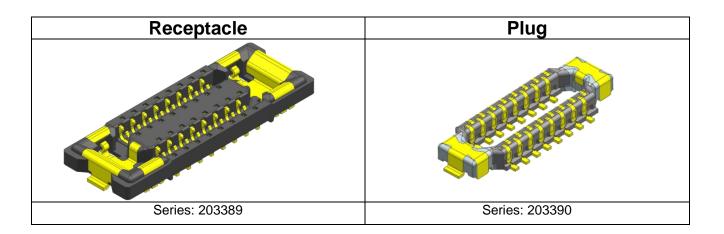


# Quad Row Board to Board CONNECTOR SYSTEM



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REVISION DESCRIPTION REVISED  CHANGE NO. 723243					0	0.175 BB CONN H=0.6 QUAD ROV PRODUCT SPECIFICATION	V	
REVISED BY	AISHII	DATE	2022/09/30	DOC TYPE		DOC TYPE DESCRIPTION	DOC PART	SERIES
REV APPR BY	KSASAKI	DATE	2022/10/19	PS		ENGINEERING SPECIFICATION WORD	000	203389
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INITIAL DRWN	DGONDO	DATE	2020/06/19	GENER	ΔΙ	2033890000-PS	С	1 OF 17
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TEMPLATE: 2090580003-PPS-A4 Rev A2 2020 / 04 / 05



#### 1. 主題

#### SUBJECT:

本製品仕様書は、

<u>"0.175mm ピッチ 基板対基板用 コネクタ"</u> について規定する。

This product specification covers the performance requirements for the <u>"0.175mm PITCH BOARD TO BOARD"</u> <u>connector system.</u>

#### 2. 製品について

## **PRODUCTS:**

#### 2.1 製品:

#### PRODUCTS:

SERIES	DESCRIPTION
2033890**1 2033890**3	Embossed Tape Package of Receptacle Assembly
2033900**1 2033900**3	Embossed Tape Package of Plug Assembly

#### 2.2 寸法、材質、めっき

DIMENSIONS, MATERIALS, PLATINGS

SD図面に記載

See sales drawings for details on dimensions, materials, and platings.

#### 2.3 環境適合:製品の環境コンプライアンス:

ENVIRONMENTAL CONFORMANCE: To fine product compliance information:

モレックスのサイトで製品検索をし、ページ下部の"製品の環境コンプライアンス"にて環境適合の状況を記載。

Go to molex.com and enter the part number in the search field.

At the bottom of the page go to "Environmental" to see compliance status.

## 3. 参考文書:

## **REFERANCE DOCUMENTS:**

DOCUMENT NUM	/BER	DESCRIPTION
TR-26384		Test Summary
2033890000-AS		Application Specification
2033890000-SD 2033900000-SD	(Receptacle) (Plug)	Packaging Specification
2033891000-SD 2033901000-SD	(Receptacle) (Plug)	Sales Drawing

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**GENERAL** 

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2020/07/07

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INITIAL APPR

# PRODUCT SPECIFICATION

#### 4. 定格

#### **ELECTRICAL RATINGS**

4.1 許容電圧: 50 V Maximum. [AC(実効値) / DC] VOLTAGE: 50 Volts Maximum. [AC(RMS) / DC]

4.2 許容電流: CURRENT:

> ターミナル: 0.3 A / PIN<sup>\*1</sup> Maximum [AC(実効値) / DC] ネイル: 3.0 A / PIN Maximum [AC(実効値) / DC] Terminal: 0.3 A / PIN<sup>\*1</sup> Maximum [AC(RMS) / DC] Fitting nail: 3.0 A / PIN Maximum [AC(RMS) / DC]

#### 4.3 使用温度範囲

**TEMPERATURE** 

Operating Temperature Range<sup>\*2</sup>: - 40°C to + 85°C<sup>\*3</sup>

#### 4.4 保管条件

STORAGE CONDITION

Temperature Range: - 10°C to + 50°C

Humidity: Less than 85%R.H. (Non-condensing is required.)
Terms: 6 months after shipped. (For unopened package)

- \*1:最大許容電流0.3Aでの使用は最大36極までとする。これ以上の極数についてはお問い合わせ下さい。
- 0.3 A / PIN Maximum is to be applied to 36pins MAX. Please contact for more pins.
- \*2: 基板実装後の無通電状態にも適用されます。

This temperature range shall cover the non-energized surface-mounted connectors.

