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Part Number:

54819-0519

Status:

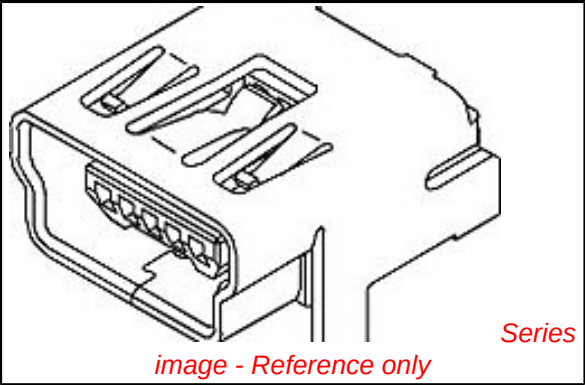
Active

Overview:

USB OTG (On-The-Go)

Description:

USB On-The-Go (OTG) Mini-B Receptacle, Right Angle, Through Hole Solder Tails and Shell Tabs, Lead-Free



Documents:

[3D Model](#)

[Drawing \(PDF\)](#)

[Product Specification PS-56579-015 \(PDF\)](#)

[Packaging Specification SPK-54819-001 \(PDF\)](#)

[RoHS Certificate of Compliance \(PDF\)](#)

|                                |                                |
|--------------------------------|--------------------------------|
| Agency Certification           |                                |
| UL                             | E29179                         |
| General                        |                                |
| Product Family                 | I/O Connectors                 |
| Series                         | 54819                          |
| Application                    | Wire-to-Board                  |
| Component Type                 | Receptacle                     |
| MolexKits                      | Yes                            |
| Overview                       | USB OTG (On-The-Go)            |
| Product Name                   | USB OTG (On-The-Go)            |
| Type                           | Mini-B                         |
| UPC                            | 822348124435                   |
| Physical                       |                                |
| Circuits (Loaded)              | 5                              |
| Circuits (maximum)             | 5                              |
| Color - Resin                  | Black                          |
| Flammability                   | 94V-0                          |
| Gender                         | Receptacle                     |
| Lock to Mating Part            | Yes                            |
| Material - Metal               | High Performance Alloy (HPA)   |
| Material - Plating Mating      | Gold                           |
| Material - Plating Termination | Tin                            |
| Material - Resin               | High Temperature Thermoplastic |
| Net Weight                     | 0.500/g                        |
| Orientation                    | Right Angle                    |
| PC Tail Length                 | 1.80mm                         |
| PCB Retention                  | Yes                            |
| PCB Thickness - Recommended    | 1.00mm                         |
| Packaging Type                 | Tray                           |
| Panel Mount                    | No                             |
| Pitch - Mating Interface       | 0.80mm                         |
| Plating min - Mating           | 0.762µm                        |
| Plating min - Termination      | 1.016µm                        |
| Polarized to Mating Part       | Yes                            |
| Surface Mount Compatible (SMC) | Yes                            |
| Temperature Range - Operating  | -20°C to +85°C                 |
| Termination Interface: Style   | Through Hole                   |
| Wire Size AWG                  | N/A                            |
| Electrical                     |                                |
| Current - Maximum per Contact  | 1A                             |
| Shielded                       | Yes                            |
| Voltage - Maximum              | 30V                            |

EU RoHS

ELV and RoHS Compliant

REACH SVHC

Contains SVHC: No

Low-Halogen Status

Not Low-Halogen

China RoHS



Need more information on product environmental compliance?

Email [productcompliance@molex.com](mailto:productcompliance@molex.com)  
For a multiple part number RoHS Certificate of Compliance, [click here](#)

Please visit the [Contact Us](#) section for any non-product compliance questions.

Search Parts in this Series

54819Series

Mates With

59204-9401 , 59205-3301

**Solder Process Data**

|                                                |                           |
|------------------------------------------------|---------------------------|
| Duration at Max. Process Temperature (seconds) | 10                        |
| Lead-free Process Capability                   | Reflow Capable (SMT only) |
| Max. Cycles at Max. Process Temperature        | 1                         |
| Process Temperature max. C                     | 260                       |

**Material Info**

**Reference - Drawing Numbers**

|                         |                                                                                                                                                                             |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging Specification | SPK-54819-001                                                                                                                                                               |
| Product Specification   | PS-56579-015, RPS-54819-017, RPS-54819-030,<br>RPS-54819-032, RPS-54819-033, RPS-56579-003,<br>RPS-56579-004, RPS-56579-007, RPS-56579-008,<br>RPS-56579-009, RPS-56579-010 |
| Sales Drawing           | SD-54819-026                                                                                                                                                                |

This document was generated on 09/04/2013

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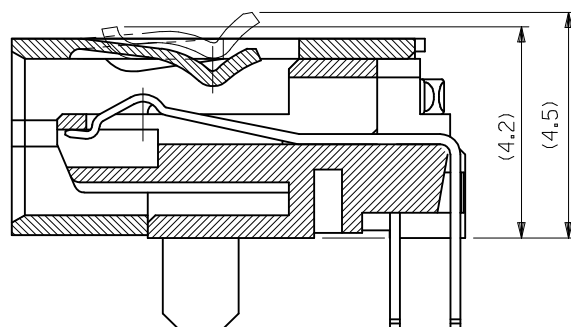
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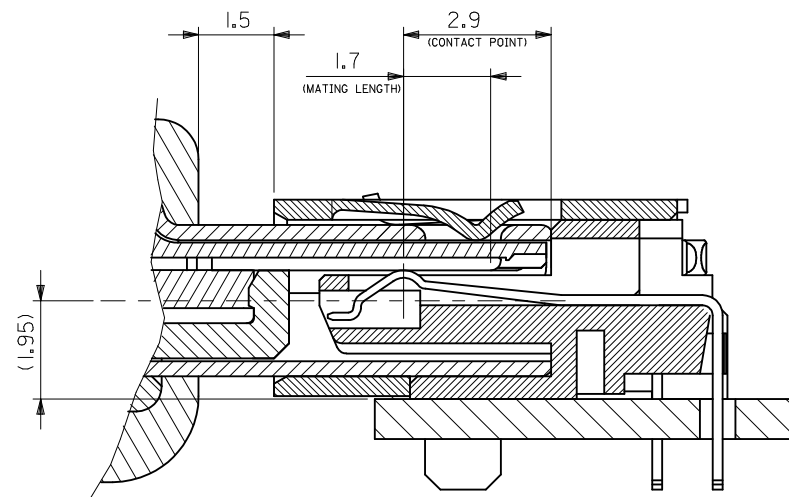
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B

