

## PRODUCT SPECIFICATION

	No. T-2-35065 (R-2-35065)	Date Issued: Oct. 25, 2005
Customer: Apple Computer , Inc	Revised:	Date Revised:
Title Subject: ACH CONNECTOR		Issued by: Tokyo Engineering Center

This product specification contains the results of performance tests for ACH connector.

- Index -

1. PART NAME, PART NUMBER & DRAWING NUMBER
2. CONSTRUCTION, DIMENSIONS, MATERIAL & SURFACE FINISH
3. CHARACTERISTICS (CONNECTOR PART)
4. ABOUT WHISKER
5. NOTICE
6. PACKAGING SPECIFICATION (EMBOSSSED-TAPING)
7. SPECIMEN
8. TEST CONDITIONS
9. REQUIREMENTS, TEST METHODS & TEST RESULTS
  - 9.1 Taping part
    - 9.1.1 Appearance
    - 9.1.2 Tensile Strength of Tape
    - 9.1.3 Peel Strength of Cover Tape
  - 9.2 Connector part
    - 9.2.1 Appearance
    - 9.2.2 Mechanical Performance Test
      - 9.2.2.1 Insertion Force (I.F.) & Withdrawal Force (W.F.)
      - 9.2.2.2 Crimp Tensile Strength
      - 9.2.2.3 Contact Retention Force
    - 9.2.3 Electrical Performance Test
      - 9.2.3.1 Contact Resistance
      - 9.2.3.2 Current Continuity
      - 9.2.3.3 Insulation Resistance
      - 9.2.3.4 Dielectric Withstanding Voltage
    - 9.2.4 Environmental Test
      - 9.2.4.1 Durability
      - 9.2.4.2 Humidity
      - 9.2.4.3 Heat Aging
      - 9.2.4.4 Thermal Shock
      - 9.2.4.5 Sulfur Dioxide Gas
      - 9.2.4.6 Salt Spray
      - 9.2.4.7 Vibration
    - 9.2.5 Solder Test
      - 9.2.5.1 Solderability
      - 9.2.5.2 Resistance to Soldering Heat

Prepared by:  <i>S. Kodama</i>	Checked by:  <i>Y. Ushiro</i>	Reviewed by:  _____	Approved by:  <i>M. Hara</i>
--------------------------------------	-------------------------------------	---------------------------	------------------------------------

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

### 1. PART NAME, PART NUMBER & DRAWING NUMBER

Part Name		Part Number		Drawing Number
Header	Taping product	2,3P	BM**B-ACH( )S-GAN-TF (LF)(SN)	KRD-36212
		4P	BMO4B-ACHSS-A-GAN-TF (LF)(SN)	KRD-38299
	Loose pieces product	2,3P	BM**B-ACH( )S-GAN (LF)(SN)	KRD-36213
		4P	BMO4B-ACHSS-A-GAN (LF)(SN)	KRD-38294
Socket	Contact	SACH-003G-P0.2		KRD-36214
	Housing	2,3P	ACHR-**V-( )	KRD-36215
		4P	ACHR-04V-A-S	KRD-38295

Note<sub>1</sub>: Number of circuits in two-digit figures is indicated in \*\*.

A character of an alphabet in color is indicated in ( ).

Note<sub>2</sub>: (LF)(SN) as identification part number indicating lead-free product shall be displayed on a label until all products are shifted to the lead-free.

### 2. CONSTRUCTION, DIMENSIONS, MATERIAL & SURFACE FINISH

Construction and dimensions shall be in accordance with the referenced drawings. Material and surface finish shall be as specified below.

Part Name		Material	Surface Finish, etc.	
Taping part	Carrier tape	Polyester	/	
	Cover tape	Polyester		
	Reel	Flange		Polystyrene
		Core		Polypropylene Polystyrene
Header	Contact	Copper alloy	Nickel-underplated Gold-plated	
	Wafer	Heat resisting resin	Flammability: UL94V-0 Natural	
	Reinforcement	Copper alloy	Copper-underplated Tin-plated	
Socket	Contact	Copper alloy	Nickel-underplated Gold-plated	
	Housing	PBT	Flammability: UL94V-0 Natural	

### 3. CHARACTERISTICS (CONNECTOR PART)

Item		Rated Value			
Current rating		2Pin	3Pin	4Pin	(AC,DC)
	AWG#28	2.0A	2.0A	1.5A	
	AWG#30	1.0A	1.0A	1.0A	
Voltage rating		50V (AC, DC)			(Note <sub>3</sub> )
Temperature range		-25 to +85 °C			(Note <sub>4</sub> )
Applicable wire	Specification	Tin-plated annealed copper wire (stranded wire)			
	Conductor size	AWG#30, 28			
	Insulation O.D.	φ 0.5 to φ 0.63 mm			

Note<sub>3</sub>: Clearance between the connector and other metallic parts shall be longer than the length of the circuit pitch.

Note<sub>4</sub>: Including temperature rise in applying an electrical current.

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

## 4. ABOUT WHISKER

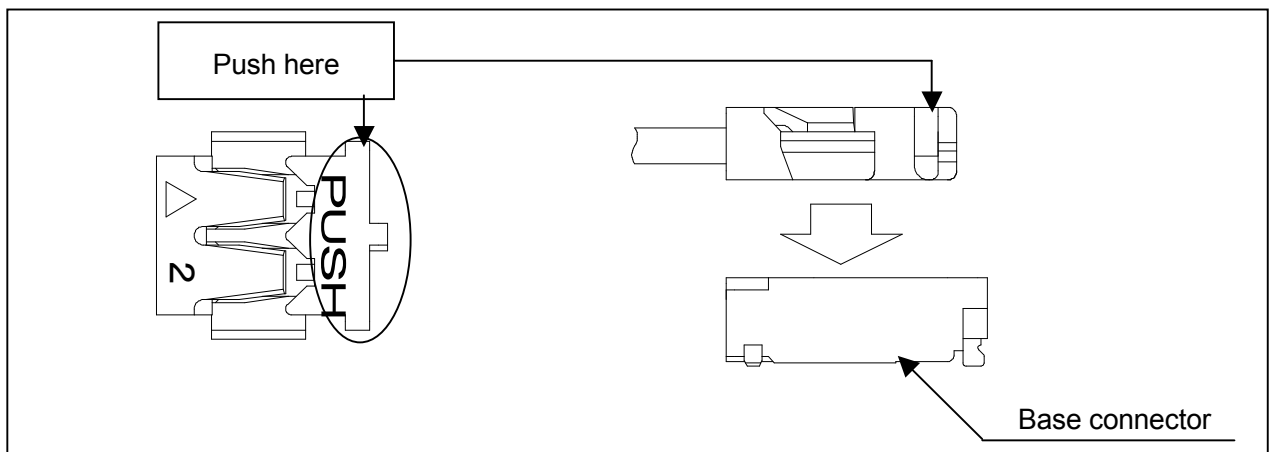
Although the lead-free plating of this product has performed re-flow tin plating which ensures maximum effectiveness for retarding whisker growth, it is not possible to completely eliminate the whisker problem.

## 5. NOTICE

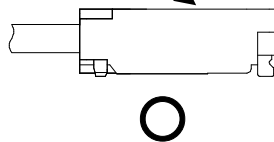
Be sure to read through the attached handling manual (CHM-1-2170) before using the ACH connector.

### 5.1 Mating Method of Connector

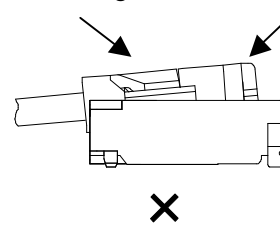
Mate a socket contact on the mating axis to a base connector.  
At this time, confirm that the part of 'PUSH' of the socket housing is pushed and it mates securely.