\*3:通電による温度上昇分を含む。

This temperature range includes the temperature rise by energization.

## 5. 評価条件

## **EVALUATION CONDITION**

特別に指定がない限り、測定は以下の条件にて行われること。

Unless otherwise specified, the measurements/tests shall be conducted under the following condition.

Ambient temperature range :  $15^{\circ}\text{C}$  -  $35^{\circ}\text{C}$  Humidity range : 25% - 85% : 86kPa - 106kPa

但し判定に疑義を生じた場合は、以下の条件にて測定を行う。

However, any question arising out of the result, the measurements/tests shall be re-conducted under the following condition.

Ambient temperature range :  $20\pm1^{\circ}$ C Humidity range : 63% - 67%Air pressure : 86kPa - 106kPa

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## 6. 性能:

#### **PERFORMANCE**

## 6.1 電気的性能

# **ELECTRICAL PERFORMANCE**

Item	DESCRIPTION	Test Condition	Requirement
6.1.1	接触抵抗 Contact Resistance	実装した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 2- 1) Mate mounted connectors and measure contact resistance at less than 20mV of open circuit voltage and less than 10mA of short circuit current.(JIS C5402 2-1)	For Terminal : 35 milliohm Maximum For Nail : 20 milliohm Maximum
6.1.2	絶縁抵抗 Insulation Resistance	実装した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-ネイル間に DC 250V を印加し測定する。 (JIS C5402 3-1/MIL-STD-202 試験法 302) Mate mounted connectors and measure insulation resistance at 250V-DC applied to between terminals and terminal - nail that are adjacent. (JIS C5402 3-1/MIL-STD-202 Method 302)	100 Megohm Minimum
6.1.3	耐電圧 Dielectric withstand voltage	実装した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-ネイル間に AC(RMS) 250V (実効値) を 1 分間印加する。 (JIS C5402 4-1/MIL-STD-202 試験法 301) Mate mounted connectors and apply 250V-AC (RMS) to between the terminals and terminal - nail that are adjacent for 1 minute. (JIS C5402 4-1/MIL-STD-202 Method 301)	製品機能を損なう 異状なきこと No damage on function.
6.1.4	温度上昇 Temperature Rise	最大許容電流を嵌合されたコネクタに通電し、温度上昇分を測定する。 (UL 498) Apply maximum rated current to the mated connectors and measure the temperature rise. (UL 498)	30 °C Maximum