A



SECTION



MATING

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|         |                   |            |
|---------|-------------------|------------|
| REVISED | EC NO: J2009-1533 | 2009/06/25 |
|         | DRW:ESATO         | 2009/06/25 |
|         | CHKD:HMATSUMOTO   | 2009/06/25 |
|         | APPR:NUKITA       | 2009/06/25 |
| A       | DESCRIPTION       | REV        |

| GENERAL TOLERANCES<br>(UNLESS SPECIFIED)                   |       |  |
|------------------------------------------------------------|-------|--|
| 10 UNDER                                                   | ±0.2  |  |
| 10 OVER 30 UNDER                                           | ±0.25 |  |
| 30 OVER                                                    | ±0.3  |  |
| ANGULAR                                                    | ±3 °  |  |
| DRAFT WHERE APPLICABLE<br>MUST REMAIN<br>WITHIN DIMENSIONS |       |  |

| DIMENSION STYLE<br>MM ONLY |            |
|----------------------------|------------|
| DRAWN BY                   | DATE       |
| M. NAGATA                  | 2004/04/28 |
| CHECKED BY                 | DATE       |
| K. TOJO                    | 2004/04/28 |
| APPROVED BY                | DATE       |
| M. SASAO                   | 2004/04/28 |
| MATERIAL NO.               |            |
| SEE SHEET 1                |            |
| SIZE                       |            |
| A3                         |            |

|                                                                                                                                  |              |
|----------------------------------------------------------------------------------------------------------------------------------|--------------|
| MODEL NO.                                                                                                                        | 54819-**-19  |
| SCALE                                                                                                                            | 10:1         |
| DESIGN UNITS                                                                                                                     | METRIC       |
| THIRD ANGLE<br>PROJECTION                                                                                                        |              |
| TITLE                                                                                                                            |              |
| USB SERIES MINI-B<br>RECEPTACLE ASS'Y<br>-LEAD FREE-                                                                             |              |
| MOLEX INCORPORATED                                                                                                               |              |
| DOCUMENT NO.                                                                                                                     | SD-54819-026 |
| SHEET NO.                                                                                                                        | 2 OF 2       |
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## PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
ENGLISH

## 4-1. 電気的性能 Electrical Performance

| 項 目<br>Item |                                    | 条 件<br>Test Condition                                                                                                                                                                                                            | 規 格<br>Requirement                                                                                                                                        |
|-------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4-1-1       | 接触抵抗<br>Contact Resistance         | コネクタを嵌合させ、開放電圧20mV以下、短絡電流100mA以下にて測定する。<br>但し電線の導体抵抗は除く。(6項参照)<br>(EIA-364-23)<br>Mate connectors, measure by dry circuit, 20mV maximum, 100mA maximum.<br>Except wire conductor resistance. (refer to 6 clause)<br>(EIA-364-23) | 50 milliohms maximum<br>初期及び5000回<br>挿抜後<br>Initial and after Mate/<br>Un-mate 5000 cycles                                                                |
| 4-1-2       | 絶縁抵抗<br>Insulation Resistance      | コネクタを嵌合及び未嵌合状態にし、隣接するターミナル間及びターミナル、アース間にDC100Vを印加し測定する。(EIA-364-21)<br>Mate/un-mate connectors, apply 100V DC between adjacent terminals or ground. (EIA-364-21)                                                                 | 100 Megohm minimum                                                                                                                                        |
| 4-1-3       | 耐電圧<br>Dielectric Strength         | コネクタを嵌合及び未嵌合状態にし、隣接するターミナル間及びターミナル、アース間にAC(rms) 100V(実効値)を1分間印可する。<br>(EIA-364-20)<br>Mate/Un-mate connectors, apply 100V AC(rms) for 1 minute between adjacent terminals or ground. (EIA-364-20)                                | 異常なきこと<br>No Breakdown                                                                                                                                    |
| 4-1-4       | 温度上昇<br>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。(EIA-364-70)<br>Mate connectors and measure the temperature rise of contact when the maximum AC rated current is passed.<br>(EIA-364-70)                                                    | 温度上昇<br>Temperature Rise<br>30°C maximum                                                                                                                  |
| 4-1-5       | 静電容量<br>Capacitance                | 未嵌合コネクタの隣接する回路間を1kHzで測定する。(EIA-364-30)<br>Measured between adjacent circuits of unmated connectors at 1kHz. (EIA-364-30)                                                                                                         | 2pF maximum                                                                                                                                               |
| 4-1-6       | ケーブル<br>インピーダンス<br>Cable Impedance | 試験治具にケーブルを繋ぎ、TDRにて測定する。装置は次ページ参照。<br>Connect the cable to test fixture, measure by TDR. Measurement configuration are next pages.                                                                                                | <USB1.1><br>Diff.Impedance(rt=4ns)<br>76.5~103.5 ohms<br><USB2.0><br>Diff.Impedance(rt=0.5ns)<br>76.5~103.5 ohms<br>Com.Impedance(rt=0.5ns)<br>21~39 ohms |