Socket aligned to upper surface of header



Inclining Misaligning

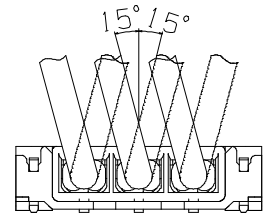
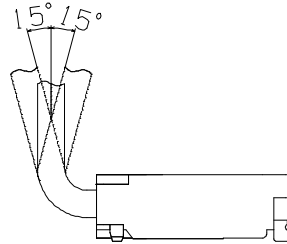
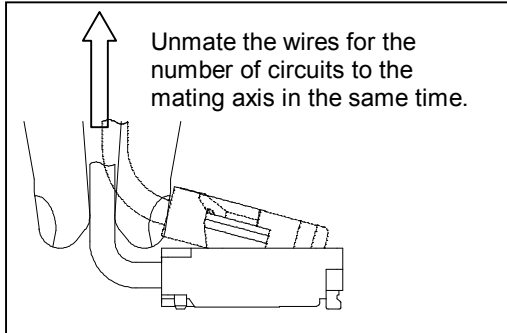


This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

## 5.2 Unmating Method of Connector

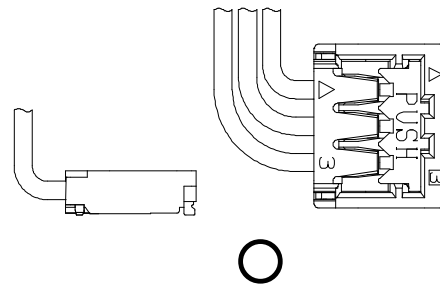
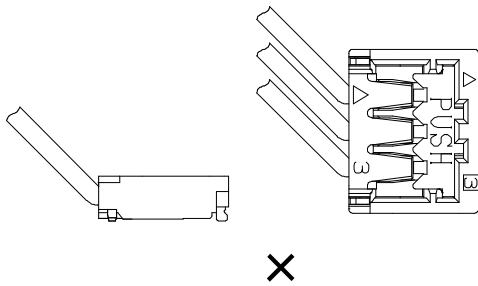
Unmate connector by holding wires in a bundle within 15 degrees to the mating axis.



## 5.3 Handling Precautions

Make allowance so that power of more than the tension by the bending wire should not apply the connector when you handle the wire.

(Provide space above connector in order to form wide by bending and do not apply tension to connector as below.)



This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

## 6. PACKAGING SPECIFICATION (EMBOSSSED-TAPING)

### 6.1 Packaging Quantity

Quantity to be wound shall be 4,500 pieces per reel as the standard quantity.

### 6.2 Packaging Method

- (1) Each header shall be put into the fixed position\*<sup>1</sup> of the embossed carrier tape individually. The tape shall be sealed with cover tape by heat treatment.
- (2) After sealed, the carrier tape shall be wound\*<sup>2</sup> to reel to be specified quantity and the end of cover tape\*<sup>3</sup> shall be fixed to the flange of the reel by adhesive tape.
- (3) The wound reel shall be packaged in a corrugated cardboard box for shipment.

Notes \*1: See the attached drawing.

\*2: The direction to be wound; See the attached drawing.

\*3: Corresponding to leader part in taking out the tape.  
For the treatment of the end of tape, see the attached drawing.

### 6.3 Marking

The label marked the following items shall be attached to the flange part of the reel.

- (1) Part number
- (2) Quantity
- (3) Manufacturing lot number
- (4) Company name or its abbreviation
- (5) Other necessary items

## 7. SPECIMEN

Part Name		Part Number
Header	Taping product	BM02B-ACHSS-GAN-TF (LF)(SN) BM03B-ACHSS-GAN-TF (LF)(SN) BM04B-ACHSS-A-GAN-TF (LF)(SN)
	Loose pieces product	BM02B-ACHSS-GAN (LF)(SN) BM03B-ACHSS-GAN (LF)(SN) BM04B-ACHSS-A-GAN (LF)(SN)
Socket	Contact	SACH-003G-P0.2
	Housing	ACHR-02V-S ACHR-03V-S ACHR-04V-A-S

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

This is our exclusive property.  
It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

## 8. TEST CONDITIONS

- 1) When tested in accordance with the test conditions and methods specified in each item, each requirement shall be met.
- 2) Unless otherwise specified, tests shall be conducted under the following ambient conditions specified in JIS C 60068-1 (IEC 60068-1) [Basic Environmental Testing Procedures General and Guidance].

Temperature: 15 to 35 °C  
Relative humidity: 25 to 75 %

- 3) For environmental test, as a rule, the specimen that header and socket are assembled for actual use shall be used. Unless otherwise specified, the wire of UL3302 style AWG#28 HF(7-strands wire) manufactured by Furukawa Electric Co., Ltd. Shall be used.
- 4) For tests of taping part, unless otherwise specified, 16mm width tape shall be used.

## 9. REQUIREMENTS, TEST METHODS & TEST RESULTS

### 9.1 Taping part

#### 9.1.1 Appearance

Requirement:

- (1) Sprocket hole shall not be covered with cover tape.
- (2) Cover tape shall not run out of carrier tape.
- (3) Cover tape shall not be peeled.
- (4) There shall be no other defects.

Test method: Visual inspection.

Test result: Good.

#### 9.1.2 Tensile Strength of Tape

Requirement: There shall be no defects such as breakage.

Test method: Pulling load of 10N shall be applied to each of carrier tape and cover tape. Pulling direction shall be its taking out direction. Any defects such as breakage shall be checked.

Test result: There was no defect.

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

### 9.1.3 Peel Strength of Cover Tape

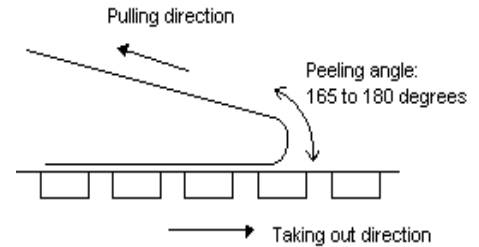
Requirement: 0.1 to 1 N

Test method: Cover tape shall be pulled as shown in the figure on the right side.  
(Peeling speed: 300mm/min.)

Test result:

UNIT: N

0.20 to 0.49



## 9.2 Connector part

### 9.2.1 Appearance

Requirement: There shall be no crack, no deformation or discoloration which may affect the performance specified in this specification.

Test method: Visual inspection.

Test result: Good.

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

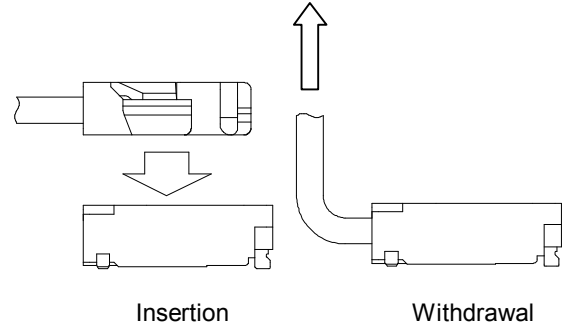
## 9.2.2 Mechanical Performance Test

### 9.2.2.1 Insertion Force (I.F.) & Withdrawal Force (W.F.)

Requirement:

No. of circuits	At initial		At 30th
	I.F. (max.)	W.F. (min.)	W.F. (min.)
2	12	2.5	1
3	18		
4	24		

UNIT: N



Test method: A housing with crimped contacts and a header shall be mated and unmated on the mating axis. Initial insertion and withdrawal forces and also withdrawal force at 30th shall be measured. (Testing speed: 1 to 5mm/sec.)

