

No. : 201-03-956

# 製品仕様書

## PRODUCT SPECIFICATION

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### **5650**Series

S-ATA Connector 1.27mm,1.0mm Pitch Plug RA SMT 13P  
(鉛フリー品 Lead-free Product)

京セラ株式会社  
KYOCERA Corporation

|    |          |            |             |            |             |
|----|----------|------------|-------------|------------|-------------|
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| NO | EDN/DCN  | DATE       | PREPARED by | CHECKED by | APPROVED by |

1. 品名 S-ATA Connector

2. 形式 S-ATA Connector 1.27mm , 1.0mm Pitch Plug RA SMT 13P  
[ 鉛フリー品 Lead-free Product ]

3. 適用範囲 Scope

本仕様書は 5650 シリーズコネクタの組立製品の仕様に適用する。

This specifies 5650 Series 1.27mm , 1.0mm Pitch Plug RA SMT 13P

4. 関連規格 Related documentation

- ・IEC 60512-1-100:2002 電子機器用コネクタ試験及び測定- 第 1-100 部:一般試験一覧  
Connectors for electronic equipment-Tests and measurements-  
Part 1-100:General-Applicable publications

5. 形状、寸法、及び材料 Configuration, Dimension, and Material

図面参照 Refer to drawings.

6. 製品型番 Part numbering

14 5650 013 00X XXX +

829 : ALL Au

868 : 禁制帯仕様 Nickel Dam

1 : STD金具 ・ センター金具 付き

With STD metal ・ With Center metal

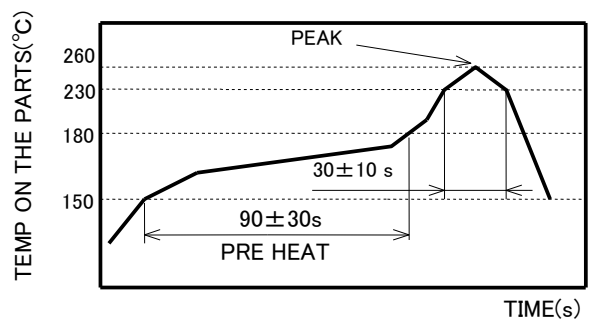
2 : HOLE金具 ・ センター金具 付き

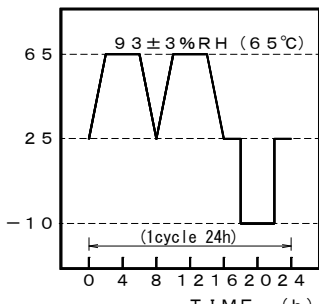
With HOLE metal ・ With Center metal

## 仕様 Spec

## 嵌合状態において、Under mating condition

|                     |   | 項目 Item                                          | 条件・方法 Condition                                                                                                                                       | 規格 Specification                                                                                                                                                              |
|---------------------|---|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.一般<br>General     | 1 | 定格電流<br>Current rating                           | —                                                                                                                                                     | DC 1.5A/contact                                                                                                                                                               |
|                     | 2 | 定格電圧<br>Voltage rating                           | —                                                                                                                                                     | AC 30V MAX                                                                                                                                                                    |
|                     | 3 | 使用温度範囲<br>Operation environment                  | —                                                                                                                                                     | -40℃ ～ 85℃<br>低温に於いて氷結ないこと。<br>結露しないこと。<br>通電による温度上昇分も含む。<br>Ice-free at the low temperature.<br>No condensation shall occur.<br>Including terminal temperature rise.         |
|                     | 4 | 保存温度範囲<br>Storage environment                    | 梱包状態にて<br>While packed                                                                                                                                | -40℃ ～ 60℃<br>低温に於いて氷結ないこと。<br>結露しないこと。<br>Ice-free at the low temperature.<br>No condensation shall occur.                                                                   |
| 8.機械的<br>Mechanical | 1 | 外観<br>Appearance                                 | 目視<br>Visual inspection                                                                                                                               | 機能に有害なサビ、汚れ、キズ、変形等のないこと。<br>No rust, contamination, damage or deformation effecting on function                                                                               |
|                     | 2 | 総合嵌合・離脱力<br>Total insertion and separation force | 25mm/min.                                                                                                                                             | 総合嵌合力 Total insertion force<br>ラッチなしケーブルコネクタ; 45N MAX<br>Cable Conn. without latch<br><br>総合離脱力 Total separation force<br>ラッチなしケーブルコネクタ; 10N MIN<br>Cable Conn. without latch |
|                     | 3 | コンタクト保持力<br>Contact retention force              | 25mm/min.                                                                                                                                             | 2.0N MIN.                                                                                                                                                                     |
|                     | 4 | 挿抜耐久性<br>Durability                              | 無通電状態で<br>without Current applied<br>10 times/min., 50 times                                                                                          | 接触抵抗 Contact resistance<br>45mΩ MAX.                                                                                                                                          |
|                     | 5 | 振動<br>Vibration                                  | 10～55～10 Hz/min.<br>/1.5mm (peak to peak)<br>/DC 100mA<br>(2h per direction; XYZ, 6h in total)<br><b>IEC 60068-2-6:1995</b><br><b>JIS C 0040:1999</b> | 瞬断 Discontinuity<br>1μs MAX.<br>外観 Appearance<br>機械的破損、部品のゆるみクラック等ないこと。<br>No damage, loose part or crack.<br>接触抵抗 Contact resistance<br>45mΩ MAX.                            |