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USB SERIES MINI-A TO MINI-B

-LEAD FREE-

製品仕様書

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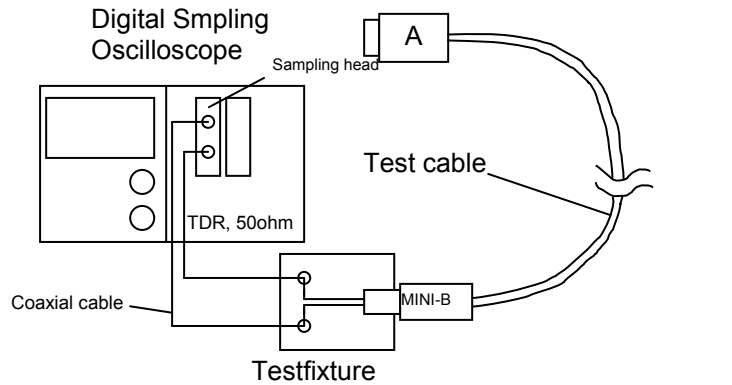
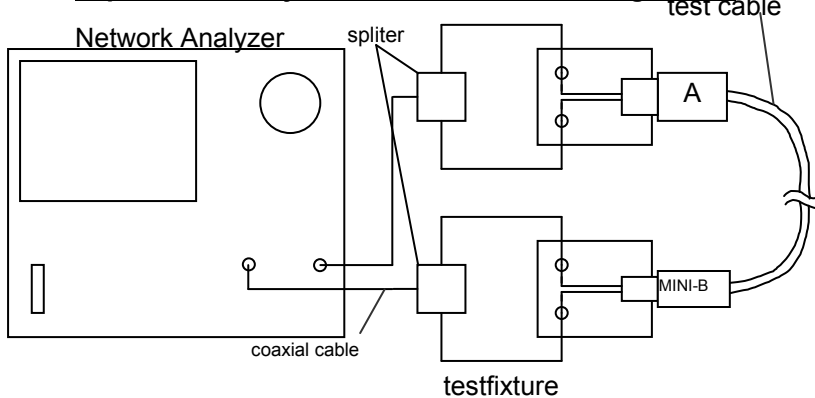
EN-37-1(019)



# PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
ENGLISH**Impedance, delay, skew measurement configuration****Attention measurement configuration**

| Frequency<br>(MHz) | Attenuation [max.]<br>( d B/cable) |
|--------------------|------------------------------------|
| 0.064              | 0.08                               |
| 0.256              | 0.11                               |
| 0.512              | 0.13                               |
| 0.772              | 0.15                               |
| 1                  | 0.20                               |
| 4                  | 0.39                               |
| 8                  | 0.57                               |
| 12                 | 0.67                               |
| 24                 | 0.95                               |
| 48                 | 1.35                               |
| 96                 | 1.90                               |
| ※ 200              | 3.20                               |
| ※ 400              | 5.80                               |

※&lt;USB2.0&gt;

| 項 目<br>Item                              | 条 件<br>Test Condition                                                                                                                                                  | 規 格<br>Requirement            |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| 4-1-7<br>減衰量<br>Attenuation              | 試験治具にコネクタを嵌合させ、ネットワークアナライザにて測定する。装置は上記参照。<br>Connect connector to attenuation test fixture, measure by Network Analyzer.<br>Measurement configuration are upper pages. | 上記参照<br>Reference upper pages |
| 4-1-8<br>伝播遅延<br>Propagation Delay       | 試験治具にケーブルを繋ぎ、TDRにて測定する。装置は上記参照。<br>Connect the cable to test fixture, measure by TDR.<br>Measurement configuration are upper pages.                                    | <USB 1.1><br>26ns/cable max.  |
| 4-1-9<br>伝播遅延差<br>Propagation Delay Skew | 試験治具にケーブルを繋ぎ、TDRにて測定する。装置は上記参照。<br>Connect the cable to test fixture, measure by TDR.<br>Measurement configuration are upper pages.                                    | <USB 2.0><br>5.2ns/m max.     |
|                                          |                                                                                                                                                                        | <USB 1.1><br>400ps/cable max. |
|                                          |                                                                                                                                                                        | <USB 2.0><br>100ps/cable max. |

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## PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
ENGLISH