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# 6.2 機械的性能

# **MECHANICAL PERFORMANCE**

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT		
6.2.1	挿入力及び抜去力 Insertion and	1 分間 5 回以下 の速さで挿入、抜去を行う。		第7項参照	
	Withdrawal Force	Conduct insert and withdrawal at the speed of less than 5 cycles per minute.	Refe	r to paragraph 7	
6.2.2	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引っ張り、抜けるまでのピーク値を測定する。 Apply a load in Z-axis and measure the peak value until fall the terminal off from		Terminal N Minimum / pin kgf Minimum /pin}	
		the housing.  1分間 5回以下の速さで挿入、抜去を30回	(0.012	For Terminal	
6.2.3	繰返し挿抜 Repeatedly Insertion /	繰返す。 Repeatedly conduct insert and withdrawal up to 30 cycles at the speed	接触抵抗 Contact Resistance	: 45 milliohm Maximum  For Nail	
	Withdrawal	of less than 5 cycles per minute.		: 20 milliohm Maximum	
		実装した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	外 観 Appearance	製品機能を損なう 異状なきこと No damage on function.	
6.2.4	耐振動性 Vibration	幅 1.5mm の振動を 各2時間 加える。 (MIL-STD-202 試験法 201) With energizing 1mA-DC to mate mounted connectors, vibrate for 2 hours	接触抵抗 Contact Resistance	For Terminal : 45 milliohm Maximum For Nail : 20 milliohm Maximum	
		each in 3 mutually perpendicular planes with the following conditions; 1.5mm of amplitude, 10 - 55 - 10 Hz in 1 minute of sweep time. (MIL-STD-202 Method 201)	瞬 断 Discontinuity	1.0 micro second Maximum	
		実装した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/s² { 50G } の衝撃を作用時	外 観 Appearance	製品機能を損なう 異状なきこと No damage on function.	
	고나 (字: 南ひ 小山	間11ミリ秒で各3回加える。 (JIS C60068-2-27/MIL-STD-202 試験法 213)	接触抵抗 Contact	For Terminal : 45 milliohm Maximum	
6.2.5	耐衝擊性 Shock	With energizing 1mA-DC to mate mounted connectors, give 3 shocks each	Resistance	For Nail : 20 milliohm Maximum .	
		of 490m/s <sup>2</sup> { 50G } in 6 mutually perpendicular planes at duration of 11milliseconds. (JIS C60068-2-27/MIL-STD-202 Method 213)	瞬 断 Discontinuity	1.0 micro second Maximum	

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## 6.3 環境的性能とその他

# **ENVIRONMENTAL PERFORMANCE**

ITEM	DESCRIPTION	TEST CONDITION	RE	EQUIREMENT
		実装した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	外 観 Appearance	製品機能を損なう 異状なきこと No damage on function.
6.3.1	耐熱性 Heat Resistance	108) Mate mounted connectors and expose to the atmosphere of 85±2°C for 96 hours, then expose to the room ambient for 1 - 2 hours. (JIS C60068-2-2/MIL-STD-202 Method 108)	接触抵抗 Contact Resistance	For Terminal : 45 milliohm Maximum For Nail : 20 milliohm Maximum
6.3.2	耐寒性 Cold Resistance	実装したコネクタを嵌合させ、-40±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 mounted connectors and expose	外 観 Appearance	製品機能を損なう 異状なきこと No damage on function. For Terminal
		to the atmosphere of -40±3°C for 96 hours, then expose to the room ambient for 1 - 2 hours.  (JIS C60068-2-1)	接触抵抗 Contact Resistance	: 45 milliohm Maximum  For Nail : 20 milliohm Maximum
6.3.3	耐湿性 Humidity	実装したコネクタを嵌合させ、60±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 C60068-2-78/MIL-STD-202 試験法103) Mate mounted connectors and expose to the atmosphere of the condition;	外 観 Appearance 接触抵抗 Contact Resistance 耐電圧	製品機能を損なう 異状なきこと No damage on function. For Terminal : 45 milliohm Maximum For Nail : 20 milliohm Maximum
		60±2°C, 90% - 95% for 96 hours, then expose to the room ambient for 1 - 2 hours.  (JIS C60068-2-78/MIL-STD-202 Method 103)	Dielectric Strength 絶縁抵抗 Insulation Resistance	Must meet 6.1.3  50 Megohm Minimum
		実装した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。	外 観 Appearance	製品機能を損なう 異状なきこと No damage on function.
6.3.4	温度サイクル Temperature Cycling	試験後1~2時間室温に放置する。 (JIS C60068-2-14) Mate mounted connectors and expose to the test atmosphere for 5 cycles; 1 cycle is-55°C for 30 minutes and + 85°C for 30 minutes. Temperature transfer time should be less than 5 minutes. Then expose to room ambient for 1 - 2 hours. (JIS C60068-2-14)	接触抵抗 Contact Resistance	For Terminal : 45 milliohm Maximum For Nail : 20 milliohm Maximum