|                                                                                                                                                                                                                                                             |   |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                             | 6 | 衝撃<br>Shock                               | 50 G / 11ms<br>/ DC 100mA<br>(3times per direction; XYZ)<br><b>IEC 60068-2-27:1972</b><br><b>JIS C 0041:1995</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 瞬断 Discontinuity<br>1 $\mu$ s MAX.<br>外観 Appearance<br>機械的破損、部品のゆるみクラック<br>等ないこと。<br>No damage, loose part or crack. |
|                                                                                                                                                                                                                                                             | 7 | はんだ付性<br>Solderability                    | 245 $\pm$ 3°C / 3 $\begin{smallmatrix} 0 \\ -1 \end{smallmatrix}$ sec. immersion<br><b>IEC 60068-2-20:1979</b><br><b>JIS C 0050:1996</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 浸漬部にはんだが 95%以上<br>More than 95% of immersed area<br>shall be covered with solder.                                    |
|                                                                                                                                                                                                                                                             | 8 | はんだ耐熱性<br>Resistance to<br>solder heat    | <p>&lt;手はんだ Hand soldering&gt;<br/>はんだごて温度<br/>Solder iron : 350<math>\pm</math>10°C<br/>時間 Duration : 3 <math>\begin{smallmatrix} +1 \\ 0 \end{smallmatrix}</math> sec.<br/>但し、コンタクトに異常加圧のない<br/>こと。<br/>Excessive pressure shall not be<br/>applied to the terminals.<br/><b>IEC 60068-2-20:1979</b><br/><b>JIS C 0050:1996</b></p> <p>&lt;リフロー Reflow&gt;<br/>下記プロファイル参照<br/>See the following condition<br/>リフローは 2 回まで可<br/>Number of cycles: 2 times<br/>※但し、2 回目は常温に戻す事<br/>Second reflow process must<br/>be conducted after the<br/>product temperature has<br/>down to the room condition.<br/>ピーク PEAK: 260°C<br/>(Modified)<br/><b>IEC 60068-2-58:1999</b><br/><b>JIS C 0054:2002</b></p> | 端子ガタ、変形等ないこと。<br>No loose contacts nor deformation.                                                                  |
|  <p>TEMP ON THE PARTS(°C)</p> <p>260<br/>230<br/>180<br/>150</p> <p>PEAK</p> <p>30 <math>\pm</math> 10 s</p> <p>90 <math>\pm</math> 30s<br/>PRE HEAT</p> <p>TIME(s)</p> |   |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                      |
| 9.電氣的<br>Electrical                                                                                                                                                                                                                                         | 1 | 耐電圧<br>Dielectric<br>withstanding voltage | AC 500V、1min.<br>(Leak 2mA)<br><b>JIS C 5402 (5.1):1992</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | フラッシュオーバー、スパークオーバー、<br>絶縁破壊ないこと。<br>No flashover, spark over<br>dielectric breakdown                                 |
|                                                                                                                                                                                                                                                             | 2 | 絶縁抵抗<br>Insulation resistance             | DC 500V、1min.<br><b>JIS C 5402 (5.2):1992</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 初期 Initial<br>1000M $\Omega$ MIN.                                                                                    |