## 4-2. 機械的性能、その他 Mechanical Performance and others

| 項 目<br>Item |                                                                           | 条 件<br>Test Condition                                                                                                                                                                                                                                                              | 規 格<br>Requirement                                                                                                                                                         |                                                                          |
|-------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| 4-2-1       | 初回挿入力／<br>初回抜去力<br>First Time Mating<br>and First Time<br>Un-mating Force | 1分間に12.5mm以下の速さで挿入、抜去する。<br>(EIA-364-13)<br>Mate and un-mate connector at maximum rate of 12.5mm per minute.<br>(EIA-364-13)                                                                                                                                                       | 初回挿入力<br>First Time Mating Force                                                                                                                                           | 35N (3.57kgf) maximum                                                    |
|             |                                                                           |                                                                                                                                                                                                                                                                                    | 初回抜去力<br>First Time Un-Mating Force                                                                                                                                        | 7N (0.71kgf) minimum                                                     |
| 4-2-2       | 繰り返し挿抜<br>Repeated Mate / Unmate                                          | 1時間に200回以下の速さで挿入、抜去を5000回繰り返す。<br>(EIA-364-09)<br>Mate and unmate up to 5000 cycles repeatedly at maximum rate of 200 cycles per hour.<br>(EIA-364-09)                                                                                                                             | 外 観<br>Appearance                                                                                                                                                          | 異状なきこと<br>No Breakdown                                                   |
|             |                                                                           |                                                                                                                                                                                                                                                                                    | 接触抵抗<br>Contact Resistance                                                                                                                                                 | 50 milliohms maximum                                                     |
|             |                                                                           |                                                                                                                                                                                                                                                                                    | 挿入力<br>Mating Force                                                                                                                                                        | 1～5000 Cycles<br>35N (3.57kgf) maximum                                   |
|             |                                                                           |                                                                                                                                                                                                                                                                                    | 抜去力<br>Un-Mating Force                                                                                                                                                     | 1 Cycle<br>7N (0.71kgf) minimum<br>2～5000 Cycles<br>3N (0.30kgf) minimum |
| 4-2-3       | ケーブル保持力<br>Cable Pull-Out                                                 | コネクタに装着されたケーブルを軸上に50Nで1分間 引っ張る。(USB:40N,1分間)<br>(EIA-364-38)<br>Apply axial pull out force on the cable assembled in the connector at a rate of 50N for 1 minute.(USB:40N,1minute)<br>(EIA-364-38)                                                                                 | 外観<br>Appearance                                                                                                                                                           | 異状なきこと<br>No Breakdown                                                   |
|             |                                                                           |                                                                                                                                                                                                                                                                                    | 接触抵抗<br>Contact Resistance                                                                                                                                                 | 50 milliohm maximum                                                      |
| 4-2-4       | ターミナル保持力<br>Terminal Retention Force                                      | ハウジングに装着されたターミナルを毎分 25±3mm の速さで引っ張る。<br>Apply axial pull out force on the terminal assembled in the housing at a rate of 25±3mm/minute.                                                                                                                                            | 4N(0.41kgf) minimum                                                                                                                                                        |                                                                          |
| 4-2-5       | 耐屈曲性<br>Crooked                                                           | 規定の荷重を加え、左右各1回と数え、規定回数行う。(第10項参照)<br>Suspend a specified weight from the code and swing the board specified number of times at a specific rate. Swinging one way is counted as one time.(refer to 10 clause)<br>荷重 Weight:4.9N(0.5kgf)<br>角度 Angle :60°<br>屈曲回数 Flexing:2000cycles | 電線の破損、芯線の断線等、異状の無いこと。<br>(断線率100%未満)<br>No damage such as breaks of exposure of conductor. Insulation damage,etc.<br>(Percentage of broken wires should not be up to 100%) |                                                                          |

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LANGUAGE

JAPANESE  
ENGLISH

| 項 目<br>Item |                        | 条 件<br>Test Condition                                                                                                                                                                                                                                                                                                                                                                                                   | 規 格<br>Requirement            |                                |
|-------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| 4-2-6       | 耐振動性<br>Vibration      | DC 100mA通電状態にて、第7項に示す振動を嵌合軸を含む互いに垂直な3方向に各15分間加える。<br>(EIA-364-28)<br>Mate connectors and subject to the following vibration conditions (refer to 7 clause), for a period of 15 minutes in each of 3 mutually perpendicular axes, passing DC 100mA during the test.<br>(EIA-364-28)                                                                                                                                      | 外 観<br>Appearance             | 異状なきこと<br>No Damage            |
|             |                        |                                                                                                                                                                                                                                                                                                                                                                                                                         | 接触抵抗<br>Contact Resistance    | 50 milliohm maximum            |
|             |                        |                                                                                                                                                                                                                                                                                                                                                                                                                         | 瞬断<br>Discontinuity           | 1.0 microsecond maximum        |
| 4-2-7       | 耐衝撃性<br>Shock          | DC 100mA通電状態にて、嵌合軸を含む互いに垂直な6方向に294m/s <sup>2</sup> (30G)の衝撃を各3回加える。(7項参照)<br>(EIA-364-27)<br>Mate connectors and subject to the following shock conditions. 3 shocks shall be applied along 3 mutually perpendicular axes, passing DC 100mA current during the test. (Total of 18 shocks)<br>Test pulse : Half Sine<br>Peak value : 294m/s <sup>2</sup> (30G)<br>Duration : 11ms<br>(refer to 7 clause)<br>(EIA-364-27) | 外 観<br>Appearance             | 異状なきこと<br>No Damage            |
|             |                        |                                                                                                                                                                                                                                                                                                                                                                                                                         | 接触抵抗<br>Contact Resistance    | 50 milliohm maximum            |
|             |                        |                                                                                                                                                                                                                                                                                                                                                                                                                         | 瞬 断<br>Discontinuity          | 1.0 microsecond maximum        |
| 4-2-8       | 耐熱性<br>Heat Resistance | コネクタを嵌合させ、85±2℃の雰囲気中に250時間放置後取り出し、1～2時間室温に放置する。<br>(EIA-364-17)<br>Mate connectors and expose to 85±2 degree centigrade for 250 hours.<br>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.<br>(EIA-364-17)                                                                       | 外 観<br>Appearance             | 異状なきこと<br>No Damage            |
|             |                        |                                                                                                                                                                                                                                                                                                                                                                                                                         | 接触抵抗<br>Contact Resistance    | 50 milliohm maximum            |
|             |                        |                                                                                                                                                                                                                                                                                                                                                                                                                         | 耐電圧<br>Dielectric Strength    | 4-1-3項満足のこと<br>Must meet 4-1-3 |
|             |                        |                                                                                                                                                                                                                                                                                                                                                                                                                         | 絶縁抵抗<br>Insulation Resistance | 4-1-2項満足のこと<br>Must meet 4-1-2 |

