



PRODUCT SPECIFICATION



LANGUAGE
JAPANESE
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【1. 適用範囲 SCOPE】

本仕様書は、_____ 殿 に納入する

0.4mm ピッチ 細線同軸電線 対 基板用 コネクタ について規定する。

This specification covers the 0.4mm PITCH MICRO COAXIAL WIRE 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 アッセンブリー-水平嵌合タイプ Receptacle Assembly - Side Entry Type	【無鉛】 【Lead Free】 501044-***09 501044-***10 (エンボス梱包品) (Embossed Tape Package)
プラグ ハーネス-水平嵌合タイプ Plug Harness - Side Entry Type	【無鉛】 【Lead Free】 501800-****

* : 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 (Maximum)	30 V	[AC (実効値 rms) / DC]
最大許容電流 Rated Current (Maximum)	0.2 A	
使用温度範囲 Ambient temperature Range (Operating and Non-operating)	-30°C ~ +75°C* ¹ From -30 to +75 degree centigrade	

*1 : 通電による温度上昇分も含む
Including terminal temperature rise.

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D 変更 REVISED J2008-0904 '07/09/26 M.NABEI										製品仕様書										
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DESIGN CONTROL J					STATUS					WRITTEN BY: T.KANEKO		CHECKED BY: T.KANEKO		APPROVED BY: A.HORINO		DATE: YR/MO/DAY 2005/04/28				
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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 100mA にて測定する。 測定位置は第5項に示す。 (JIS C5402 5.4) Mate connectors, measure by drycircuit, 20mV MAX., 100mA. Contact resistance measuring points, see paragraph 【5】 (JIS C5402 5.4)	450mΩ 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及びターミナル・アース間に DC 125V を印加して測定する。 (JIS C5402 5.2/MIL-STD-202 試験法 302) Apply 125V DC between adjacent terminals, or terminal and ground. (JIS C5402 5.2/MIL-STD-202 Method 302)	100 MΩ 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 AC125V (実効値) を1分間印加する。 (JIS C5402 5.1/MIL-STD-202 試験法 301) Apply 125V AC(rms) for 1 minute between adjacent terminals, or terminal and ground. (JIS C5402 5.1/MIL-STD-202 Method 301)	異常無きこと No Breakdown

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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 Mating and Un-mating Force	適合するプラグにて、 毎分25±3mmの速さで 挿入・抜去を10回繰り返す。	挿入力 Mating Force	第7項参照
		When mated up to 10 cycles repeatedly at the 25±3mm per minute.	抜去力 Un-mating Force	
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 on the terminal assembled in the housing at the rate of 25±3 mm per minute.	0.49 N minimum { 0.05 kgf minimum }	
4-2-3	電線保持力 Wire Retention Force	コネクタを固定し、電線を軸方向に 毎分25±3mmの速さで引張る。 Fix the connector and Apply axial pull out force on the wire at the rate of 25±3 mm per minute.	1.96 N minimum { 0.2 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	繰り返し挿抜 Repeated Insertion/ Withdrawal	1分間10回以下の速さで挿入、抜去を10回繰り返す。 When mated up to 10 cycles repeatedly by the rate of 10cycles per minute.	接 触 抵 抗 Contact Resistance	初期からの変化量 : 50mΩ 以下 maximum change from initial : 50mΩ
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。 (UL498) Mate connectors and measure the temperature rise of contact is passed. (UL498)	温 度 上 昇 Temperature rise	30°C maximum 30 degree centigrade maximum
4-3-3	耐振動性 Vibration	DC1mA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) Mate connectors and subject to the following vibration conditions, for a period of 2 hours in each of 3 mutually perpendicular axes, passing DC 1mA during the test. Amplitude : 1.5mm P-P Frequency : 10-55-10 Hz Shall be traversed in 1 minute. (MIL-STD-202 Method 201)	外 観 Appearance	異常なきこと No Damage
			接 触 抵 抗 Contact Resistance	初期からの変化量 : 50mΩ 以下 maximum change from initial : 50mΩ
			瞬 断 Discontinuity	1.0μsec. maximum
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、 490 m/s ² (50G) の衝撃を 各3回 加える。 (JIS C60068-2-27/MIL-STD-202 試験法 213) Mate connectors and subject to the following shock conditions. 3 shocks shall be applied along 3 mutually perpendicular axes, passing DC 1 mA current during the test. (Total of 18 shocks) Test pulse : Half Sine Peak value : 490 m/s ² {50 G} Duration : 11 ms (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	初期からの変化量 : 50mΩ 以下 maximum change from initial : 50mΩ
			瞬 断 Discontinuity	1.0μsec. maximum