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## 6.3 環境的性能とその他 続き ENVIRONMENTAL PERFORMANCE continued

ITEM	DESCRIPTION	TEST CONDITION	RE(	QUIREMENT
		実装したコネクタを嵌合させ、35±2℃ にて 重量比5±1% 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。	外 観 Appearance	製品機能を損なう 異状なきこと No damage on function.
6.3.5	塩水噴霧 Salt spray	(JIS C60068-2-11/MIL-STD-202 試験法 101) Mate mounted connectors and expose to the salt spray atmosphere from the 5±1% solution at 35±2°C for 48±4 hours, then expose to room ambient for dry after water washed connectors. (JIS C60068-2-11/MIL-STD-202 Method 101)	接触抵抗 Contact Resistance	For Terminal : 45 milliohm Maximum For Nail : 20 milliohm Maximum
0.2.0	亜硫酸ガス	実装した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。	外 観 Appearance	製品機能を損なう 異状なきこと No damage on function.
6.3.6	SO2 Gas	Mate mounted connectors and expose to SO <sub>2</sub> gas atmosphere of 50±5ppm at 40±2°C for 24 hours.	接触抵抗 Contact Resistance	For Terminal : 45 milliohm Maximum  For Nail : 20 milliohm Maximum
6.3.7	半田付け性 Solderability	ターミナルをフラックスに浸し、245±5℃ の 半田に 3±0.5秒 浸す。 Dip the terminal in flux, then dip it in flux at 245±5℃for 3±0.5 second.	濡 れ 性 Solder Wettability	浸漬した金めっき 面積の95%以上 More than 95% of immersed gold plated area must show no voids or pin holes.
6.3.8	半田耐熱性 Resistance to Soldering Heat	<ul><li>&lt;リフロー時&gt;</li><li>第8項の条件にて、2回リフローを行う。</li><li><for reflow="" soldering=""></for></li><li>Conduct the reflow twice at the condition specified in the paragraph 8.</li></ul>	外 観 Appearance	製品機能を損なう 異状なきこと No damage on function.

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# 7. 挿入力及び抜去力

#### **INSERTION FORCE AND WITHDRAWAL FORCE**

():参考規格 Reference Spec

{ }:参考単位 Reference Unit

極 数	単 位	挿入力( Insertion forc	最大値) e (Maximum)	抜去力(最小值) Withdrawal force (Minimum)			
Number	UNIT	初回	30回目	初回	30回目		
of Circuit		1 <sup>st</sup>	30 <sup>th</sup>	1 <sup>st</sup>	30 <sup>th</sup>		
32	N {kgf}		9.7 01}	3 {0.:	.3 34}		
36	N	22	2.1	3.	.7		
	{kgf}	{2	26}	{0.:	38}		

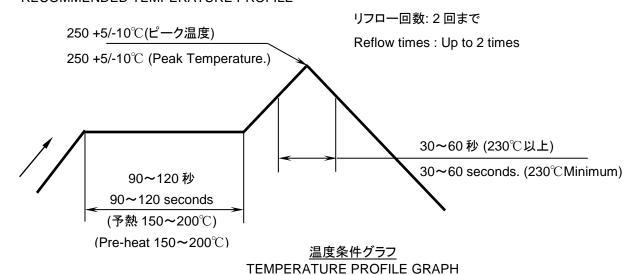
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# PRODUCT SPECIFICATION

- 8. リフロ一条件 REFLOW CONDITION
  - ・推奨温度プロファイル RECOMMENDED TEMPERATURE PROFILE



#### 注記 NOTE:

本リフロー条件に関しては、リフロー雰囲気、温度プロファイル、半田ペースト、基板などにより条件が異なりますので事前に実装評価(リフロー評価) を必ず実施願います。実装条件によっては、製品性能に影響を及ぼす場合があります。 Please check the surface-mounting condition (reflow soldering condition) on your own devices beforehand, because they may be different by the the reflow atmosphere, temperature profile, the solder paste, the type of the boards. The different conditions may have an influence on the product's performance.