|                                 |                   |                   |                                                                                                                        |                             |                  |
|---------------------------------|-------------------|-------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------|
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## PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
ENGLISH

| 項 目<br>Item |                 | 条 件<br>Test Condition                                                                                                                                                                                                                                                                                                                                               | 規 格<br>Requirement            |                                |
|-------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| 4-2-9       | 耐寒性<br>Cold     | コネクタを嵌合させ、-55±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。<br>Mate connectors and expose to -55±2 degree centigrade for 96 hours.<br>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.                                                 | 外 観<br>Appearance             | 異状なきこと<br>No Damage            |
|             |                 |                                                                                                                                                                                                                                                                                                                                                                     | 接触抵抗<br>Contact Resistance    | 50 milliohm maximum            |
|             |                 |                                                                                                                                                                                                                                                                                                                                                                     | 耐電圧<br>Dielectric Strength    | 4-1-3項満足のこと<br>Must meet 4-1-3 |
|             |                 |                                                                                                                                                                                                                                                                                                                                                                     | 絶縁抵抗<br>Insulation Resistance | 4-1-2項満足のこと<br>Must meet 4-1-2 |
| 4-2-10      | 耐湿性<br>Humidity | コネクタを嵌合させ、第8項に示す耐湿性サイクル試験（7サイクル）後取り出し、1～2時間室温に放置する。<br>(EIA-364-31 Method Ⅲ)<br>Mate connectors and expose to humidity in 7 cycles at 8 clause.<br>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.<br>(EIA-364-31 Method Ⅲ) | 外 観<br>Appearance             | 異状なきこと<br>No Damage            |
|             |                 |                                                                                                                                                                                                                                                                                                                                                                     | 接触抵抗<br>Contact Resistance    | 50 milliohm maximum            |
|             |                 |                                                                                                                                                                                                                                                                                                                                                                     | 耐電圧<br>Dielectric Strength    | 4-1-3項満足のこと<br>Must meet 4-1-3 |
|             |                 |                                                                                                                                                                                                                                                                                                                                                                     | 絶縁抵抗<br>Insulation Resistance | 4-1-2項満足のこと<br>Must meet 4-1-2 |

|                                 |                   |                   |                                                                                                                        |                             |                  |
|---------------------------------|-------------------|-------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------|
| <div></div>                     | REVISE ON PC ONLY |                   | TITLE:<br><br>USB SERIES MINI-A TO MINI-B                                                                              |                             |                  |
|                                 | D                 | SEE SHEET 1 OF 15 |                                                                                                                        |                             |                  |
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## PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
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| 項 目<br>Item |                                  | 条 件<br>Test Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 規 格<br>Requirement               |                                                                        |
|-------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------|
| 4-2-11      | 温度サイクル<br>Temperature<br>Cycling | コネクタを嵌合させ、 $-55\pm 3^{\circ}\text{C}$ に30分<br>$+85\pm 2^{\circ}\text{C}$ に30分、これを1サイクルとし、<br>10サイクル繰り返す。但し、温度移行時<br>間は10～15分以内とする。試験後1～2時<br>間室温に放置する。<br>Mate connectors and subject to the<br>following conditions for 10 cycles.<br>Upon completion of the exposure period,<br>the specimens shall be conditioned at<br>ambient room conditions for 1 to 2 hours,<br>after which the specified measurements<br>shall be performed.<br>1 cycle<br>a) $-55\pm 3$ degree centigrade 30 minutes<br>b) $+85\pm 2$ degree centigrade 30 minutes<br>Transit time shall be within 10 to 15<br>minutes. | 外 観<br>Appearance                | 異状なきこと<br>No Damage                                                    |
|             |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 接触抵抗<br>Contact<br>Resistance    | 50 milliohm maximum                                                    |
|             |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 耐電圧<br>Dielectric<br>Strength    | 4-1-3項満足のこと<br>Must meet 4-1-3                                         |
|             |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 絶縁抵抗<br>Insulation<br>Resistance | 4-1-2項満足のこと<br>Must meet 4-1-2                                         |
| 4-2-12      | 塩水噴霧<br>Salt Spray               | コネクタを嵌合させ、 $35\pm 2^{\circ}\text{C}$ にて $5\pm 1\%$<br>重量比の塩水を $48\pm 4$ 時間噴霧し試験後<br>常温で水洗いした後、室温で乾燥させる。<br>(JIS C5028/MIL-STD-202 試験法101)<br>Mate connectors and expose to the<br>following salt mist conditions.<br>Upon completion of the exposure period,<br>salt deposits shall be removed by a<br>gentle wash or dip in running water which<br>the specified measurements shall be<br>performed.<br>NaCl solution<br>concentration: $5\pm 1\%$<br>Spray time : $48\pm 4$ hours<br>Ambient temperature : $35\pm 2^{\circ}\text{C}$<br>(JIS C5028/MIL-STD-202 Method101)                       | 外 観<br>Appearance                | 目視にて著しい<br>サビが無いこと<br>By visual inspection<br>without noticeable rust. |
|             |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 接触抵抗<br>Contact<br>Resistance    | 100 milliohm maximum                                                   |
| 4-2-13      | 亜硫酸ガス<br>$\text{SO}_2$ Gas       | コネクタを嵌合させ、 $40\pm 2^{\circ}\text{C}$ にて<br>$50\pm 5\text{ppm}$ の亜硫酸ガスに24時間放置する<br>Mate connectors and expose to<br>$50\pm 5\text{ppm}$ $\text{SO}_2$ Gas, ambient temperature<br>$40\pm 2^{\circ}\text{C}$ for 24 hours.                                                                                                                                                                                                                                                                                                                                                                          | 外 観<br>Appearance                | 異状なきこと<br>No Damage                                                    |
|             |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 接触抵抗<br>Contact<br>Resistance    | 100 milliohm maximum                                                   |