|                       |                                                |                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                 |                      |                     |   |       |    |   |                                 |        |   |      |    |   |                                 |        |                                                                                              |
|-----------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------|---------------------|---|-------|----|---|---------------------------------|--------|---|------|----|---|---------------------------------|--------|----------------------------------------------------------------------------------------------|
|                       | 3                                              | ローレベル接触抵抗<br>Low level<br>contact resistance                                                                                                               | 四端子法にて<br>100mA MAX: 20mV MAX<br>Four prove method<br>JIS C 5402 (5.3): 1992                                                                                                                                                                                                                                                                                                                                                     | 30mΩ MAX.                                                                                       |                      |                     |   |       |    |   |                                 |        |   |      |    |   |                                 |        |                                                                                              |
|                       | 4                                              | 温度上昇<br>Temperature rise                                                                                                                                   | 嵌合状態でコンタクトを直列に結線<br>Under mating condition,<br>all contacts shall be connected<br>serially.<br>JIS C 5402 (5.10): 1992                                                                                                                                                                                                                                                                                                           | 定格電流(1.5A)にて 30K MAX.<br>at the Current rating                                                  |                      |                     |   |       |    |   |                                 |        |   |      |    |   |                                 |        |                                                                                              |
| 10.耐環境<br>Environment | 1                                              | 二酸化硫黄<br>SO <sub>2</sub>                                                                                                                                   | 40±2℃ / 75% / 10±1ppm<br>/ 96h                                                                                                                                                                                                                                                                                                                                                                                                   | 外観 Appearance<br>著しい腐食が生じないこと。<br>No evident corrosion.<br>接触抵抗 Contact resistance<br>45mΩ MAX. |                      |                     |   |       |    |   |                                 |        |   |      |    |   |                                 |        |                                                                                              |
|                       | 2                                              | 塩水噴霧<br>Salt mist                                                                                                                                          | 5±1weight% / 35±2℃<br>/ 48h<br>IEC 60068-2-11: 1981<br>JIS C 0023: 1989                                                                                                                                                                                                                                                                                                                                                          | 外観 Appearance<br>著しい腐食が生じないこと。<br>No evident corrosion.<br>接触抵抗 Contact resistance<br>45mΩ MAX. |                      |                     |   |       |    |   |                                 |        |   |      |    |   |                                 |        |                                                                                              |
|                       | 3                                              | 温度サイクル<br>Temperature cycling                                                                                                                              | 10 cycles<br>(Modified) IEC 60068-2-14: 1984、<br>-33: 1971<br>JIS C 0025: 1988<br><table><tr><td>段階<br/>Step</td><td>温度(℃)<br/>Temperature</td><td>時間(分)<br/>Time(min.)</td></tr><tr><td>1</td><td>-55±3</td><td>30</td></tr><tr><td>2</td><td>25<sup>+10</sup><sub>-5</sub></td><td>5 MAX.</td></tr><tr><td>3</td><td>85±2</td><td>30</td></tr><tr><td>4</td><td>25<sup>+10</sup><sub>-5</sub></td><td>5 MAX.</td></tr></table> | 段階<br>Step                                                                                      | 温度(℃)<br>Temperature | 時間(分)<br>Time(min.) | 1 | -55±3 | 30 | 2 | 25 <sup>+10</sup> <sub>-5</sub> | 5 MAX. | 3 | 85±2 | 30 | 4 | 25 <sup>+10</sup> <sub>-5</sub> | 5 MAX. | 外観 Appearance<br>異常ないこと。<br>Without distinct damage.<br>接触抵抗 Contact resistance<br>45mΩ MAX. |
|                       | 段階<br>Step                                     | 温度(℃)<br>Temperature                                                                                                                                       | 時間(分)<br>Time(min.)                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                 |                      |                     |   |       |    |   |                                 |        |   |      |    |   |                                 |        |                                                                                              |
| 1                     | -55±3                                          | 30                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                 |                      |                     |   |       |    |   |                                 |        |   |      |    |   |                                 |        |                                                                                              |
| 2                     | 25 <sup>+10</sup> <sub>-5</sub>                | 5 MAX.                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                 |                      |                     |   |       |    |   |                                 |        |   |      |    |   |                                 |        |                                                                                              |
| 3                     | 85±2                                           | 30                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                 |                      |                     |   |       |    |   |                                 |        |   |      |    |   |                                 |        |                                                                                              |
| 4                     | 25 <sup>+10</sup> <sub>-5</sub>                | 5 MAX.                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                 |                      |                     |   |       |    |   |                                 |        |   |      |    |   |                                 |        |                                                                                              |
| 4                     | 温湿度サイクル<br>Temperature and<br>humidity cycling | 10 Cycle / 65℃ / 93±3%<br>IEC 60068-2-38: 1974<br>JIS C 0028: 1988<br> | 接触抵抗 Contact resistance<br>45mΩ MAX.<br>耐電圧<br>Dielectric withstanding voltage<br>フラッシュオーバー、スパーク<br>オーバー絶縁破壊ないこと。<br>No flashover, spark over,<br>dielectric breakdown                                                                                                                                                                                                                                                           |                                                                                                 |                      |                     |   |       |    |   |                                 |        |   |      |    |   |                                 |        |                                                                                              |