Test result:

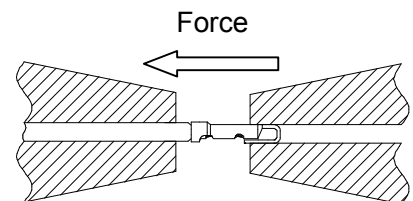
No. of circuits		UNIT: N		
		Ave.	Max.	Min.
2	Initial I.F.	7.3	7.9	6.2
	Initial W.F.	5.5	6.5	4.0
	W.F. at 30th	2.5	3.2	2.3
3	Initial I.F.	9.6	11.0	8.5
	Initial W.F.	5.6	6.9	4.5
	W.F. at 30th	3.1	3.9	2.4
4	Initial I.F.	11.4	11.5	11.2
	Initial W.F.	5.4	5.5	5.2
	W.F. at 30th	2.4	2.5	2.2

n=10

### 9.2.2.2 Crimp Tensile Strength

Requirement:

Wire to be used	Requirements N min.
AWG#30	5
AWG#28	10



Test method: Pulling load shall be applied between a correctly crimped contact and wire. The load required to pull the wire out of the contact or break the wire shall be measured. (Testing speed: Aprox.25mm/min.)



This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

Test result:

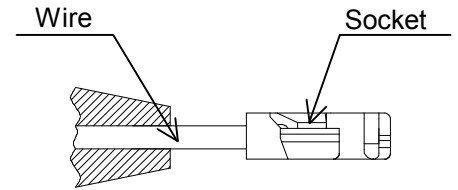
UNIT: N					
	Conductor diameter (Wires/mm)	Insulation O.D. (mm)	Ave.	Max.	Min.
UL1571 AWG#30	7/0.102	φ0.54	15.0	16.6	14.1
UL3302 AWG#28	7/0.127	φ0.60	23.2	23.6	23.0

n=10

### 9.2.2.3 Contact Retention Force

Requirement: 4N min. [When AWG#28 is applied.]

Test method: A crimped contact shall be mounted in a housing and pulled in the axial direction. The load required to pull the contact out of the housing shall be measured. (Testing speed: 1 to 5mm/sec.)



Test result:

UNIT: N		
Ave.	Max.	Min.
6.8	7.6	6.0

n=10

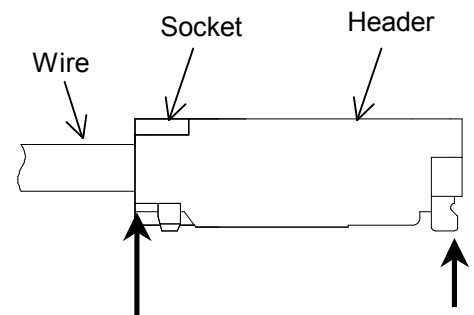
### 9.2.3 Electrical Performance Test

#### 9.2.3.1 Contact Resistance

Requirement: Initial: 10mΩ max.  
After tests: 20mΩ max.

Test method: Contact resistance between points A and B of the specimen assembled for actual use shown in the figure on the right side shall be measured under the following conditions.

Test current: 10mA (DC)  
Open voltage: 20mV max.



Test result: See each environmental test item.

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

### 9.2.3.2 Current Continuity

Requirement: There shall be no current discontinuity longer than 1 microsecond during a vibration test.

Test method: Each circuit of the specimen assembled for actual use shall be connected in series and test current of 10mA(DC) shall be applied. Current discontinuity longer than 1 microsecond during the test shall be detected by a continuity meter.

Test result: See vibration test item.

### 9.2.3.3 Insulation Resistance

Requirement: Initial: 100MΩ min.  
After tests: 100MΩ min. (Humidity & thermal shock tests)

Test method: 500V DC shall be applied between adjacent contacts of a mated specimen to measure insulation resistance. (The header shall not be soldered.)

Test result:

UNIT: MΩ	
Items	Measured values
Initial	1,000 min.
After humidity test	1,000 min.
After thermal shock test	1,000 min.

n=10

### 9.2.3.4 Dielectric Withstanding Voltage

Requirement: There shall be no breakdown or flashover.

Test method: Testing voltage specified below shall be applied between adjacent contacts of a mated specimen for one minute. (The header shall not be soldered.)

Initial: 500V AC  
After tests: 300V AC (Humidity & thermal shock tests)

Test result:

Initial	Good.
After humidity test	Good.
After thermal shock test	Good.

n=10

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

## 9.2.4 Environmental Test

### 9.2.4.1 Durability

Requirement: Contact resistance shall be 20mΩ max. after the test.

Test method: A housing with crimped contacts and a header shall be mated and unmated. After repeated 30 cycles, contact resistance shall be measured.

Test result:

UNIT: mΩ

Contact resistance	Initial			After the test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
	4.0	4.6	3.1	4.2	4.6	3.0

n=10

### 9.2.4.2 Humidity

Requirement: Contact resistance shall be 20mΩ max. after the test. Insulation resistance shall be 100MΩ min. after the test. There shall be no breakdown or flashover on the dielectric withstanding voltage test.

Test method: The specimen shall be placed in a humidity chamber of the following conditions. After the test, contact resistance, insulation resistance and dielectric withstanding voltage shall be measured.

Temperature: 40 ± 2 °C  
Relative humidity: 90 to 95 %  
Period: 240 hours

Test result:

UNIT: mΩ

Contact resistance	Initial			After test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
	3.4	4.7	3.0	3.5	4.8	3.2

n=10

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

### 9.2.4.3 Heat Aging

Requirement: Contact resistance shall be 20mΩ max. after the test.

Test method: The specimen shall be placed in a heat oven of the following conditions. After the test, contact resistance shall be measured.

Temperature: 85 ± 2 °C  
Period: 250 hours

Test result:

UNIT: mΩ

Contact resistance	Initial			After test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
	3.9	4.2	3.3	4.1	4.5	3.4

n=10

### 9.2.4.4 Thermal Shock

Requirement: Contact resistance shall be 20mΩ max. after the test. Insulation resistance shall be 100MΩ min. after the test. There shall be no breakdown or flashover on the dielectric withstanding voltage test.

Test method: The specimen shall be subjected to a thermal shock test of the following conditions. After the test, contact resistance, insulation resistance and dielectric withstanding voltage shall be measured.

1 cycle consists of:  
-55 ± 3 °C for 30 minutes  
+85 ± 2 °C for 30 minutes  
Total cycles: 25 cycles

Test result:

UNIT: mΩ

Contact resistance	Initial			After test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
	4.0	4.6	3.1	4.2	4.7	3.0

n=10

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

#### 9.2.4.5 Sulfur Dioxide Gas

Requirement: Contact resistance shall be 20mΩ max. after the test.

Test method: The specimen shall be subjected to a sulfur dioxide gas of the following conditions. After the test, contact resistance shall be measured.

Concentration: 10 ± 1 ppm  
 Temperature: 40 ± 2 °C  
 Relative humidity: 80 ± 5 %  
 Period: 96 hours

Test result:

UNIT: mΩ

Contact resistance	Initial			After test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
	4.2	4.8	3.3	4.6	5.6	3.5

n=10

#### 9.2.4.6 Salt Spray

Requirement: Contact resistance shall be 20mΩ max. after the test.

Test method: The specimen shall be subjected to a salt spray test of the following conditions. After the test, it shall be washed with running water and dried naturally before the measurement of contact resistance.

Temperature: 35 ± 2 °C  
 Concentration: 5 % in weight  
 Period: 48 hours

Test result:

UNIT: mΩ

Contact resistance	Initial			After test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
	4.0	4.5	3.0	4.3	5.1	3.5

n=10

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

### 9.2.4.7 Vibration

Requirement: Contact resistance shall be 20mΩ max. after the test.  
There shall be no current discontinuity longer than 1 microsecond during the test.

Test method: The specimen shall be mounted on a printed circuit board (PCB) and subjected to a vibration test of the following conditions. During the test, current continuity shall be checked. After the test, contact resistance shall be measured.

