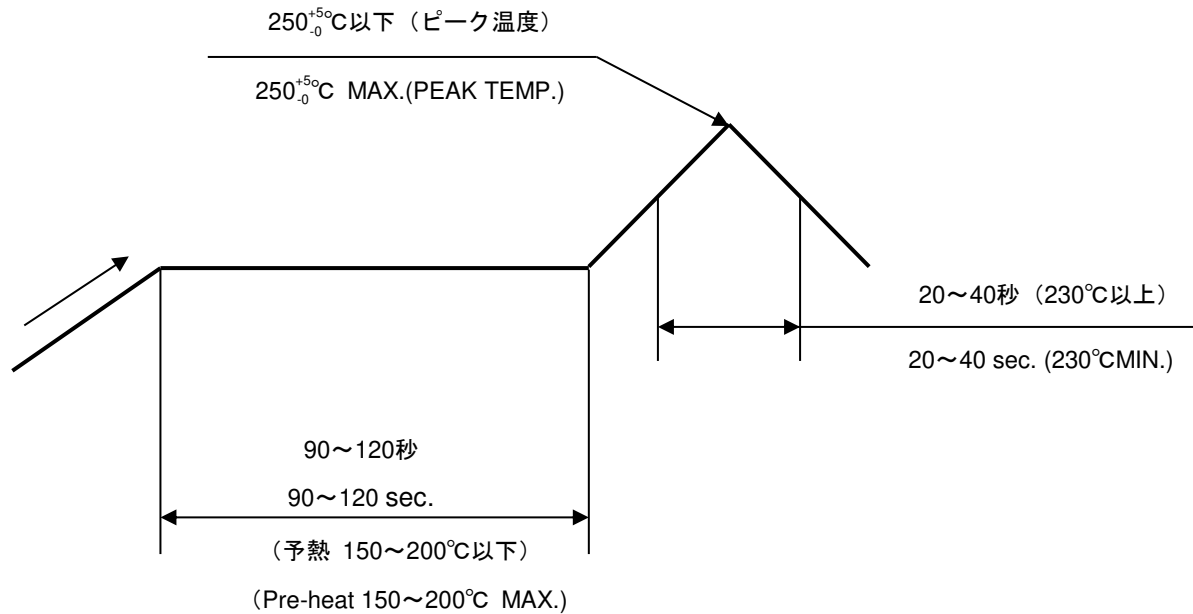
硬質基板に実装したコネクタを垂直に挿抜するときの挿入力及び抜去力を示します。

These Insertion/withdrawal forces are based on vertical mating/un-mating, with both Plug/Receptacle on rigid PWB's.

極数 Number of Circuit	単位 UNIT	挿入力（最大値） Insertion (MAXIMUM)			抜去力（最小値） Withdrawal (MINIMUM)		
		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}
34	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}
36	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}
60	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}
80	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  
TEMPERATURE CONDITION GRAPH

半田接合部の基板表面にて測定  
(Temperature is measured at the soldering area on the surface of the P.W. Board.)

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.

弊社評価では下記記載の推奨条件に基づき評価を実施しています。

推奨ランド寸法：SDをご参照ください

推奨メタルマスク厚さ：t=0.1[mm]

推奨メタルマスク開口率：100%（大気リフロー時）

We conduct the evaluation based on the recommended condition specified below.

Recommended land dimension: Please refer to the SD.

Recommended Metal mask thickness: t = 0.1[mm].

Recommended Metal mask aperture rate: 100% (at air reflow).