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項目 Item		条件 Test Condition	規格 Requirement	
4-3-5	耐熱性 Heat Resistance	<p>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)</p> <p>Mate connectors and expose to 85±2°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 C60068-2-2/MIL-STD-202 Method 108)</p>	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	初期からの変化量 : 50mΩ 以下 maximum change from initial : 50mΩ
4-3-6	耐寒性 Cold Resistance	<p>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)</p> <p>Mate connectors and expose to -40±3°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)</p>	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	初期からの変化量 : 50mΩ 以下 maximum change from initial : 50mΩ
4-3-7	耐湿性 Humidity	<p>コネクタ嵌合させ、温度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、て1~2時間室温に放置する。 (JIS C60068-2-3/MIL-STD-202 試験法 103)</p> <p>Mate connectors and expose to 60±2°C, relative humidity 90 to 95% 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 C60068-2-3/MIL-STD-202 Method 103)</p>	外観 Appearance	機能に影響する腐食無きこと There is no corrosion which influences the function.
			接触抵抗 Contact Resistance	初期からの変化量 : 50mΩ 以下 maximum change from initial : 50mΩ
			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	50MΩ minimum

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項 目 Item		条 件 Test Condition	規 格 Requirement	
4-3-8	温度サイクル Temperature Cycling	<p>コネクタを嵌合させ、$-40\pm 3^{\circ}\text{C}$に 30分、$+85\pm 2^{\circ}\text{C}$に 30分、これを1サイクルとし、5サイクルを繰り返す。 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)</p> <p>Mate connectors and subject to the following conditions for 5 cycles. 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.</p> <p>1 cycle</p> <p>a) $-40\pm 3^{\circ}\text{C}$ 30 minutes b) $+85\pm 2^{\circ}\text{C}$ 30 minutes (Transit time shall be within 5 minutes) (JIS C0025)</p>	外 観 Appearance	異常なきこと No Damage
			接 触 抵 抗 Contact Resistance	初期からの変化量 : $50\text{m}\Omega$ 以下 maximum change from initial : $50\text{m}\Omega$
4-3-9	塩 水 噴 霧 Salt Spray	<p>コネクタを嵌合させ、$35\pm 2^{\circ}\text{C}$ にて重量比 $5\pm 1\%$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。 (JIS C60068-2-11/MIL-STD-202 試験法101)</p> <p>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, after which the specified measurements shall be performed.</p> <p>NaCl solution Concentration : $5\pm 1\%$ Spray time : 48 ± 4hours Ambient temperature : $35\pm 2^{\circ}\text{C}$ (JIS C60068-2-11 /MIL-STD-202 Method 101)</p>	外 観 Appearance	機能に影響する 腐食無きこと There is no corrosion which influences the function.
			接 触 抵 抗 Contact Resistance	初期からの変化量 : $50\text{m}\Omega$ 以下 maximum change from initial : $50\text{m}\Omega$

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項 目 Item		条 件 Test Condition	規 格 Requirement	
4-3-10	亜硫酸ガス SO ₂ Gas	コネクタを嵌合させ、 温度40±2°Cにて50±5ppmの 亜硫酸ガス中に24時間放置する。 Mate connectors and expose to 50±5ppm SO ₂ gas, ambient temperature 40±2°C, for 24 hours.	外 観 Appearance	機能に影響する 腐食無きこと There is no corrosion which influences the function
			接 触 抵 抗 Contact Resistance	初期からの変化量 : 50mΩ 以下 maximum change from initial : 50mΩ
4-3-11	半田付け性 Solderability	ターミナル及びネールをフラックスに浸し、245±5°Cの半田に2~3秒浸す。 Dip soldertails into the molten solder [held at 245±5 degree centigrade] for 2~3 seconds.	濡 れ 性 Solder Wetting	浸漬面積の95%以上 95% of immersed area must show no voids, pin holes
4-3-12	半田耐熱性 Resistance to Soldering Heat	[リフロー時] 第8項のリフロー条件にて2回実施する。 [When reflow] Reference reflow condition at 8 clause. Reflow operation of 2 times.	外 観 Appearance	端子ガタ、割れ等の 異常なきこと No Damage
		[手半田時] 端子先端及びネール先端を350±10°Cの半田ごてにて3秒間加熱する。但し、端子に異常な加圧をしないこと。 [When soldering iron] Bit temperature : 350±10°C Soldering time : 3 second However, without too much pressure to the teminal.		