Frequency: 10-55-10Hz/minute  
 Amplitude: 1.52mm  
 Direction: Each of X,Y,Z-axial directions  
 \*Each axis shall be at right angles to others.  
 Period: 2 hours for each direction

Test result:

UNIT: mΩ						
Contact resistance	Initial			After test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
	3.9	4.6	3.2	4.1	5.1	3.0
Current continuity	There was no current discontinuity longer than 1 microsecond.					
n=10						

### 9.2.5 Solder Test

#### 9.2.5.1 Solderability

Requirement: Plating surface of solder-dipping section of a specimen shall be covered with smooth solder.

Test method: Fluxed soldering section of a specimen shall be dipped in solder of the following conditions.

Solder: Sn-3Ag-0.5Cu  
 Flux: Activation flux  
 (CF-110VH-2A made by Tamura Kaken Corporation)  
 Solder temperature: 245 ± 5 °C  
 Immersion period: 3 ± 0.5 seconds

Test result:

Good.
n=10

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

Title Subject: ACH CONNECTOR	No. T-2-35065 (R-2-35065)	Revised:
------------------------------	------------------------------	----------

### 9.2.5.2 Resistance to Soldering Heat

Requirement: There shall be no deformation or damage which may affect the performance.

Test method:

Test method:

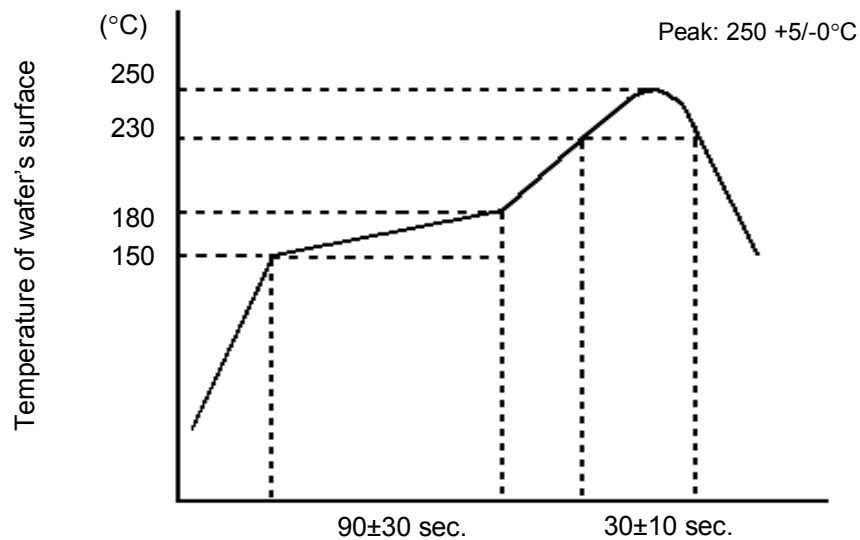
[By soldering iron]

The specimen shall be mounted on a PCB and soldered by soldering iron of the following conditions. No abnormal load such as lateral load shall be applied.

- Solder: Sn-3Ag-0.5Cu
- Testing PCB: Glass based epoxy resin
- Temperature of the tip: 350 °C
- Period of soldering: 3 seconds

[By reflow soldering]

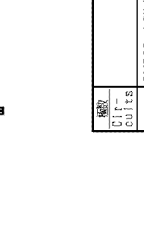
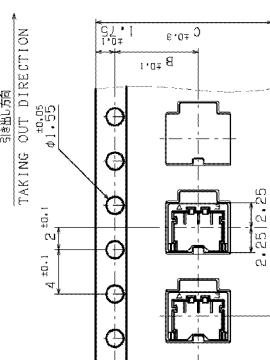
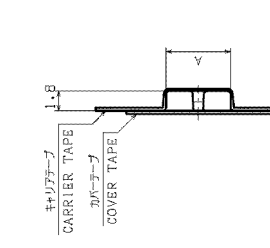
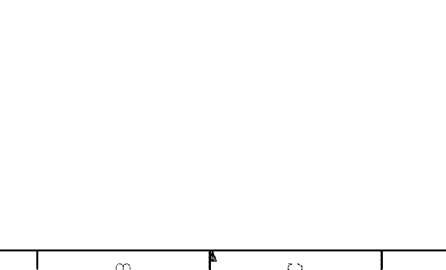
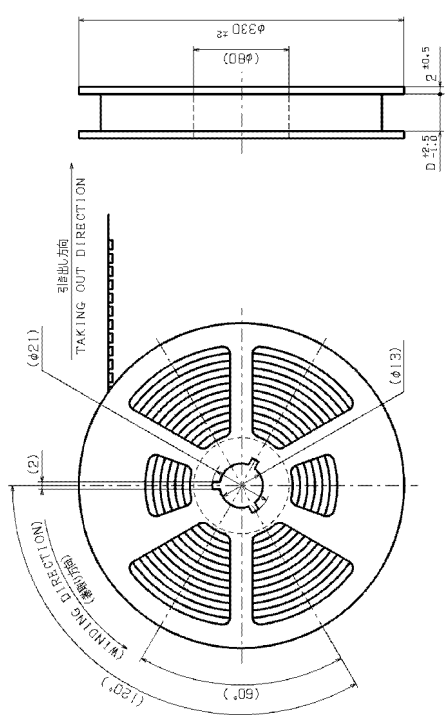
The specimen shall be subjected to a reflow soldering under the conditions shown in the graph below. After that, the appearance shall be observed. Material of testing PCB shall be glass based epoxy resin and its thickness shall be 0.8mm.



[Temperature profile for reflow soldering]

Test result:

There was no deformation or damage which may affect the performance.

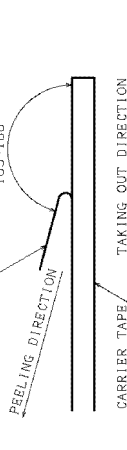
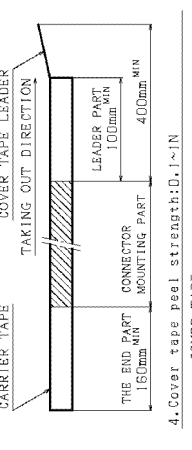


No.	Part No.	寸法/Dimensions			
		A	B	C	D
1	BMD2B-ACH ( JS-GAN-TF (LP) (SN) )	4.6	5.5	1.2	13.5
2	BMD3B-ACH ( JS-GAN-TF (LP) (SN) )	5.8	7.5	1.6	17.5

形番 Part No.	色 Color	
	BM ( ) B-A-CHSS-GAN-TF (LP) (SN)	天然色(白) (Natural Ivory)
BM ( ) B-A-CHKS-GAN-TF (LP) (SN)	黒 (Black)	

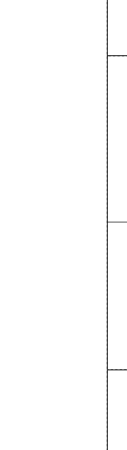
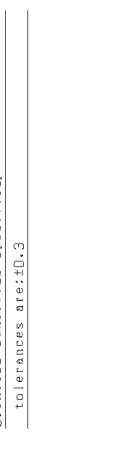
NOTE

1. Connector part: See the DWG. of ACH Connector.
2. Quantity to be packaged: 4500 pcs/roll
3. Leading tape length.
4. Cover tape peel strength:  $0.1 \sim 1 \text{ N}$



NOTE

1. コネクタ本体については、単体の図面を参照ください。
2. 梱包数量: 4500個/ロール
3. リードテープ長さ
4. カバテープの剥離強度:  $0.1 \sim 1 \text{ N}$