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

[嵌合]

嵌合は極力嵌合軸に沿って平行に行ってください。(図-1) その際、リセハウジングとプラグの内壁同士を合せる様に位置決めした後に押し込み嵌合して下さい。斜めの嵌合になる場合は10°以下の角度でリセハウジングとプラグの内壁同士を軽く当て、位置決めした後に平行にしてから嵌合して下さい。(図-2) 尚、リセハウジングの外壁とプラグ外壁とを当てた(支点とした)状態で嵌合を行いますと、反支点側のリセハウジングとプラグの内壁同士が干渉し、ハウジングの破壊およびピン損傷の恐れがありますのでこのような嵌合はお避け下さい。(図-3)

[Mating]

Mate connectors parallel to the mating axis as much as possible. (Figure-1) In doing so, priory determine the position with temporary fitting each inner wall of the Receptacle and Plug housing, then mate those fully. If angled mating is inevitable, determine the position priory with temporary fitting each inner wall of the Receptacle and Plug housing softly within an angle less than 10 degree, and mate the connector parallel. (Figure-2) Avoid from mating connectors with fitting each outer wall of Receptacle and Plug housing as a supporting point because the each inner wall on the opposite side could interfere each other and cause housing or pin breakage. (Figure-3)

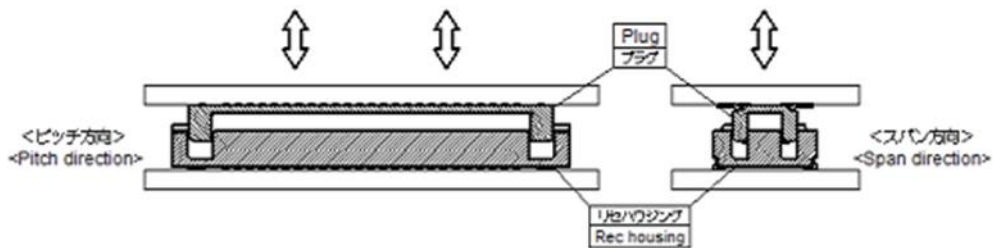
[抜去]

抜去は極力嵌合軸に沿って平行に行ってください。(図-1)  
 または、左右に少しずつ振りながら行って下さい。(図-4)  
 (過度のこじり抜去には注意して下さい。ハウジングの破壊およびピン損傷の原因となります。)  
 (図-5)

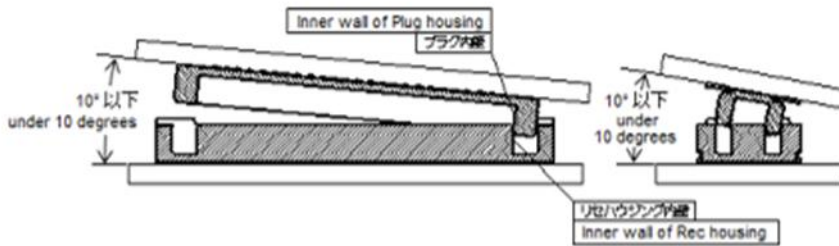
[Withdrawal]

Withdraw the connector parallel to mating axis as much as possible (Figure-1).  
 Or do it with slightly swinging them right to left. (Figure-4)  
 (Please take care NOT to do excess twist extraction. It could cause the housing or pin breakage.)  
 (Figure-5)

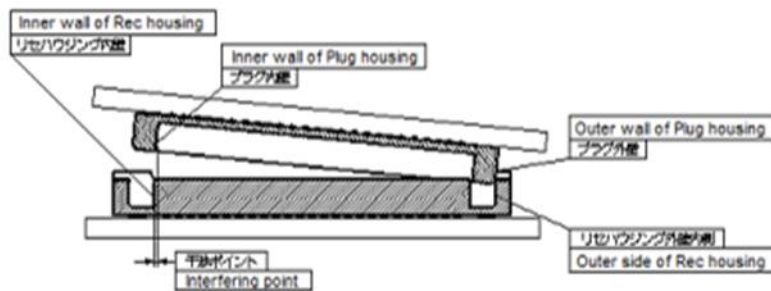
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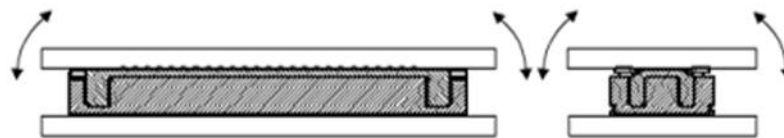
○ 図-1 平行状態での挿抜 (Best)  
Figure-1 Horizontal Mating/Unmating