(基板表面温度) (TEMPERATURE ON BOARD PATTERN SIDE)

- ・推奨ランド寸法 Recommended Pattern dimension: Rec: 2033891000-SD / Plug: 2033901000-SDをご参照下さい。 Refer to the Rec: 2033891000-SD / Plug: 2033901000-SD
- ・推奨メタルマスク厚さ Recommended Thickness of metal mask Rec: 2033891000-SD / Plug: 2033901000-SDをご参照下さい。 Refer to the Rec: 2033891000-SD / Plug: 2033901000-SD
- ・推奨メタルマスク開口率 Recommended Open aperture ratio of metal mask Rec: 2033891000-SD / Plug: 2033901000-SDをご参照下さい。 Refer to the Rec: 2033891000-SD / Plug: 2033901000-SD

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# PRODUCT SPECIFICATION

# 9. 取り扱い上の注意事項 INSTRUCTIONS FOR USE

[嵌合について- For Mating]

嵌合は極力嵌合軸に沿って平行に行って下さい。(図-1)

コネクタ同士を斜めにしたまま嵌合すると、ハウジング同士が干渉し、ハウジングが破損する恐れがあります。

または、不完全嵌合による不導通の恐れがあります。(図-2)

位置決め方法については2033890000-ASを参照してください。

Please mate the connector horizontally along the mating direction shown below. (See figure1)

Please DO NOT apply force while mating the receptacle or plug at an angle. It may cause damage to the connector. Or it may cause disconnect to the incomplete mating condition. (See figure 2)

About positioning, please refer to 2033890000-AS.



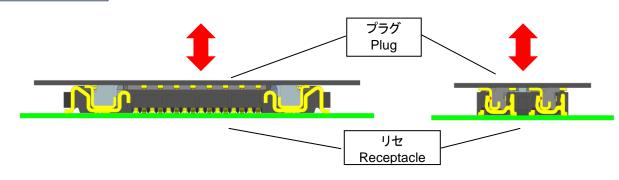


図-1 平行状態での挿抜 Fig.1 Mating / Un-mating in parallel manner

# Not preferred

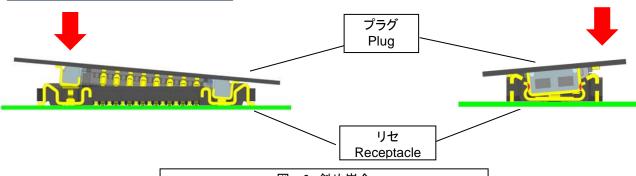


図-2 斜め嵌合 Fig.2 Diagonal mating by aligning Plug outside wall

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	INITIAL RELEAS	E		CUSTO	MER	DOCUMENT NUMBER	REVISION	SHEET		
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# PRODUCT SPECIFICATION

[抜去について- For Un-mating]

抜去は極力嵌合軸に沿って平行に行って下さい。(図-1)

または、左右に少しずつ振りながら行って下さい。(図-3)

過度のこじり抜去、コネクタ回転状態での抜去には注意して下さい。

これらの抜去方法ではコネクタが破壊する可能性があります。(図-4、図-5)

Please un-mate the connector horizontally along the mating direction shown below. (See figure 1)

Or please un-mate the connector by lightly shaking it from side to side. (See figure 3)

Please be very careful when un-mating the connector at an angle or connector rotational state.