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| <div>D</div>                    | REVISE ON PC ONLY |  | TITLE:<br><br>USB SERIES MINI-A TO MINI-B |  |                                                                                                                           |  |                  |              |  |
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| 項 目<br>Item |                                | 条 件<br>Test Condition                                                                                                                                                                                                                                                                                                  | 規 格<br>Requirement                                                                         |                                                                  |
|-------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 4-2-14      | 硫化水素ガス<br>H <sub>2</sub> S Gas | コネクタを嵌合させ、35±2℃にて相対湿度80%、3±1ppmの硫化水素ガスに96時間放置する<br>Mate connectors and expose to 3±1ppm H <sub>2</sub> S Gas, ambient temperature 35±2℃, humidity approx 80% for 96 hours.                                                                                                                                             | 外 観<br>Appearance                                                                          | 異状なきこと<br>No Damage                                              |
|             |                                |                                                                                                                                                                                                                                                                                                                        | 接触抵抗<br>Contact Resistance                                                                 | 100 milliohm maximum                                             |
| 4-2-15      | 非移行性<br>Migration              | 2枚のPS板(50x50x3)の間に20~30mm間隔で60mmの長さの試料を2本置き、これを2枚のガラス板に挟み、500gのオモリを乗せ暴露試験を行う。<br>(第9項参照)<br>two data of the length of the role of 60mm are put in an interval and this putting it to 2 sheets of glass plates 500g of are loaded do a disclosure test (refer to 9 clause)<br>温度 Temperature : 60℃<br>時間 Duration : 48h | P S 板に著しい移行跡が無い事<br>There shall not be remarkable conduct in a polystyrene migration board |                                                                  |
| 4-2-16      | 半田付け性<br>Solderability         | 端子先端より0.5mmの位置まで、245±5℃の半田に4~5秒浸す。<br>(EIA-364-52 Category 2)<br>Dip soldertails into the molten solder [held at 245 ± 5 degree centigrade] up to 0.5mm from the bottom of the housing for 4~5 seconds.<br>(EIA-364-52 Category 2)                                                                                     | 濡れ性<br>Solder Wetting                                                                      | 浸漬面積の95%以上<br>95% of immersed area must show no voids, pin holes |

|                                        |                   |                   |                                                                                                                        |                             |                  |
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| 項 目<br>Item |                                          | 条 件<br>Test Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 規 格<br>Requirement                                                                                                                                                |
|-------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4-2-17      | 半田耐熱性<br>Resistance to<br>Soldering heat | 下記の他は、JIS C 60068-2-60 (方法1Aまたは2) に準拠。<br>For procedures other than specified below, refer to IEC Pub. 68-2-20.<br>Test Tb Method 1A or 2<br><br>ディップ Solder bath method<br>温度：260±3℃ 時間：10秒<br>Solder temperature :260± 3℃<br>Immersion time:10s<br>浸漬深さ：基板面まで<br>Thickness of printed wiring board<br>プリント基板の厚さ：1.6mm<br>Thickness of P.C.B : 1.6mm<br><br>手半田 Solder iron method<br>温度：370～400℃ 時間：5秒 MAX.<br>Solder temperature :370～400℃<br>Immersion time:5s MAX.<br>但し、端子に異常のないこと。<br>However, excessive pressure shall not be applied to the terminal. | 外観の変形および端子などの著しいガタがなく、電気的性能を満足すること。<br>Without deformation of case or excessive looseness of the terminals(pin).<br>Electrical characteristics shall be satisfied |
|             |                                          | 第9項のリフロー条件にて2回実施する<br>Reference reflow condition at 9 clause.<br>Two times enforcement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | リフロー後、<br>端子ガタ、割れなどの異常なきこと<br>No Damage after reflow                                                                                                              |

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

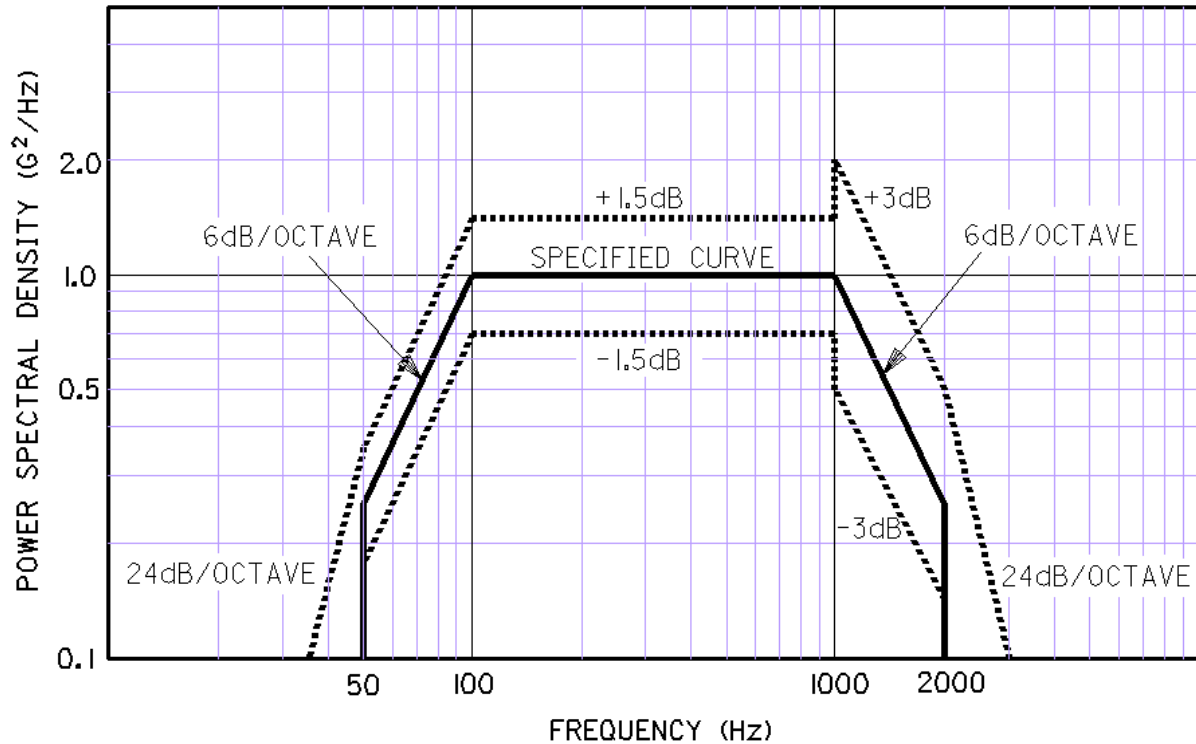
## 【 5. 外観形状、寸法及び材質 PRODUCT SHAPE, DIMENSIONS AND MATERIALS 】

