

# JIS

## JAPANESE INDUSTRIAL STANDARD

### Terms and definitions for printed circuits

JIS C 5603—1993

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In the event of any doubt arising,  
the original Standard in Japanese is to be final authority.

## JAPANESE INDUSTRIAL STANDARD

J I S

Terms and definitions for printed circuits

C 5603-1993

1. Scope This Japanese Industrial Standard specifies the terms related to the printed circuits used mainly for the electronic apparatus (hereafter referred to as the "terms").

Remarks: The International Standard corresponding to this Standard is given below.

IEC 194 (1988) Terms and definitions for printed circuits

2. Classification The terms are defined according to the following classification.

- (1) General
- (2) Base material
- (3) Conception — Artwork master
- (4) Manufacturing
- (5) Testing — Inspection

3. Terms and definitions Terms and definitions are as stated below:

The English equivalents are shown as informative references.

Remarks 1. When the term is in the long form, it is written in two lines. In this case, the first letter in the second line starts from the position of the second letter in the first line.

2. When two or more terms are written together in a section of term, their priority of use shall be given in the written order.

When the first term is especially recommended, the second term is written in parentheses "( )".

3. The term a part of which is put in square brackets "[ ]" may be used in two ways, i.e., one is including the part put in the brackets and the other is excluding it.
4. When limiting the scope of use, it is shown in the square brackets "[ ]" following the term.

## (1) General

| No. | Term<br>(Japanese character) | Reading                             | Definition                                                                                                                                                                                                                                                                                                     | Informative<br>reference          |  |
|-----|------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--|
|     |                              |                                     |                                                                                                                                                                                                                                                                                                                | English equivalent                |  |
| 101 | プリント回路                       | PURINTO KAIRO                       | Circuit consisting of printed wiring, printed components and/or attached parts.                                                                                                                                                                                                                                | printed circuit                   |  |
| 102 | プリント配線                       | PURINTO HAISEN                      | Wiring or its technique in which the conductive pattern is formed on the surface of the base material, or on the surface and inside of it, by means of printing for the connection between parts, based on the circuit design.<br><br>Remarks: The forming technique of the printed component is not included. | printed wiring                    |  |
| 103 | プリント回路板                      | PURINTO KAIROBAN                    | Board forming the printed circuit.<br>Remarks: It is also called "printed circuit assembly".                                                                                                                                                                                                                   | printed circuit board             |  |
| 104 | プリント配線板                      | PURINTO HAISENBAN                   | Board forming the printed wiring.                                                                                                                                                                                                                                                                              | printed wiring board              |  |
| 105 | プリント板                        | PURINTO BAN                         | Abbreviation of printed wiring board.                                                                                                                                                                                                                                                                          | printed board                     |  |
| 106 | リジッドプリント配線板                  | RIZIDDO PURINTO HAISENBAN           | Printed wiring board using a rigid base material.                                                                                                                                                                                                                                                              | rigid printed board               |  |
| 107 | フレキシブルプリント配線板                | HUREKISIBURU PURINTO HAISENBAN      | Printed wiring board using a flexible base material.                                                                                                                                                                                                                                                           | flexible printed wiring board     |  |
| 108 | フレックスリジッドプリント配線板             | HUREKKUSU RIZIDDO PURINTO HAISENBAN | Printed wiring board consisting of the flexible part and the rigid part.                                                                                                                                                                                                                                       | flex-rigid printed wiring board   |  |
| 109 | 片面プリント配線板                    | KATAMEN PURINTO HAISENBAN           | Printed wiring board on one side surface of which the conductive pattern is formed.                                                                                                                                                                                                                            | single-sided printed wiring board |  |

| No. | Term<br>(Japanese character) | Reading                                      | Definition                                                                                                                                                          | Informative<br>reference                   |
|-----|------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
|     |                              |                                              |                                                                                                                                                                     | English equivalent                         |
| 110 | 両面プリント配線板                    | RYŌMEN PURINTO<br>HAISENBAN                  | Printed wiring board on both side surfaces of which the conductive patterns are formed.                                                                             | double-sided printed wiring board          |
| 111 | 多層プリント配線板                    | TASŌ PURINTO<br>HAISENBAN                    | Printed wiring board in which the conductive patterns are formed on three or more layers including the surface conductive layer.                                    | multilayer printed wiring board            |
| 112 | 片面フレキシブルプリント配線板              | KATAMEN<br>HUREKISIBURU<br>PURINTO HAISENBAN | Flexible printed wiring board on one side surface of which the conductive pattern is formed.                                                                        | single-sided flexible printed wiring board |
| 113 | 両面フレキシブルプリント配線板              | RYŌMEN HUREKISIBURU<br>PURINTO HAISENBAN     | Flexible printed wiring board on both side surfaces of which the conductive patterns are formed.                                                                    | double-sided flexible printed wiring board |
| 114 | 多層フレキシブルプリント配線板              | TASŌ HUREKISIBURU<br>PURINTO HAISENBAN       | Flexible printed wiring board in which the conductive patterns are formed on three or more layers including the surface conductive layer.                           | multilayer flexible printed wiring board   |
| 115 | メタルコアプリント配線板                 | METARU-KOA PURINTO<br>HAISENBAN              | Printed wiring board using a metal core base material.                                                                                                              | metal core printed wiring board            |
| 116 | マザーボード                       | MAZA BŌDO                                    | Printed wiring board prepared for mounting and connection of plural printed circuit boards.<br>Remarks: Boards called as "back panel" or "back plane" are included. | mother board                               |
| 117 | 部品面                          | BUHIN MEN                                    | The side of the printed wiring board for mounting components on which most of the components will be mounted.                                                       | component side                             |