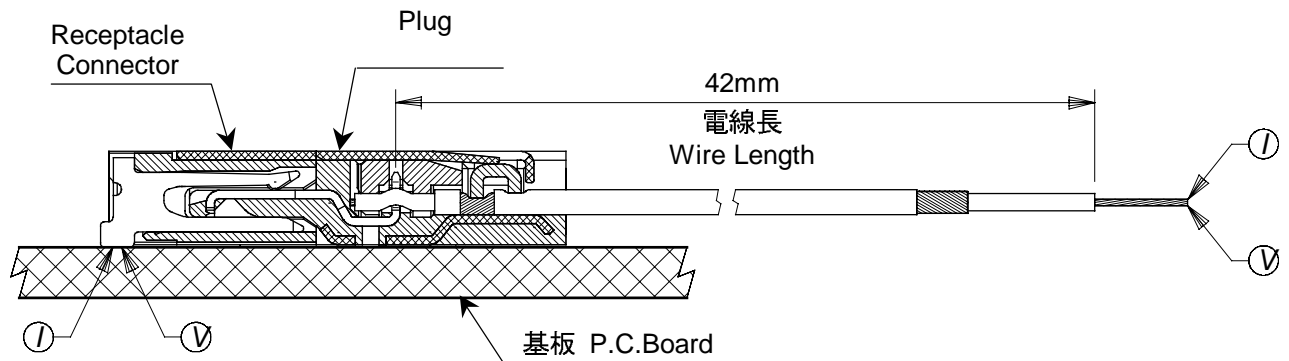
() : 参考規格 Reference Standard
 { } : 参考単位 Reference Unit

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【5. 接触抵抗測定位置 CONTACT RESISTANCE MEASURING POINTS】



電線長42mmの導体抵抗を含む

Contact resistance includes the conductor resistance for the wire. (L=42mm)

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

図面参照 Refer to the drawing.

【7. 挿入力及び抜去力 MATING / UN-MATING FORCE】

極数 No. of CKT.	単位 UNIT	挿入力 (以下) Mating force (maximum)			抜去力 (以上) Un-mating force (minimum)		
		初回 1st	6回目 6th	10回目 10th	初回 1st	6回目 6th	10回目 10th
30	N Kgf	39.2 {4.0}	39.2 {4.0}	39.2 {4.0}	4.00 {0.41}	3.50 {0.35}	3.50 {0.35}
40	N Kgf	49.0 {5.0}	49.0 {5.0}	49.0 {5.0}	5.00 {0.51}	4.50 {0.46}	4.50 {0.46}
50	N Kgf	58.8 {5.0}	58.8 {5.0}	58.8 {5.0}	6.00 {0.61}	5.50 {0.56}	5.50 {0.56}

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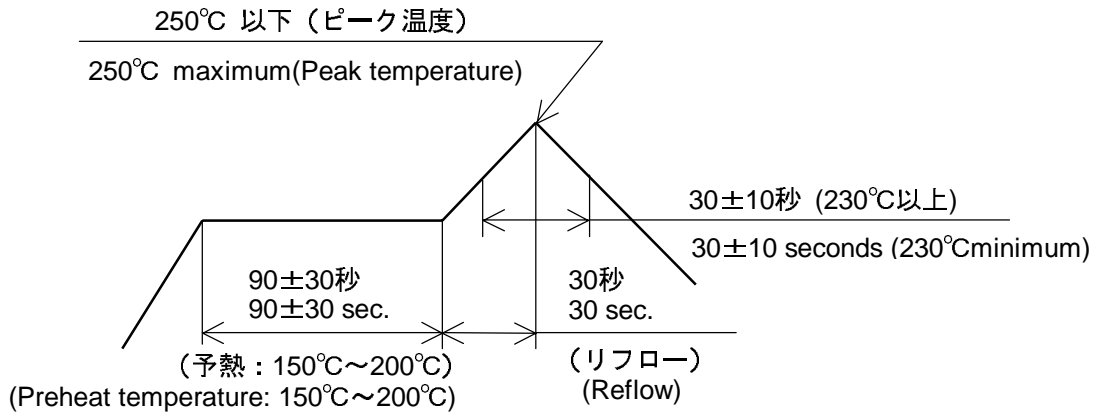
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【8. 赤外線リフロー条件 INFRARED REFLOW CONDITION】



温度条件グラフ
 (温度は基板レジスト部)
TEMPERATURE CONDITION GRAPH
 (TEMPERATURE ON BOARD RESISTED SIDE)

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.