5. Material: Carrier tape: Polyester (PET)  
Cover tape : Polyester (PET)  
Reel: Flange: Polystyrene (PS)  
Coil : Polypropylene (PP)  
: Polystyrene (PS)  
6. Unlabeled otherwise specified.  
tolerances are  $\pm 0.3$

品名 PART No.	規格 UNIT	数量 QTY	納入先 CUSTOMER	原産国 COUNTRY OF ORIGIN	備考 REMARKS
A2	METRIC	1	JAN. 28, 2005		
承認 H.M.	検印 Y.U.	承認 K.M.	検査 TEST	承認 BRN	承認 FRB



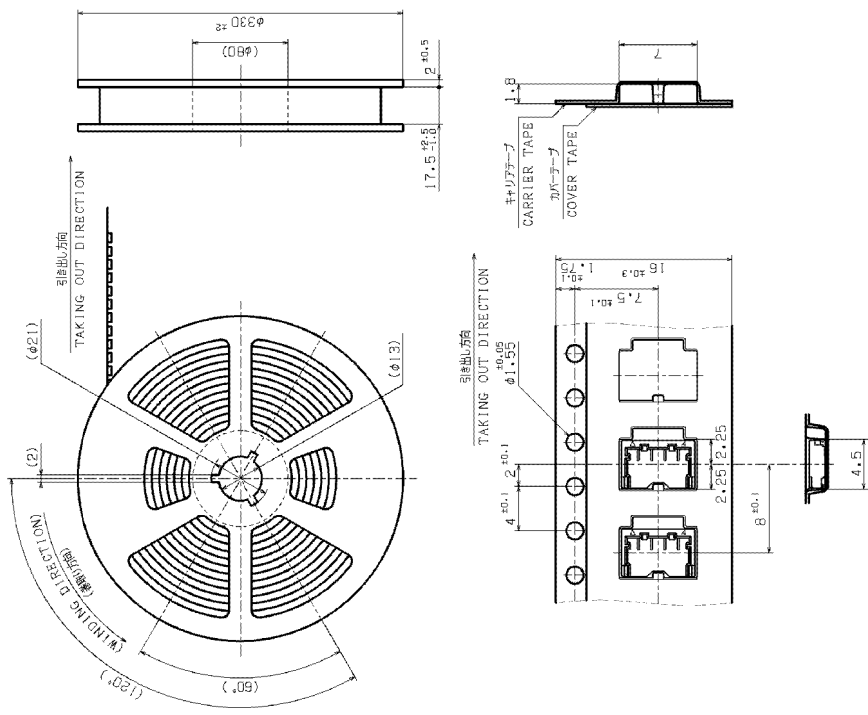
日本正産電子製造株式会社  
J.S.T. MFG. CO., LTD.



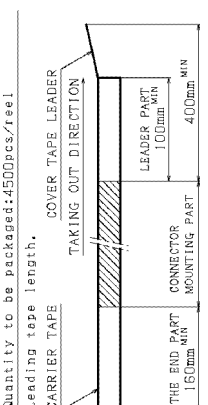
1 2 3 4 5 6 7 8 9 10 11 12

製造番号 DESCRIPTION 製造日 DATE 検査 CHECKED 承認 APPROVED	原簿番 ORIGINAL 原簿名 ORIGINAL NAME 原簿日 ORIGINAL DATE 原簿用紙 ORIGINAL PAPER
---	---

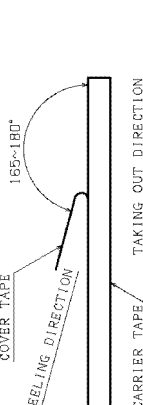
A B C D E F G H



NOTE  
 1. Connector part: See the DWG. of ACH Connector.  
 2. Quantity to be packaged: 4500 pcs / reel  
 3. Leading tape length.

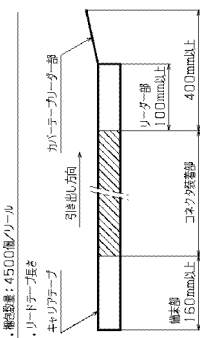


4. Cover tape peel strength:  $0.1 \sim 1N$

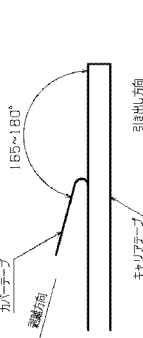


5. Material: Carrier tape: Polyester (PET)  
 Cover tape: Polyester (PET)  
 Reel: Flange: Polystyrene (PS)  
 Core: Polypropylene (PP)  
 Polystyrene (PS)  
 6. Unless otherwise specified, tolerances are  $\pm 0.3$

NOTE



4. キャリアテープの剥離力:  $0.1 \sim 1N$



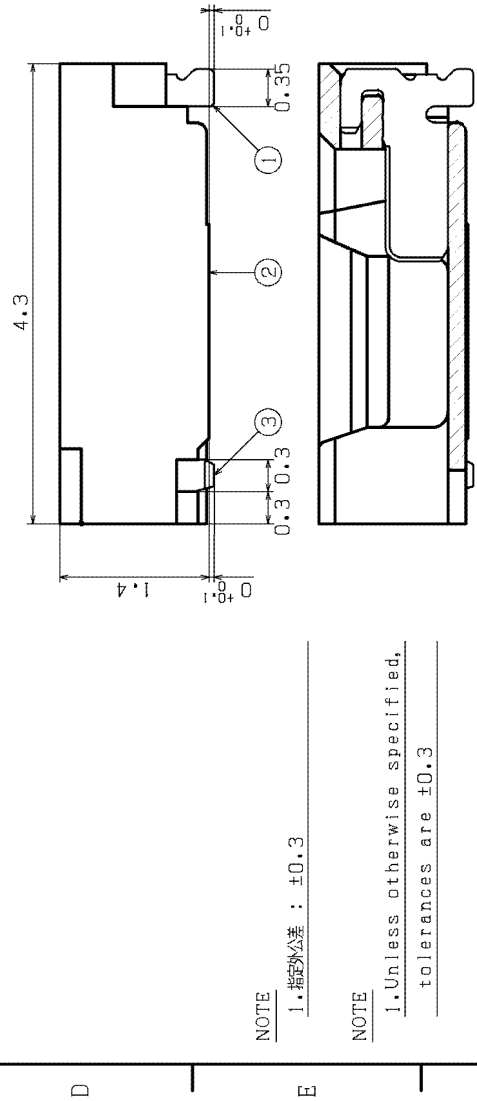
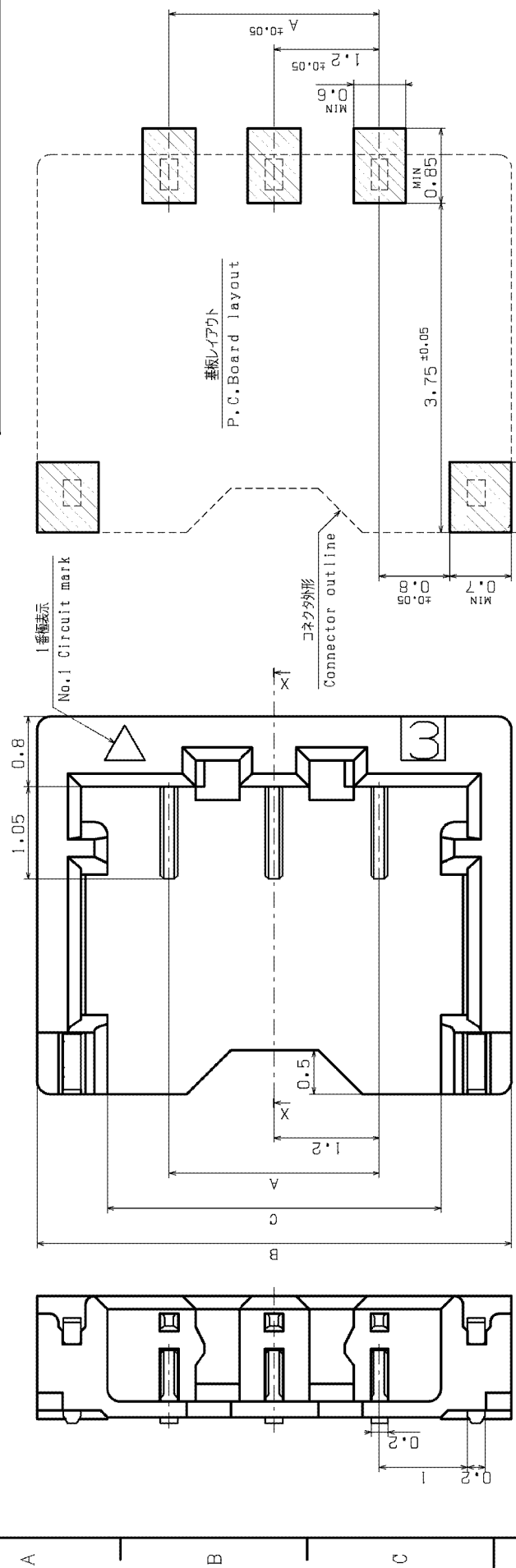
5. 材: キャリアテープ: ポリエステル (PET)  
 キャリアテープ: ポリエステル (PET)  
 リール: フランジ部: ポリスチレン (PS)  
 コア部: ポリプロピレン (PP)  
 ポリスチレン (PS)  
 6. 公差: ±0.3