These may cause damage to the connector. (See figure 4 and 5)

# Good

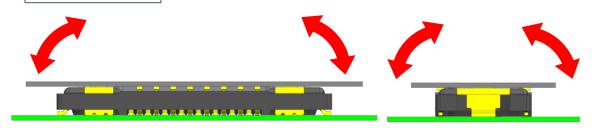
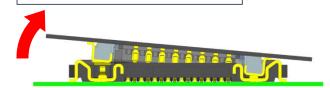
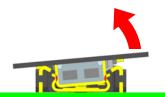


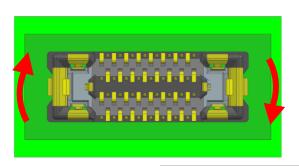
図-3 抜去 Fig.3 Un-mating by shaking side to side

# Not preferred





図ー4 こじり抜去 Fig.4 Un-mating with one strong rotation



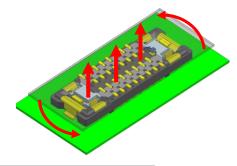


図-5 コネクタ回転状態での抜去 Fig.5 Un-mating with connector rotational state

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# PRODUCT SPECIFICATION

#### 6 その他 注意事項

#### OTHER PRECAUTIONS

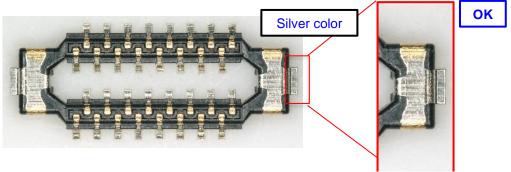
#### - 外観について Appearance

1. 本製品の樹脂部に黒点、多少の傷、微小な気泡、樹脂漏れ、ショートモールド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 dot, a scratch minimum air bubble on the housing, resin flash and short mold, it doesn't impact the product's performance. Also, although weld line may stand out due to LCP used to mold material of this product, it doesn't impact the product's performance.

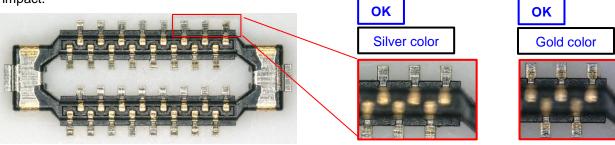
- 2. 本製品の端子とネイル表面に多少の傷が確認される事がありますが、製品性能には影響ありません。
  Although this product may have a small scratch on the terminal and fitting nail, this will have no influence on the product's performance.
- 3. 成形品の色相に多少の違いを生じる場合がありますが、製品性能には影響ありません。 Although there may be slight differences in the housing color tone, it doesn't impact the product's performance.
- 4. 本製品にはレーザー加工を用います。そのためレーザー加工特有の焼けが生じることがあり、その色味が若干異なる可能性がありますが、製品機能上問題ありません。
  Laser shot is applied to this product and the appearance would have some deviation but no problem on performance.
- 5. 実装部メッキ厚は実装面にて管理し、ネイル実装部の上面の色合いは金色でもシルバーでも、製品機能上問題ありません。

The Gold (Au) plating thickness of the fitting nail solder tail is only controlled on the bottom surface of the solder tail. The solder tail top surface color could be either a gold and/or silver color and has no functional impact.



6. 実装部メッキ厚は実装面にて管理し、端子実装部の上面の色合いは金色でもシルバーでも、製品機能上問題ありません。

The Gold (Au) plating thickness of the terminal solder tail is only controlled on the bottom surface of the solder tail. The solder tail top surface color could be either a gold and/or silver color and has no functional impact.

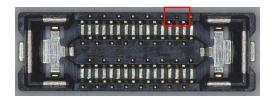


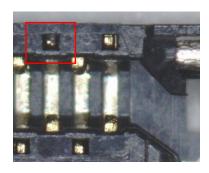
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# PRODUCT SPECIFICATION

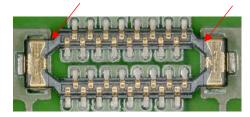
7. 天面部の成型穴が端子挿入時に削れ、端子天面が隠れる場合がありますが、製品機能に影響はありません。 When insert the terminal, the HSG would be scratched and hide the top of terminal. But that does not cause functional performance issue.

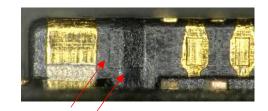




8. Plug 製品の一部に樹脂のひび割れのような線が確認されますが、異常ではありません。 製品機能に影響はありません。

The boundary line are confirmed on the plug. But it is normal appearance and not abnormal condition. There is no impact on product functionality.