| No. | Term<br>(Japanese character) | Reading         | Definition                                                                                                                                                                                  | Informative<br>reference |  |
|-----|------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--|
|     |                              |                 |                                                                                                                                                                                             | English equivalent       |  |
| 118 | はんだ面                         | HANDA MEN       | The side of a printed wiring board opposite to the component side, and on which the most soldering will be made.                                                                            | solder side              |  |
| 119 | 格子                           | KŌSI            | An imaginary network or coordinate system consisting of two sets of parallel equidistant lines intersecting at right angle, for positioning connections on a printed wiring board.          | grid                     |  |
| 120 | プリント、印刷                      | PURINTO, INSATU | Act of reproducing a pattern on a surface by any process.                                                                                                                                   | printing                 |  |
| 121 | パターン                         | PATĀN           | Configuration of conductive and/or non-conductive patterns formed on the printed wiring board.<br>Remarks: It is also used for the configuration on the board, drawing and film to be used. | pattern                  |  |
| 122 | 導体パターン                       | DŌTAI PATĀN     | Configuration formed by electrically conductive material of a printed wiring board.                                                                                                         | conductive pattern       |  |
| 123 | 非導体パターン                      | HIDŌDEN PATĀN   | Configuration formed by functional non-conductive material of a printed wiring board.                                                                                                       | non-conductive pattern   |  |
| 124 | 導体                           | DŌTAI           | Single conductive path in a conductive pattern.                                                                                                                                             | conductor                |  |
| 125 | フラッシュ導体                      | HURASSYU DŌTAI  | Conductor of which the outer surface is in the same plane as the surface of the base material.                                                                                              | flush conductor          |  |

| No. | Term<br>(Japanese character) | Reading                        | Definition                                                                                                                               | Informative<br>reference |
|-----|------------------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
|     |                              |                                |                                                                                                                                          | English equivalent       |
| 126 | プリントコンタクト                    | PURINTO KONTAKUTO              | Portion of conductive pattern serving as one part of a contact system.                                                                   | printed contact          |
| 127 | エッジコネクタ端子                    | EZZI KONEKUTA<br>TANSI         | Series of contacts printed on the edges of a printed wiring board.<br>Remarks: They are usually mated with an edge socket connector.     | edge board<br>contact    |
| 128 | プリント部品,<br>印刷部品              | PURINTO BUHIN,<br>INSATU BUHIN | Electronic component formed by means of printing technique.<br>Remarks: e.g. printed inductor, register, capacitor or transmission line. | printed component        |
| 129 | テーピング部品                      | TĒPINGU BUHIN                  | Components previously attached to continuous tape to make their automatic attachment and automatic inspection easy.                      | taped-components         |
| 130 | ソルダペースト                      | SORUDA PĒSUTO                  | Mixture of solder powder and flux in paste form.<br>Remarks: It is also called cream solder or solder paste.                             | solder paste             |