原簿番 ORIGINAL No.	原簿名 ORIGINAL NAME	原簿日 ORIGINAL DATE	原簿用紙 ORIGINAL PAPER
製法 MFG METHOD	製法 MFG METHOD	製法 MFG METHOD	製法 MFG METHOD
単位 UNIT	単位 UNIT	単位 UNIT	単位 UNIT
図面 DRAWING	図面 DRAWING	図面 DRAWING	図面 DRAWING
承認 APPROVED	承認 APPROVED	承認 APPROVED	承認 APPROVED
検査 CHECKED	検査 CHECKED	検査 CHECKED	検査 CHECKED
納入先 CUSTOMER	納入先 CUSTOMER	納入先 CUSTOMER	納入先 CUSTOMER
部品名 PART NAME	部品名 PART NAME	部品名 PART NAME	部品名 PART NAME
図名 TITLE	図名 TITLE	図名 TITLE	図名 TITLE
製法 MFG METHOD	製法 MFG METHOD	製法 MFG METHOD	製法 MFG METHOD
材料 MATERIAL	材料 MATERIAL	材料 MATERIAL	材料 MATERIAL
公差 TOLERANCE	公差 TOLERANCE	公差 TOLERANCE	公差 TOLERANCE
検査 CHECKED	検査 CHECKED	検査 CHECKED	検査 CHECKED
承認 APPROVED	承認 APPROVED	承認 APPROVED	承認 APPROVED
製法 MFG METHOD	製法 MFG METHOD	製法 MFG METHOD	製法 MFG METHOD
図名 TITLE	図名 TITLE	図名 TITLE	図名 TITLE
部品名 PART NAME	部品名 PART NAME	部品名 PART NAME	部品名 PART NAME
納入先 CUSTOMER	納入先 CUSTOMER	納入先 CUSTOMER	納入先 CUSTOMER
原簿番 ORIGINAL No.	原簿名 ORIGINAL NAME	原簿日 ORIGINAL DATE	原簿用紙 ORIGINAL PAPER



日本正産電子部品株式会社  
 J.S.T. MFG. CO., LTD.  
 KRD-38299  
 Apple Computer, Inc.  
 ACHコネクタ エンベアード型  
 ACH CONNECTOR EMBEDDED-TAPING PRODUCT  
 BMD4B-ACHISS-A-GAN-JF (LF) (SH)  
 119-1

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO J.S.T. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.



NOTE  
 1. 指定公差 : ±0.3

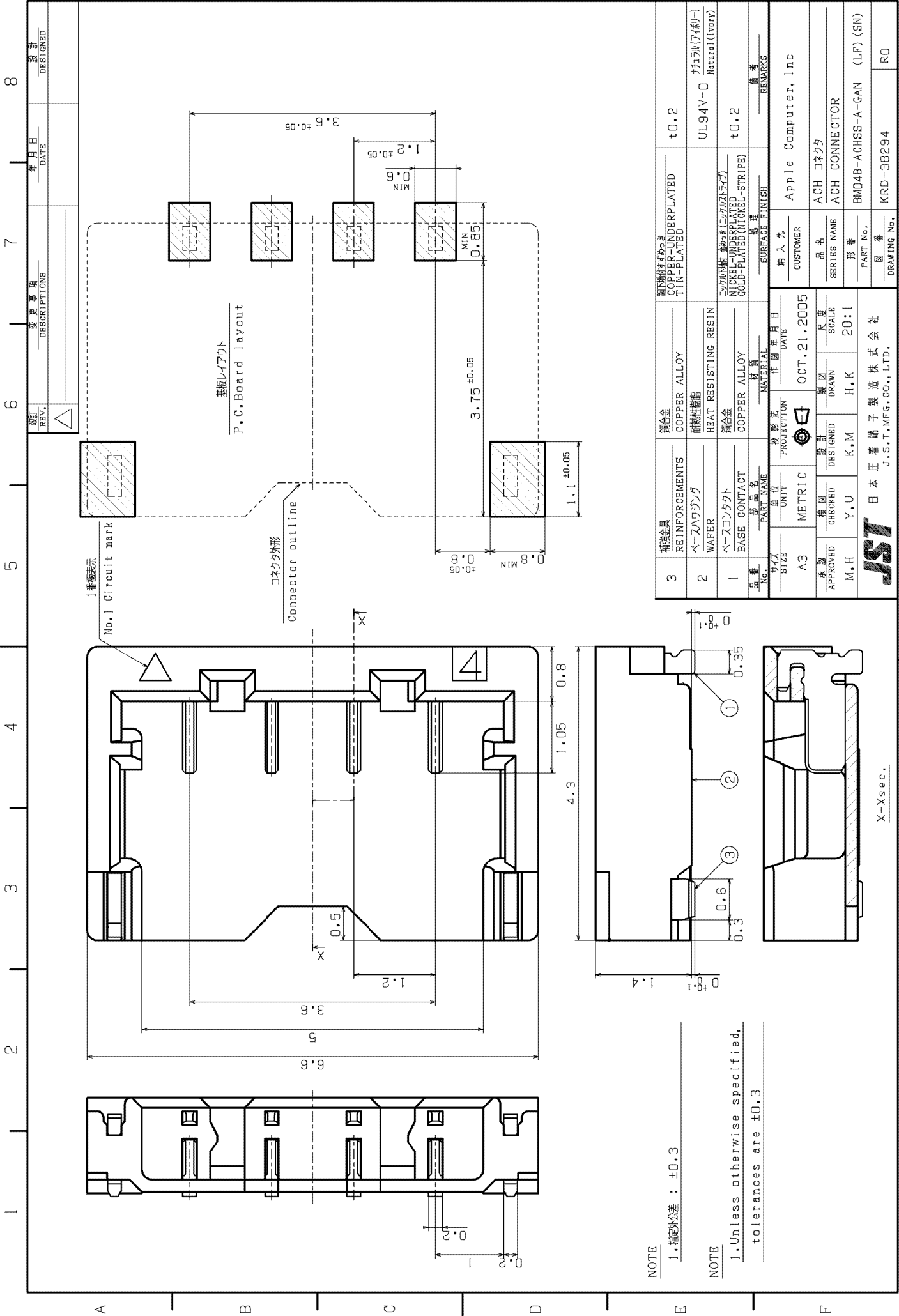
NOTE  
 1. Unless otherwise specified,  
 tolerances are ±0.3