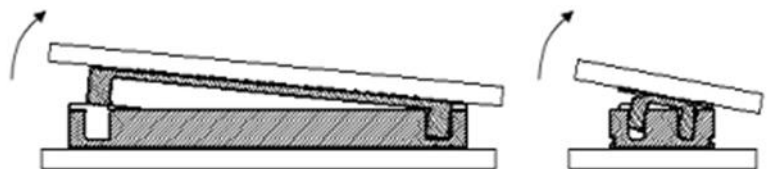
△ 図-2 内壁合せによる挿抜 (Acceptable)  
Figure-2 Mating aligning to inner wall of housings



× 図-3 外壁合せによる挿抜 (Not Good)  
Figure-3 Mating aligning to outer wall of housings



○ 図-4 抜去 (Best)  
Figure-4 Withdrawal



× 図-5 こじり抜去 (Not Good)  
Figure-5 Withdrawal with twisting the connector at an angle

REVISE ON PC ONLY

TITLE:

0.5 BOARD TO BOARD CONNECTOR(Hgt=1.5)

**G**

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製品仕様書

REV.

DESCRIPTION

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【 9. その他 注意事項 OTHERS】

・ 外観について

1. 本製品の樹脂部に黒点、多少の傷、微小な気泡等が生じることがありますが、性能上問題ありません。また、本製品のモールド材料はLCPを使用しているため、ウェルドラインが目立つ場合がありますが、製品性能には影響ないものです。

Although this product may have a small black mark, a weld line or a scratch on the housing, these will not have any influence on the product's performance. Although weld line may will be stand out due to LCP used to mold material of this product, these are not an influence on product's performance.

2. 成形品の色相に多少の違いを生じる場合がありますが、製品性能には影響ありません。

There may be slight differences in the housing coloring, but there will be no influence on the product's performance.

・ 実装について

3. 本リフロー条件に関しては、実装条件（大気／N2リフロー、温度プロファイル、半田ペースト、メタルマスク板厚・開口率、基板パターンレイアウト、実装基板種別などの種々の要素）により条件が異なりますので、必ずご使用前に、顧客様のご使用環境で事前に実装評価（リフロー評価）を実施願います。実装条件によっては、接点部への半田上がりやフラックス上りが発生するなど製品性能に影響を及ぼす場合があります。

Please investigate the mounting condition (reflow soldering condition) on your own devices beforehand. Because reflow condition may change due to mounting condition (Air / N2 reflow / temperature profile / solder paste, metal mask thickness · aperture rate / pattern layout of Printed circuit board / types of printed circuit board / and other factors ).

Depend on mounting condition, product's performance might be influenced due to occurrence of solder wicking or flux wicking at contact area.

4. 実装性能（平坦度）は、実装基板の反りの影響を含まないものと致します。基板の反りはコネクタ両端部を基準とし、コネクタ中央部にて Max0.02mmとして下さい。

The mounting specification for coplanarity does not include the influence of warpage of the printed circuit board. The warpage of the printed circuit board should be a maximum of 0.02mm if measuring from one connector edge to the other.

5. 本製品の一般性能確認はリジット基板にて実施おります。フレキシブル基板等の特殊な基板へ実装する場合は、事前に実装確認等を行った上でご使用願います。

The product performance was tested using rigid printed circuit board. In case the product needs to be reflowed onto flexible circuit board, please conduct a reflow test on the flexible circuit board in advance.

6. フレキシブル基板に実装する場合は、基板の変形を防止するため、補強板をご使用願います。

Please add a stiffener on the Flexible board(Ex. FPC) when you mount the connector onto FPC in order to prevent deformation of the FPC.

7. リフロー条件によっては、樹脂部の変色や端子めっき部にヨリが発生する場合がありますが、製品性能に影響はございません。

Depending on the reflow conditions, there may be the possibility of a color change in the housing. However, this color change does not have any effect on the product's performance.