(2) Base material

| No. | Term<br>(Japanese character) | Reading                           | Definition                                                                                                                                                                                                     | Informative<br>reference |
|-----|------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
|     |                              |                                   |                                                                                                                                                                                                                | English equivalent       |
| 201 | [絶縁] 基板,<br>ベースマテリアル         | [ZETUEN] KIBAN,<br>BESU MATERIARU | Insulating material upon which the pattern may be formed.<br>Remarks 1. The material may be rigid or flexible.<br>2. Generic name for ones with metal foil and without metal foil.                             | base material            |
| 202 | プリプレグ                        | PURIPUREGU                        | Sheet material, for example glass fabric, impregnated with a resin cured to a B-stage.                                                                                                                         | prepreg                  |
| 203 | Bステージ樹脂,<br>Bステージレジン         | B SUTĒZI ZYUSI,<br>B SUTĒZI REZIN | A thermosetting resin in an intermediate stage of curing reaction.                                                                                                                                             | B-stage resin            |
| 204 | ボンディングシート                    | BONDINGU SĪTO                     | Sheet made of the material having suitable adhesive properties and used to bond together individual layers to produce a multi-layer printed wiring board.<br>Remarks: For example, prepreg, bonding film, etc. | bonding sheet            |
| 205 | ウィッキング                       | WIKKINGU                          | Capillary absorption of liquid along the fibers of the base material.                                                                                                                                          | wicking                  |
| 206 | 金属張基板                        | KINZOKUBARI KIBAN                 | Base material covered with metal on one or both sides being used for printed wiring board.                                                                                                                     | metal-clad base material |
| 207 | 銅張積層板                        | DŌBARI SEKISŌBAN                  | Laminate covered with copper foil on one or both sides being used for printed wiring board.                                                                                                                    | copper-clad laminate     |

| No. | Term<br>(Japanese character) | Reading          | Definition                                                                                                                                                                                                                                                                                                | Informative<br>reference |  |
|-----|------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--|
|     |                              |                  |                                                                                                                                                                                                                                                                                                           | English equivalent       |  |
| 208 | ベースフィルム                      | BĒSU FIRUMU      | Film that is the base material for the flexible printed wiring board and on the surface of which the conductive pattern can be formed.<br><br>Remarks: When the heat resistance is required, polyimide film is mostly used, and when the heat resistance is not required, polyester film is usually used. | base film                |  |
| 209 | 導体はく                         | DŌTAI HAKU       | Conductive material that covers one or both sides of the base material and is intended to forming the conductive pattern.                                                                                                                                                                                 | conductive foil          |  |
| 210 | 銅はく                          | DŌ HAKU          | Conductive foil that covers one or both sides of the base material in which copper is used for forming the conductive pattern.                                                                                                                                                                            | copper foil              |  |
| 211 | 積層                           | SEKISŌ           | To bond two or more layers making materials to one entity.                                                                                                                                                                                                                                                | lamination               |  |
| 212 | 積層板                          | SEKISŌBAN        | Base material made by laminating and bonding glass cloth, paper, etc. impregnated with resin.                                                                                                                                                                                                             | laminates                |  |
| 213 | メタルコア基板                      | METARU KOA KIBAN | Base material having a metal sheet as the support for printed wiring board. It is sometimes used as the layer for heat sink or power supply grounding.                                                                                                                                                    | metal core base material |  |

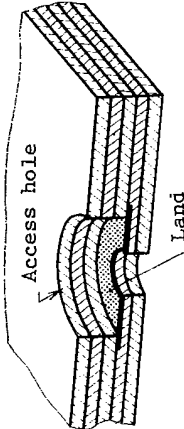
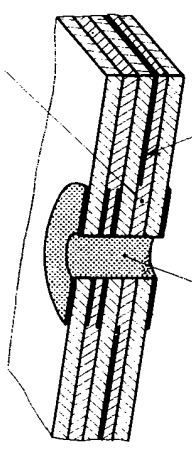
| No. | Term<br>(Japanese character) | Reading                       | Definition                                                                                                                                                                                                            | Informative<br>reference             |
|-----|------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
|     |                              |                               |                                                                                                                                                                                                                       | English equivalent                   |
| 214 | 導電ペースト,<br>導体ペースト            | DŌDEN PĒSUTO,<br>DŌTAI PĒSUTO | Conductive material for forming conductive pattern and through hole by printing on one side or both sides of the base material.<br>Remarks: There are conductive pastes based on silver, copper, nickel, carbon, etc. | conductive paste                     |
| 215 | ガラス布,<br>(ガラスクロス)            | GARASU-HU<br>(GARASU KUROSU)  | Cloth woven with yarns of glass fiber.                                                                                                                                                                                | woven glass fabric,<br>(glass cloth) |
| 216 | ガラス不織布                       | GARASU-HUSYOKU-HU             | A sheet-formed product made by entangling glass fibers.                                                                                                                                                               | nonwoven glass fabric                |
| 217 | コンポジット積層板                    | KONPOZITTO<br>SEKISOBAN       | Laminate in which two or more kinds of prepreg employing paper, nonwoven glass fabric, woven glass fabric, etc. are alternately combined. In general, woven glass cloth and another material are combined.            | composite laminate                   |