|  |   |                                                       |                                                                             |                                                                                                                                                                                                                      |
|--|---|-------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 5 | 湿度(定常状態)<br>Moisture resistance<br>(Normal condition) | 60°C / 90~95% / 500h<br><b>IEC 60068-2-3:1969</b><br><b>JIS C 0022:1987</b> | 接触抵抗 Contact resistance<br>45mΩ MAX.<br>耐電圧<br>Dielectric withstanding voltage<br>フラッシュオーバー、スパーク<br>オーバー絶縁破壊ないこと。<br>No flashover, spark over,<br>dielectric breakdown<br>絶縁抵抗 Insulation resistance:<br>1000MΩ MIN. |
|  | 6 | 高温加速(寿命)<br>High temperature(Life)                    | 85±2°C / 500h<br><b>IEC-60068-2-2:1974</b><br><b>JIS C 0021:1995</b>        | 接触抵抗 Contact resistance<br>45mΩ MAX.                                                                                                                                                                                 |
|  | 7 | 耐寒性 Cold resistance                                   | -40±3°C / 48h<br><b>IEC 60068-2-1:1990</b><br><b>JIS C 0020:1995</b>        | 接触抵抗 Contact resistance<br>45mΩ MAX.                                                                                                                                                                                 |

**特記事項 Special Instructions**

弊社は、本製品が本仕様書に適合していることを保証します。なお、以下の事項につきましては貴社と協議の上で対応させていただきます。

It is assured by us that the products conform to this specification. Nevertheless, the following matters will be determined after due consultation with you.

- (1) 本製品については、本仕様書に記載された内容にもとづいて弊社が責任を負うものです。従いまして、本仕様書に記載のない事項、特に納入に際し配慮すべき事項等がある場合は、その旨、ご指示を頂き、貴社との協議を経て本仕様書を修正し、再発行致します。

Based on the contents written in this specification, we shall be liable for the products. If there are any particulars or matters that are not described herein, especially cautions or notes to be considered when the products are delivered, please give such advices to us. The specification will be modified as required and re-published after due consultation with you.

- (2) 本製品の貴社への納入後、万一本製品に弊社責任による不具合の存在があきらかになった場合、貴社と弊社間で取引基本契約書を締結している場合は、瑕疵担保責任条項に従って履行します。また当該契約書を締結していない場合は、代替品の納入、不具合品の交換、または修理を行います。

If a problem arising from our failure comes clear on products after they are delivered to you, we implement the defect liability provision in the basic contact document if when both of us entered into the document. When any basic contact document is not entered into by us, we will deliver substitutive products, or replace or repair defective products.

- (3) 以下の場合については、本製品の保証をご容赦願います。

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If it is proved that the products were subjected to any conditions other than those provided in this document in handling or storage and during transport after the products have been delivered to you.

2. 地震、洪水、火災等の天災地変あるいは輸送機関の事故、争議、戦争等不可抗力に起因する本製品の不具合。

Any product failure due to natural disasters such as earthquake, flood, fire or else, or force majeure such as transport accident, dispute, war or etc.

**有害物質の規制遵守について Conformance to restrictions of hazardous substances**

本製品には以下の物質を含有しておりません。さらに製造工程に於いても使用しておりません。

The following substances are not included in this product or used in production processes.

オゾン層破壊物質 Ozone depleting substances

特定臭素系難燃剤 Specific brominated substances, PBBP, BDE

重金属 Heavy metals

水銀、カドミウム、六価クロム

Mercury, Cadmium, Hexavalent chromium

疑義が生じた場合は、和文を優先する。

Priority shall be given to the expression written in Japanese when any unclearness arises in this specification.