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8. リフロー後、半田付け部に変色が見られることがありますが、製品性能に影響はありません。  
Although there might be some discoloration seen on the soldering tail after reflow, this will not influence the product's performance.
9. 本製品は端子先端部に、カット面がある為に端子先端部の実装性(基板への半田付け性)は、端子側面・後側に比べて悪くなります。しかし、側面及び後側においてフィレットが形成されていれば、機能及び強度に問題はありません。  
Because this product has a cutoff area on the tip of the terminal, the solderability performance in this area is not as good as compared to the side/back of the terminal. However, by building a good soldering fillet at the side/back of the terminal, there will be no issue on either the product function or the printed circuit board retention force.
10. 半田実装部の未半田は、ターミナル脱落、ピン間ショート、ターミナル座屈、またコネクタの基板からの外れが懸念されます。従って全てのターミナルテール部及び、ネイル部に半田付けを行って下さい。  
If you leave any soldering area on this product open, there may be the possibility of a missing terminal short circuiting between pins, terminal buckling or the potential for the connector to come off of the printed circuit board. Therefore, please solder all of the terminals and fitting nails on the printed circuit board.
11. 本製品は低背の為、端子コンタクト部以外の場所へフラックス上りが発生することがありますが、製品性能には影響ありません。  
Since this product is low profile product, flux wicking may be occurred on the other area of the terminal contact, but there is no influence on the product performance.
12. 実装機によってコネクタに負荷が加わると変形、破損する場合がありますので事前にご確認下さい。  
If there is accidental contact with the connector while it is going through the reflow machine, there may be deformation or damage caused to the connector. Please check to prevent this.
13. 弊社の推奨基板パターン寸法を変更して設計を行なう際は、致命的な不良の原因にもなりますので、あらかじめご相談ください。  
In the case of changing our recommended board pattern size and designing, please consult in advance because it may cause a fatal defect.
14. 本製品は大気リフローでの実装を想定しています。N2リフローで実装した場合、リフロー後、半田上がりを生じる恐れがあります。N2リフローでの実装をお考えの場合、別途評価が必要になります。  
This product is designed to be mounted by air reflow. If mounted by N2 reflow, solder wicking may be caused after reflowing. please evaluate beforehand if mounting by N2 reflow has been planned.
15. 本製品の平坦度については、実装前での保証のみであり、実装中および実装後での平坦度については、保証の限りではありません。  
Coplanarity of this product is only guaranteed before mounting, and does not be guaranteed of after mounting and in reflow.

・製品の仕様について

16. 本製品をご使用時には、1PIN当りの定格以上の電流を複数の回路に分岐しての使用は避けて下さい。  
When using this product, please ensure that the specification for rated current per circuit is followed. Do not allow the sum of the current used on several circuits to exceed the maximum allowable current.