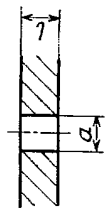
## (3) Conception - Artwork master

| No. | Term<br>(Japanese character) | Reading        | Definition                                                                                                  | Informative<br>reference |
|-----|------------------------------|----------------|-------------------------------------------------------------------------------------------------------------|--------------------------|
|     |                              |                |                                                                                                             | English equivalent       |
| 301 | 貫通接続                         | KANTŪ SETUZOKU | Electrical connection between conductive patterns on opposite sides of a printed wiring board.              | through connection       |
| 302 | 層間接続                         | SŌKAN SETUZOKU | Electrical connection between conductive patterns in different layers of a multilayer printed wiring board. | interlayer connection    |

| No. | Term<br>(Japanese character) | Reading                   | Definition                                                                                                                                                                                                 | Informative<br>reference             |
|-----|------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
|     |                              |                           |                                                                                                                                                                                                            | English equivalent                   |
| 303 | ワイヤ貫通接続                      | WAIYA KANTŪ<br>SETUZOKU   | A through connection using a wire in a single hole.                                                                                                                                                        | wire through connection              |
| 304 | めっきスルーホール                    | MEKKI SURŪ HÔRU           | Hole in which metal is deposited on the wall for the purpose of the through connection.                                                                                                                    | plated-through hole                  |
| 305 | プレインホール                      | PUREIN HÔRU               | Hole penetrating from front to rear of a printed wiring board without plating on its wall.                                                                                                                 | plain hole                           |
| 306 | 銅スルーホール                      | DŌ SURŪ HÔRU              | Plated-through hole composed of the copper plating only and not overplated.                                                                                                                                | copper plated-through hole           |
| 307 | はんだスルーホール                    | HANDA SURŪ HÔRU           | Plated-through hole overplated using solder.                                                                                                                                                               | tin/lead plated-through hole         |
| 308 | 導電ペーストスルーホール                 | DŌDEN PĒSUTO<br>SURŪ HÔRU | Through hole connected with conductive paste.                                                                                                                                                              | conductive paste coated through hole |
| 309 | ランドレスホール                     | RANDORESU HÔRU            | Plated-through hole without land.                                                                                                                                                                          | landless plated-through hole         |
| 310 | ランド                          | RANDO                     | Portion of a conductive pattern used for the connection and/or attachment of components.<br>Pad and component mounting hole for surface mounting, conductive pattern surrounding a via, etc. are included. | land                                 |
| 311 | パッド                          | PADDO                     | Land on which surface mounting component is placed.                                                                                                                                                        | pad                                  |
| 312 | フットプリント                      | HUTTŌ PURINTO             | Group of pads on which surface mounting multi-terminal component is placed.                                                                                                                                | foot print                           |

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| No. | Term<br>(Japanese character) | Reading         | Definition                                                                                                                                                                                                                                                                                        | Informative<br>reference<br>English equivalent |
|-----|------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| 313 | アクセスホール                      | AKUSESU HÔRU    | <p>Hole which provides access to the surface of the land in one of the layers of a multilayer printed wiring board.</p>                                                                                         | access hole                                    |
| 314 | クリアランスホール                    | KURIARANSU HÔRU | <p>Area without conductive material, in a conductive pattern around a plated-through hole of a multilayer printed wiring board, in order to prevent any electrical connection to the plated-through hole.</p>  | clearance hole                                 |
| 315 | 基準穴                          | KIZYUN ANA      | <p>Hole provided on the printed wiring board or panel to carry out accurate positioning. It is used for manufacturing, mounting of components, inspection, etc. of printed wiring board.</p>                                                                                                      | tooling hole,<br>(location hole)               |

| No. | Term<br>(Japanese character) | Reading        | Definition                                                                                                                                                                                                     | Informative<br>reference |  |
|-----|------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--|
|     |                              |                |                                                                                                                                                                                                                | English equivalent       |  |
| 316 | 基準ノッチ                        | KIZYUN NOTTI   | Notch provided on the printed wiring board or panel to carry out accurate positioning. It is used for manufacturing, mounting of components, inspection, etc. of printed wiring board.                         | location notch           |  |
| 317 | 取付け穴                         | TORITUKE ANA   | Hole used for the mechanical mounting of a printed wiring board or for mechanical attachment of components to the printed wiring board.                                                                        | mounting hole            |  |
| 318 | 部品穴                          | BUHIN ANA      | Hole used for the attachment of component terminations to the printed wiring board as well as for any electrical connection to the conductive pattern.                                                         | component hole           |  |
| 319 | バイア,<br>(ビア)                 | BAIA,<br>(BIA) | Hole used for connection between layers only. It is not used for mounting of components.                                                                                                                       | via                      |  |
| 320 | 穴パターン                        | ANA PATAN      | Arrangement of all holes in a printed wiring board.                                                                                                                                                            | hole pattern             |  |
| 321 | アスペクト比                       | ASUPEKUTO HI   | Quotient of thickness of the printed wiring board and hole diameter before plating.<br><br>Aspect ratio = $\frac{L}{a}$<br> | aspect ratio             |  |