継手 Circuit	寸法/Dimensions			
	A	B	C	
2	BMD2B-ACH ( ) S-GAN (LF) (SN)	1.2	4.2	2.6
3	BMD3B-ACH ( ) S-GAN (LF) (SN)	2.4	5.4	3.8

形番 Part No.	色 Color
BM ( ) B-ACHSS-GAN (LF) (SN)	ナチュラル(アイボリー) Natural (Ivory)
BM ( ) B-ACHKS-GAN (LF) (SN)	黒 Black

3	補強金具 REINFORCEMENTS 銅合金 COPPER ALLOY	鍍金 COPPER-UNDERPLATED TIN-PLATED	寸法 t0.2
2	ベースワザング WAFER 耐熱樹脂 HEAT RESISTING RESIN		UL94V-0
1	ベースコンタクト BASE CONTACT 銅合金 COPPER ALLOY	ニッケルめっき ニッケル-UNDERPLATED GOLD-PLATED (NICKEL-STRIPE) 処理 SURFACE FINISH	t0.2
品番 No.	部品名 PART NAME	材質 MATERIAL	備考 REMARKS
サイズ SIZE	単位 UNIT	投影法 PROJECTION	納入先 CUSTOMER
A3	METRIC	作図年月日 DATE	JAN. 26, 2005
承認 APPROVED	検図 CHECKED	設計 DESIGNED	製図 DRAWN
M.H	Y.U	K.M	
			尺度 SCALE 20:1
日本 庄 著 婦 子 製 造 株 式 会 社 J.S.T.MFG.CO., LTD.			
			品名 ACH コネクタ
			シリーズ名 ACH CONNECTOR
			形番 BM ( ) B-ACH ( ) S-GAN (LF) (SN)
			図番 KRD-36213
			RO

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO J.S.T. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.



NOTE  
1.指定公差: ±0.3

NOTE  
1. Unless otherwise specified, tolerances are ±0.3

X-Xsec.

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO J.S.T. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.

3	補強金具 REINFORCEMENTS	銅合金 COPPER ALLOY	銅合金 COPPER-UNDERPLATED TIN-PLATED	表面処理 SURFACE FINISH	UL94V-0 Natural (livery)	t0.2
2	ベースワザング WASER	耐熱樹脂 HEAT RESISTING RESIN	銅合金 NICKEL-UNDERPLATED GOLD-PLATED (NICKEL-STRIPPE)	銅合金 COPPER ALLOY	銅合金 COPPER ALLOY	t0.2
1	ベースコンタクト BASE CONTACT	銅合金 COPPER ALLOY	銅合金 COPPER ALLOY	銅合金 COPPER ALLOY	銅合金 COPPER ALLOY	t0.2

品名 PART NAME	銅合金 COPPER ALLOY	表面処理 SURFACE FINISH	銅合金 COPPER ALLOY
寸法 SIZE	A3	投影法 PROJECTION	第一角 FIRST ANGLE
承認 APPROVED	M.H	検図 CHECKED	K.M
設計 DESIGNED	Y.U	製図 DRAWN	H.K
作図 DATE	OCT. 21, 2005	納入先 CUSTOMER	Apple Computer, Inc
承認 APPROVED	M.H	品名 SERIES NAME	ACH コネクタ ACH CONNECTOR
検図 CHECKED	Y.U	形番 PART No.	BMD4B-ACHSS-A-GAN (LF) (SN)
製図 DRAWN	K.M	図番 DRAWING No.	KRD-36294
設計 DESIGNED	K.M	備考 REMARKS	

EC4120-1

改訂 REV.	変更事項 DESCRIPTIONS	年月日 DATE	設計 DESIGNED
△			

A

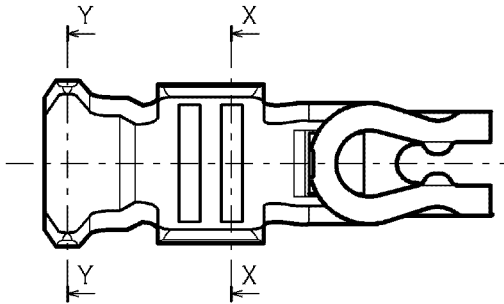
NOTE

1. 指定外公差 :  $\pm 0.3$

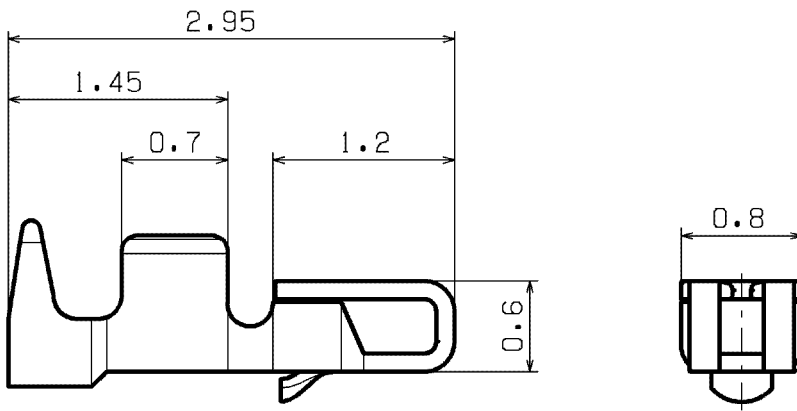
NOTE

1. Unless otherwise specified,  
tolerances are  $\pm 0.3$

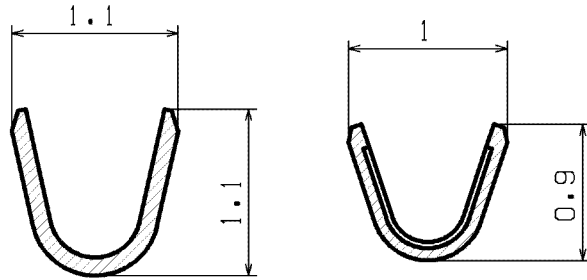
B



C



D



E

インシュレーションバレル  
INSULATION BARREL  
(Y-Y sec.)

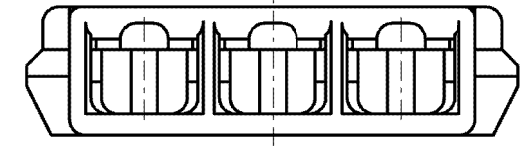
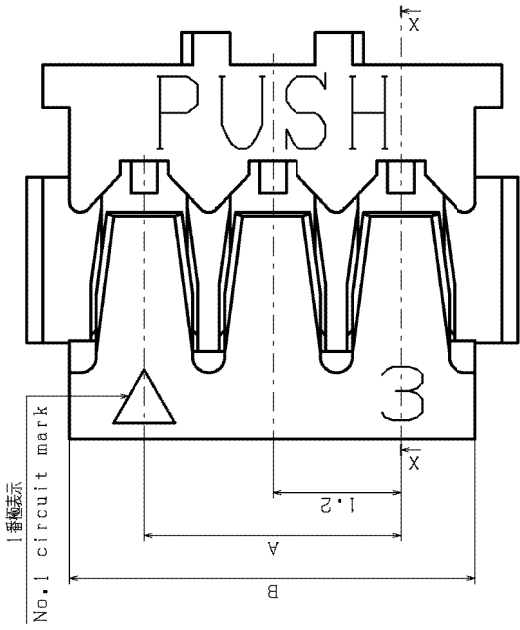
ワイヤーバレル  
WIRE BARREL  
(X-X sec.)