図面参照 Refer to the drawing.

|                                        |                   |                   |                                                                                                                        |                             |                   |
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## 【6. 振動条件 VIBRATION CONDITION】

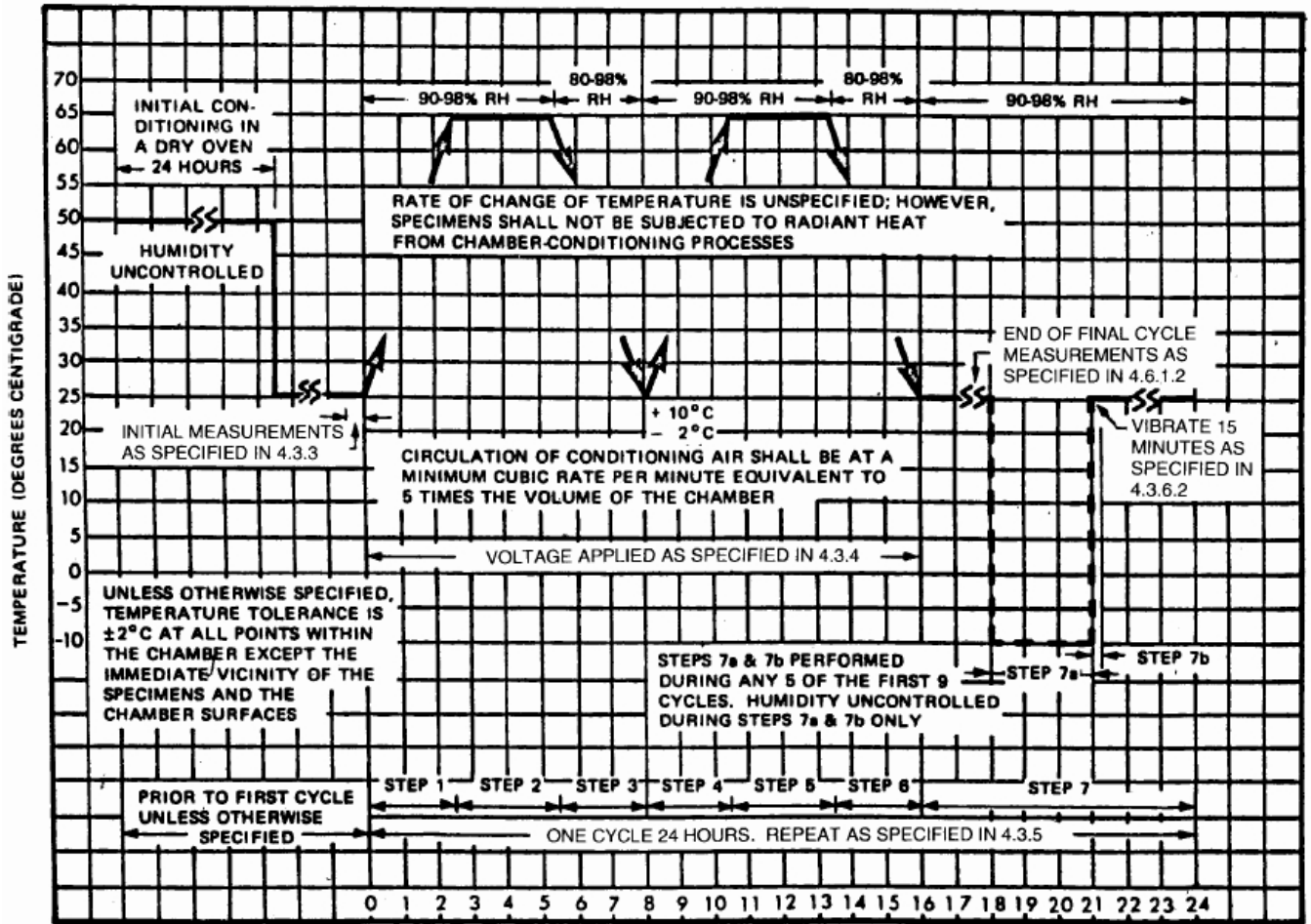


|                                  |                       |
|----------------------------------|-----------------------|
| Power spectral density, $G^2/Hz$ | Overall rms G minimum |
| 0.02                             | 5.35                  |

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## 【7. 耐湿性条件 HUMIDITY CONDITION】