#### ・実装について Mount

- 9. 本リフロー条件に関しては、実装条件(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、お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 make sure to do test run under the mounting condition (reflow soldering condition) on your own devices before use because reflow condition may change due to the local condition (temperature profile / solder paste, metal mask thickness / aperture rate / pattern layout of PWB / types of PWB / and other factors ). Depending on the mounting condition, product's performance might be influenced by occurrence of solder-wicking or flux wicking at contact area.
- 10. 本製品の一般性能確認はリジット基板にて実施しております。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 PWB. In case the product needs to be mounted onto FPC, please conduct a reflow test on the FPC before use.

- 11. 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。
  In case of mounting the connector onto FPC, add a stiffener on the FPC in order to prevent the deformation.
- 12. 本コネクタを搭載する基板(PWB/FPC)において、過度な温度上昇を避ける為、適切なパターンデザインを行ってください。

Please design appropriate pattern on boards (PWB / FPC) for this connector to avoid excess temperature rise.

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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 case of designing with changing our recommended board pattern size, please consult the contact person in advance because it may cause a fatal defect.

14. 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 Maximum 0.02mm として下さい。

The mounting specification for coplanarity does not include the influence of warpage of the PWB. Warpage of the PWB should be 0.02mm at maximum at center of the connector based on the both sides of connector.

- 15. 弊社評価では本仕様書記載の推奨条件に基づき評価を実施しています。 Our evaluation is conducted based on Molex-recommended condition specified in this product specification.
- 16. 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。

Only coplanarity before reflow is guaranteed. Coplanarity in and after reflow is not guaranteed.

17. 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。

The solderability of the terminal tip, which is cut surface without plating, is worse than the sides/back of the terminal with plating. However, it will not impact the product's function or the retention force if good soldering fillet is formed at the sides/back of the terminal.

- 18. 製品仕様上、テール上面まで半田濡れ上がりはありませんが、製品性能上問題ありません。
  Although the top surface of tail does not get wet with solder due to the product specification, it does not impact on the product's performance.
- 19. 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, it could occur terminal disengagement, short circuit between pins, terminal buckling or connector disengagement from the PWB. Therefore, please solder all of the soldering tails and fitting nails on the PWB.
- 20. 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 could be occurred on the areas except for the terminal contacts. However it does not impact on the product's performance.

- 21. 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 accidental contact is added onto connectors in the reflow machine, connectors could be deformed or damaged. Therefore review the reflow machine before use of the connectors.
- 22. 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。

Although color tone of housing or surface of terminal plating could be varied depending on reflow conditions, it does not impact on the product's performance.

23. リフロ一後、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 some discoloration could be seen on the soldering tail after reflow, it does not impact on the product's performance.

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# PRODUCT SPECIFICATION

## ・製品の仕様について Product specification

- 24. 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, ensure that the specification for rated current per a circuit is followed. Do not allow the sum of the current used on several circuits to exceed the maximum allowable current.
- 25. 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。 Do not use the connector in a condition where the mating area (contact area) are constantly moved due to sympathetic vibration of wires and PWB or constant movement of devices. It may cause contact failure due to the worn out. Therefore fix wires and PWB on the chassis to reduces sympathetic vibration.
- 26. コネクタに外力が加わらないようにクリアランスをあけた筐体構造にして下さい。
  Keep enough clearance between connector and chassis of your application in order to avoid pressure on the connector.
- 27. 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。
  Avoid using a connector alone to mechanically support the PWB. Adopt separate fixture to support PWB besides the connector in the chassis.
- 28. 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。