ソケットコンタクト SOCKET CONTACT	銅合金 COPPER ALLOY	ニッケル下地付金めっき NICKEL-UNDERPLATED GOLD-PLATED	t0.12
品番 No.	部品名 PART NAME	材質 MATERIAL	処理 SURFACE FINISH
			備考 REMARKS

F

サイズ SIZE A4	単位 UNIT METRIC	投影法 PROJECTION 	作図年月日 DATE JAN.28.2005	納入先 CUSTOMER	殿
承認 APPROVED H.M	検図 CHECKED Y.U	設計 DESIGNED K.M	製図 DRAWN	品名 PART NAME ACH コネクタ ACH CONNECTOR	
日本圧着端子製造株式会社 J.S.T.MFG.CO.,LTD.				形番 PART No. SACH-003G-PO.2	
				図番 DRAWING No. KRD-36214	RO

REV.	DESIGNATIONS	年月日	設計
△		DATE	DESIGNED



NOTE

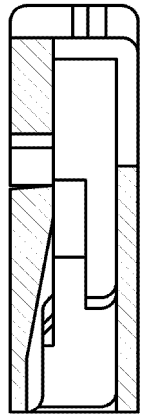
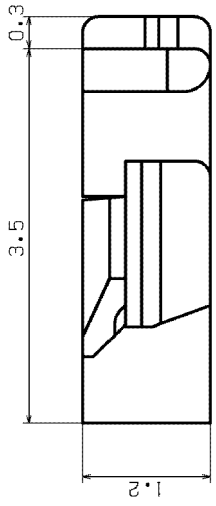
1. 指定公差: ±0.3

NOTE

1. Unless otherwise specified, tolerances are ±0.3

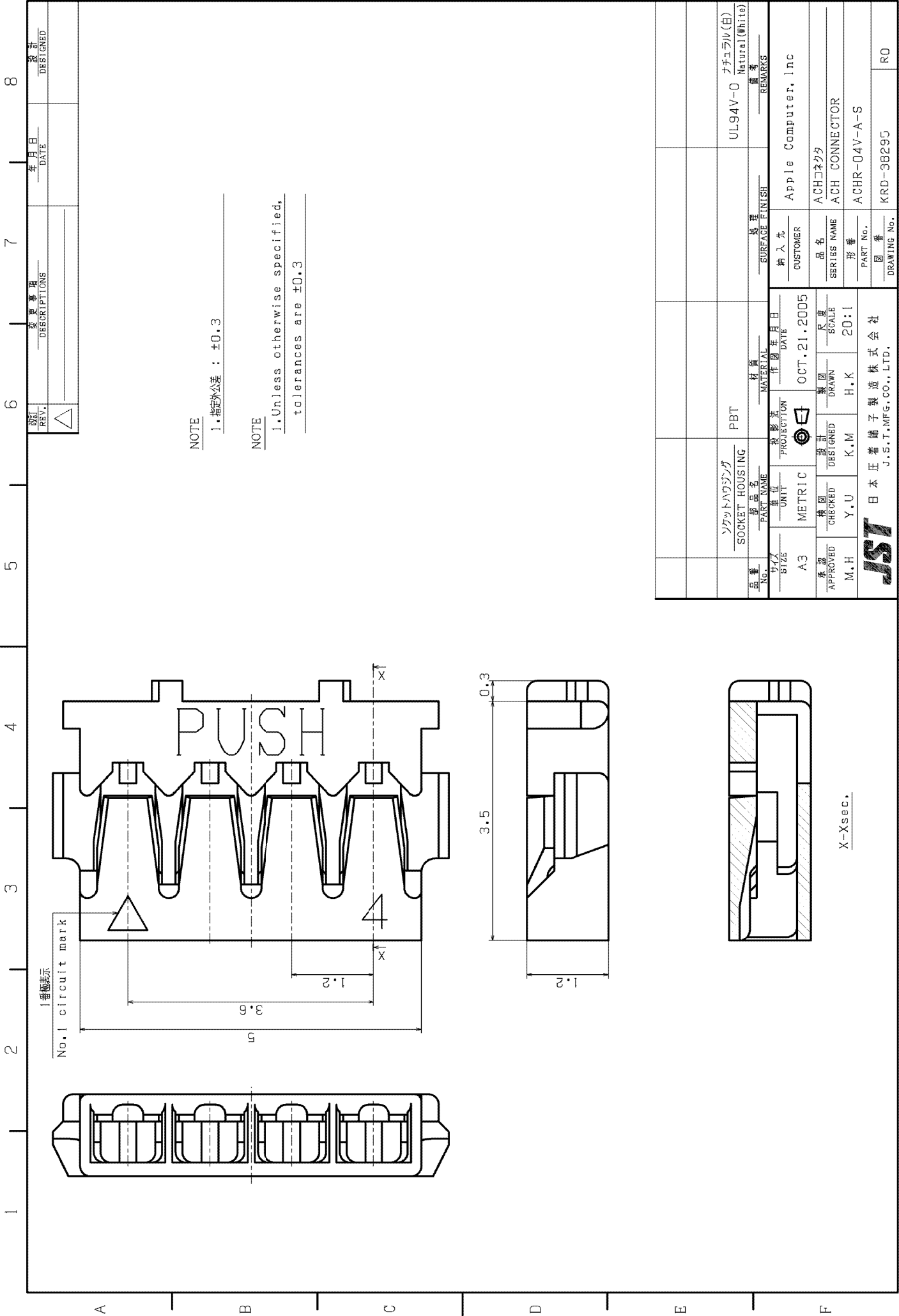
極数 Cir cuits	形番 Part No.	寸法/Dimensions	
		A	B
2	ACHR-02V-( )	1.2	2.6
3	ACHR-03V-( )	2.4	3.8

形番 Part No.	色 Color
ACHR-( )V-S	ナチュラル(白) Natural (White)
ACHR-( )V-K	黒 Black



X-Xsec.

品番 No.	品名 PART NAME	材質 MATERIAL	表面処理 SURFACE FINISH	備考 REMARKS
A3	ソケットハウジング SOCKET HOUSING	PBT	UL94V-0	
承認 APPROVED	検図 CHECKED	設計 DESIGNED	製図 DRAWN	納入先 CUSTOMER
M.H	Y.U	K.M		
サイズ SIZE	単位 UNIT	投影法 PROJECTION	製図 DRAWN	品名 ACHコネクタ
A3	METRIC	第一角法	JAN. 28, 2005	ACH CONNECTOR
			年月日 DATE	形番 PART No.
				ACHR-( )V-( )
			尺度 SCALE	図番 DRAWING No.
			20:1	KRD-36215
日本庄着端子製造株式会社 J.S.T.MFG.CO.,LTD.				RO



NOTE

1. 指定公差 :  $\pm 0.3$

NOTE

1. Unless otherwise specified, tolerances are  $\pm 0.3$

品番 No.	ソケットハウジング	材料 MATERIAL	PBT	表面処理 SURFACE FINISH	UL94V-0	備考 REMARKS	ナチュラル(白) Natural(White)
部名 PART NAME	ソケットハウジング	納入先 CUSTOMER	Apple Computer, Inc	品名 SERIES NAME	ACHコネクタ ACH CONNECTOR		
サイズ SIZE	A3	設計 DESIGNED	K.M	検図 CHECKED	Y.U		
単位 UNIT	METRIC	投影法 PROJECTION	第一角法 First Angle	製図 DRAWN	H.K		
承認 APPROVED	M.H	設計日 DESIGNED DATE	OCT. 21, 2005	製図日 DRAWN DATE			
		製図者 DESIGNED BY		製図者 DRAWN BY			
		検図者 CHECKED BY		検図者 DRAWN BY			
		承認者 APPROVED BY		承認者 DRAWN BY			
		製図社 DRAWING CO.	日本庄着罎子製造株式会社 J.S.T.MFG.CO.,LTD.	製図社 DRAWING CO.	KRD-36295		RO

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO J.S.T. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.