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17. 本製品をご使用時に取り付けられた電線・プリント基板の共振や、機器の回転構造や可動部分の動作によりコネクタ嵌合部（接点部）が常に動いてしまう状態での御使用は避けて下さい。接触部の摺動磨耗等による接触不良の原因となります。従って、機器内で電線・プリント基板を固定し、共振を抑える等の処置をお願い致します。  
Please do not use the connector in a condition where the wire, the printed circuit board, or the contact area is experiencing a sympathetic vibration of wires and printed circuit board, and constant movement of devices. This may cause a defect in the contact due to the contact area being worn down. Therefore, please fix wires and printed circuit board on the chassis, and reduces sympathetic vibration.
18. 活電状態の電気回路で、挿入、抜去ができることを前提に作られていません。スパーク等による危険の発生、性能不良につながりますので、活電状態での挿入、抜去はしないで下さい。  
This product is not designed for the mating and unmating of the connectors to be performed under the condition of an active electrical circuit. It may cause a spark and product defect if the connectors are mated and unmated in this way.
19. コネクタのみで基板を支えることは避け、コネクタ以外での基板固定対策を行ってください。  
Please do not use the connector alone to provide mechanical support for the printed circuit board (PCB). Please ensure that there is a fixed structure on the phone chassis or other component support for the PCB.
20. 一枚の基板にコネクタを複数実装する場合は、嵌合相手側はそれぞれ個別の基板に実装してご使用を願います。  
There should not be more than one Board to board connection between two separate PCB boards. When mounting several board to board connectors between parallel printed circuit boards, please ensure to separate each mated board to board connector by using separate printed circuit boards.
21. コネクタに外力が加わらないようにクリアランスをあげた筐体構造にしてください。  
Please keep enough clearance between connector and chassis of your application in order not to apply pressure on the connector.
22. 基板実装後に基板を直接積み重ねない様に注意してください。  
Please do not stack the printed circuit board directly after mounted the connector on it.
23. 本製品を結露・水濡れが発生する環境でのご使用の場合は、適切な防滴処置をお願い致します。結露・水濡れにより、回路間で絶縁不良を起こす可能性が御座います。  
When this product is used at an environment where dew condensation and water wetting will be occurred, please apply an appropriate drip-proof treatment. There is a possibility of causing insulation failure between the circuits by dew condensation and water wetting.
24. 梱包品の推奨保管条件を超えた場合は外観、半田付け性を確認の上ご使用ください。  
Please use after confirming the appearance and solderability if the recommended storage conditions of packaging goods is exceeded.
25. 推奨保管条件での保管をお願い致します。  
Please store the products under recommended storage condition.

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- 26. 基板実装前後に端子、補強金具に触らないでください。  
Please do not touch the terminals and fitting nails before or after reflowing the connector onto the printed circuit board.
- 27. 嵌合の際、嵌合が不十分にならないようご注意ください。また、セットへの組み込み後も、振動、衝撃等で嵌合の浮きが発生しないような状態にて使用してください。  
Please ensure that the connector is fully mated. After setting the connector and cable assembly in the device, please ensure that the connector does not become unengaged due to vibration and shock conditions.
- 28. 嵌合後、コネクタピッチ方向、スパン方向及び回転方向への負荷がかかるような動作またはセットはしないでください。コネクタ破壊やはんだクラックを引き起こします。  
After mated the connector, please do not allow the printed circuit boards to apply pressure on the connector in either the pitch direction or the span direction. It may cause damage to the connector and may crack the soldering.

・リペアについて

- 29. 実装後において半田ごてによる手修正を行う際は、必ず仕様書掲載の条件以内で行って下さい。条件を超えて実施した場合、端子の抜け、接点ギャップの変化、モールドの変形、溶融等、破損の原因になります。  
When conducting manual repairs using a soldering iron, please follow the soldering conditions shown in the product specification. If the conditions in the product spec are not followed, it may cause the terminals to fall off, a change in the contact gap, a deformation of the housing, melting of the housing, and damage the connector.
- 30. 半田こてによる手修正を行なう際、過度の半田やフラックスを使用しないで下さい。半田上がりやフラックス上がりにより接触、機能不良に至る場合があります。  
When conducting manual repairs using a soldering iron, please do not use more solder and flux than needed. This may cause solder wicking and flux wicking issues, and it will eventually cause a contact defect and functional issues.

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A	RELEASED	'05/07/11	J2006-0123	N.AIDA	K.TOYODA
B	REVISED	'05/11/29	J2006-1799	Y.NUKANOBU	T.HIRATA
C	REVISED	'08/11/26	J2009-1370	M.TAKASAKI	M.HAYASHI
D	REVISED	'09/01/22	J2009-1781	M.TAKASAKI	M.HAYASHI
E	REVISED	'10/01/28	J2010-1532	K.YAMANE	S.MARUYAMA
F	REVISED	2014/10/10	J2015-0392	Y.SATO06	T.ASAKAWA
G	REVISED	2015/10/05	J2016-0345	N.SASAYAMA	T.ASAKAWA

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