  Do not mate and un-mate connectors while those are energized since this connector is not designed to allow it. It may cause danger due to sparks and functional failure of the product.
- 29. 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。 When mounting several board to board connectors on a same PWB, ensure to mount the each mating connector on a separate PWB.
- 30. 本製品及び加工工程品(仕掛品)や加工品(ハーネス品)の梱包及び輸送・保管時において、コネクタ間での絡みや 衝撃、積み重ね等による負荷が掛からないようにして下さい。変形・破損等による性能不良の原因となります。 At packaging, transportation and storing, avoid applying loads to connectors by handling, interference of connectors or piling-up packages. It could cause functional defect such as connector deformation or breakage.
- 31. 推奨保管条件での保管をお願い致します。もし、梱包品の推奨保管条件を超えてしまった場合は外観、半田付け性を確認の上ご使用ください。
  - Store the products under recommended storage condition. If the recommended storage conditions of the packaging is exceeded, check the appearance of the products and solder-wettability before use.
- 32. 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。
  Do not stack PWB directly after mounting the connector on it.
- 33. コネクタの性能を損なう恐れがある為、コネクタの洗浄は、行わないで下さい。
  Do not wash connector because it may impact the product's function.
- 34. 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あります。コネクタ自体に防滴処理を行う場合、事前に性能をご確認の上ご使用下さい。

When using this product in an environment where dew condensation water wetting occur, apply an appropriate drip-proof treatment. Dew condensation and water wetting could cause insulation failure between the circuit. When performing drip-proof treatment on the connector, check the connector performance.

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# PRODUCT SPECIFICATION

## ・製品操作について Product operation

- 35. 基板実装前後に端子、補強金具に触らないでください。
  Do not touch the terminals and fitting nails of connectors before or after mounting onto the PWB.
- 36. 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。
  - Avoid move or assembly of connector which could apply loads to the direction of the connector pitch, span or rotation. It may damage the connector and crack the soldering.
- 37. 嵌合の際、嵌合が不十分にならないようにご注意下さい。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。
  - Ensure to mate connectors fully. Also mount and assemble the connector in your application unit with disengagement proof to avoid connector disengagement due to vibration or shocks.
- 38. コネクタの詳細な取り扱いにつきましては、別に定めるコネクタ取り扱い説明書 2033890000-AS を参照して下さい。
  - Refer to the Application Specification document "2033890000-AS" for details of connector handling instruction.

#### ・リペアについて Repair

- 39. 実装後において修正を行う際は、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, follow the soldering conditions shown in the product specification. If the conditions in the product specification are not followed, it may cause the terminal disengagement, contact gap change, housing deformation, housing melting, and connector damage.
- 40. 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, do not use excess solder and flux than needed. It may cause solder wicking and flux wicking issues, and also eventually cause a contact defect and functional issues.

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INITIAL APPR	YKOBAYASHI02	DATE	2020/07/07	OLIVEI	V/L	2033090000-1 3		10 01 17			

molex	PRODUCT SPECIFICATION								
REV.	REV. RECORD	DATE	EC NO.	WRITTEN BY :	CHECKED BY:				
1	PROPOSED	20/06/19	***	DGONDO	TRSUZUKI				
А	RELEASED	20/07/07	640848	DGONDO	TRSUZUKI				
В	REVISED	22/04/27	704693	AISHII	YKOBAYASHI02				
С	REVISED	22/09/30	723243	AISHII	YKOBAYASHI02				

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REVISION DESCRIPTION	REVISED			0.175 BB CONN H=0.6 QUAD ROW PRODUCT SPECIFICATION								
CHANGE NO.	723243											
REVISED BY	AISHII	DATE	2022/09/30	DOC TYPE	DOC TYPE DESCRIPTION		DOC PART	SERIES				
REV APPR BY	KSASAKI	DATE	2022/10/19	PS ENGINEERING SPECIFICATION WORD		000	203389					
INITIAL RELEASE			CUSTON	MER	DOCUMENT NUMBER	REVISION	SHEET					
INITIAL DRWN	DGONDO	DATE	2020/06/19	GENERAL		2033890000-PS	С	17 OF 17				
INITIAL APPR	YKOBAYASHI02	DATE	2020/07/07									