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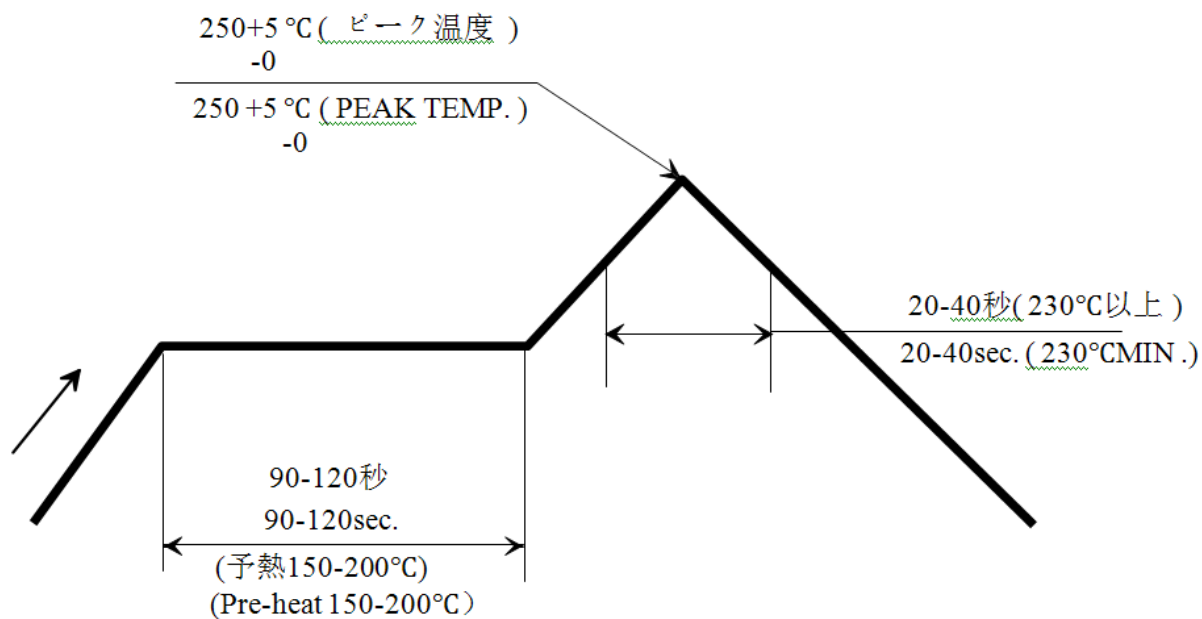
## PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
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## 【8. リフロー条件 REFLOW CONDITION】



温度条件グラフ  
(温度は基板パターン面)  
TEMPERATURE CONDITION GRAPH  
(TEMPERATURE ON BOARD PATTERN 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いたします。

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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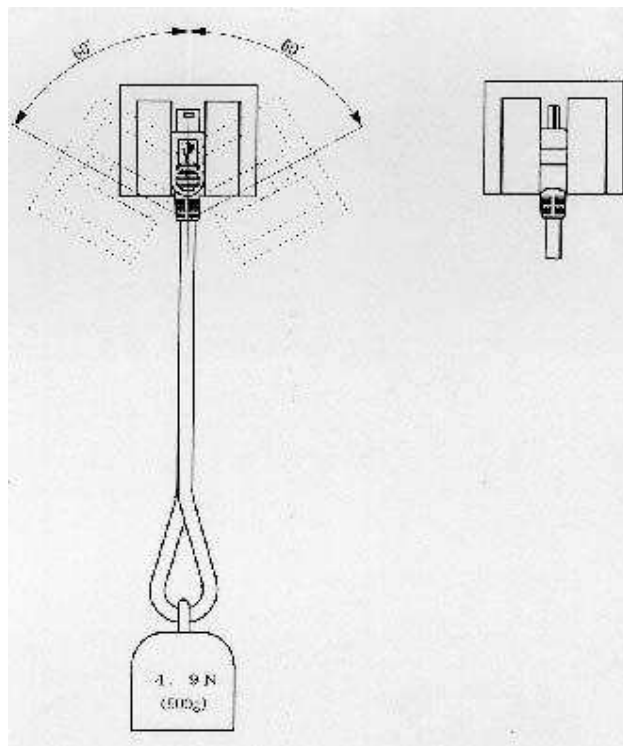
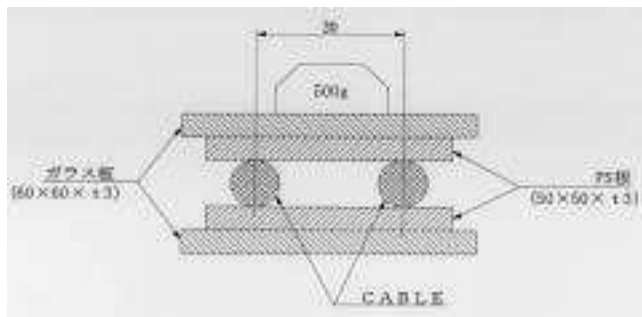


LANGUAGE

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## 【9. 非移行性試験条件 MIGRATION CONDITION】

## 【10. 耐屈曲性試験条件 FLEXING TEST CONDITION】



|                                 |                   |                   |                                                                                                                        |                             |                   |
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| EV. | REV. RECORD   | DATE       | EC NO.      | WRTTN:   | CH'K:  |
|-----|---------------|------------|-------------|----------|--------|
| A   | 新規作成 RELEASED | 2004/04/05 | J2004-3582  | E.SUZUKI | K.TOJO |
| B   | 変更 REVISED    | 2004/11/18 | J2004-1485  | N.AIDA   | K.TOJO |
| D   | 変更 REVISED    | 2011/10/21 | SH2012-0121 | XJSONG   | RZHANG |
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