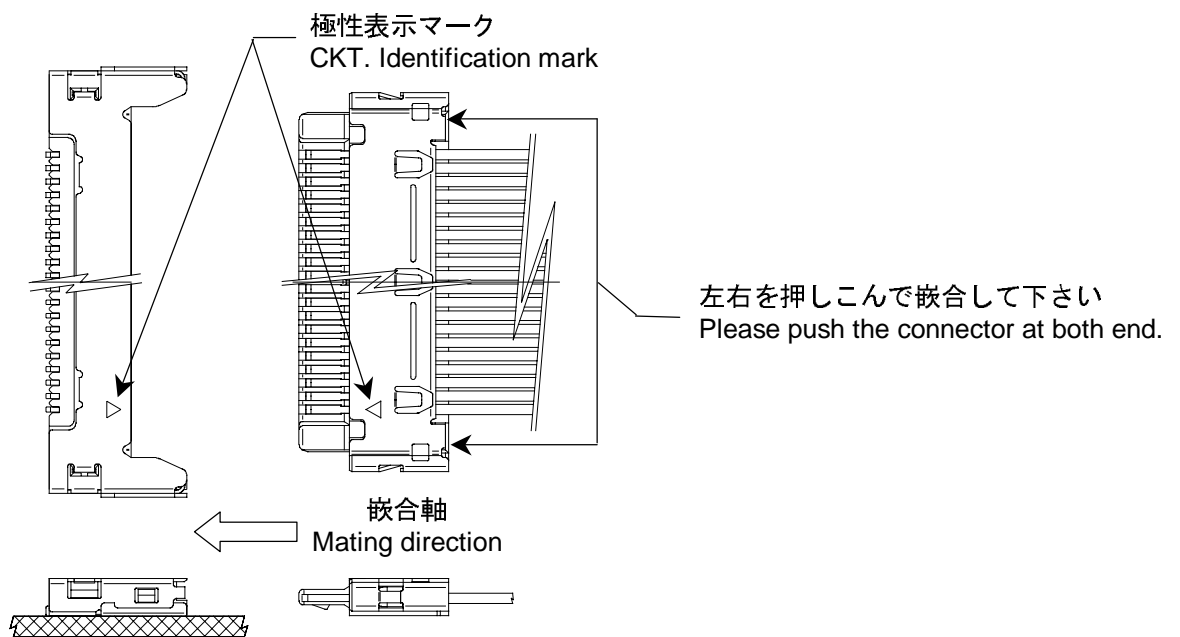
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【9. 使用上の注意事項 INSTRUCTION UPON USAGE】

[嵌合 MATE]

- 9-1. 嵌合は極力嵌合軸に沿って平行に行ってください。また、電線に負荷をかけながらの嵌合は避けてください。
Please mate the connector with parallel manner. Please do not overload the wires.
- 9-2. 製品の極性マークを合わせる方向で嵌合し、反転方向での嵌合無き様、作業を行ってください。
There is a mating polarity please do no do impossible mating to this item though the structure which cannot mate oppositely doing the inside and outside.

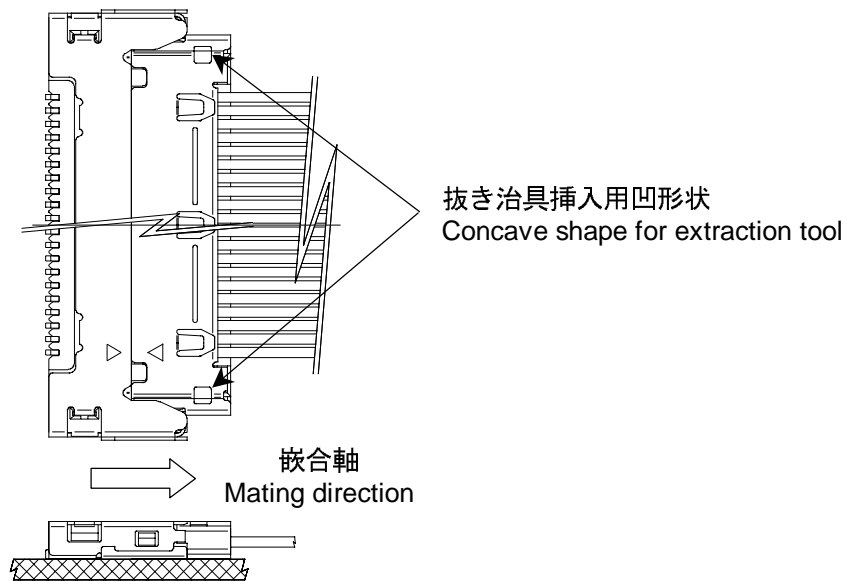


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[抜去 UN-MATE]

- 9-3. 電線をもつての抜去は避け、治具を使用してコネクタ本体を抜去して下さい。
Please unmate the connector by using the specific extraction tool and do not pull out the wires.
- 9-4. 抜去は極力嵌合軸に沿って平行に行ってください。過度のこじり抜去には注意して下さい。
Please unmate the connector with parallel manner. Please do not twist the connector too much.



- 9-5. 電線に常時張力が加わる状態での実装は避けて下さい。
Please avoid mounting in the state where tension always joins a wire.
- 9-6. コネクタ接触部には触れないで下さい。
Contacts of connectors shall be kept from human touch.

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D	REVISED	'07/09/26	J2008-0904	M.NABEI	T.HARUYAMA

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