

**PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION**

**Part Number:** [5022250801](#)  
**Status:** **Active**  
**Overview:** [cmc connectors](#)  
**Description:** 2.50mm (.098"), 3.50mm (.138"), 3.70mm (.146") CMC Header, Right Angle, 80 Circuits

**Documents:**

[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)  
[Product Specification PS-64319-001 \(PDF\)](#)

**General**

Product Family	PCB Headers
Series	<a href="#">502225</a>
Application	Wire-to-Board
Overview	<a href="#">cmc connectors</a>
Product Name	CMC

**Physical**

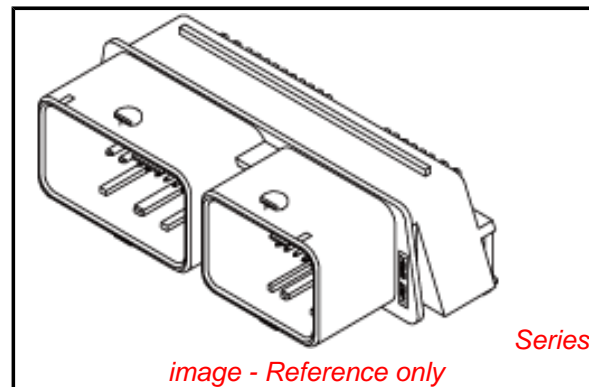
Breakaway	No
Circuits (Loaded)	80
Circuits (maximum)	80
Color - Resin	Black
Durability (mating cycles max)	20
First Mate / Last Break	Yes
Glow-Wire Compliant	No
Guide to Mating Part	Yes
Keying to Mating Part	Yes
Lock to Mating Part	Yes
Material - Metal	Copper Alloy
Material - Plating Mating	Tin
Material - Plating Termination	Tin
Number of Rows	4
Orientation	Right Angle
PCB Locator	Yes
PCB Retention	None
PCB Thickness Recommended (in)	0.063 In
PCB Thickness Recommended (mm)	1.60 mm
Packaging Type	Tray
Pitch - Mating Interface (in)	0.098 In, 0.137 In, 0.146 In
Pitch - Mating Interface (mm)	2.50 mm, 3.50 mm, 3.70 mm
Pitch - Term. Interface (in)	0.098 In, 0.137 In, 0.146 In
Pitch - Term. Interface (mm)	2.50 mm, 3.50 mm, 3.70 mm
Polarized to Mating Part	Yes
Polarized to PCB	Yes
Shrouded	Closed Ends
Stackable	No
Surface Mount Compatible (SMC)	No
Temperature Range - Operating	-40°C to +125°C
Termination Interface: Style	Through Hole

**Electrical**

Current - Maximum per Contact	6A
Voltage - Maximum	250V

**Solder Process Data**

Duration at Max. Process Temperature (seconds)	25
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**EU RoHS**

**ELV and RoHS Compliant**

**REACH SVHC**

Not Reviewed

**Halogen-Free**

**Status**

**Not Halogen-Free**

**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.

**China RoHS**



**Search Parts in this Series**

[502225Series](#)

**Mates With**

[64319-3211](#) CMC Connector . [64320-1319](#) CMC Connector

**Use With**

[64319-3211](#) CMC Connector . [64320-1319](#) CMC Connector . [64322](#) and [64323](#) series Terminals . [64320-1301](#) Wire Cap.

Lead-free Process Capability  
Max. Cycles at Max. Process Temperature  
Process Temperature max. C

Wave Capable (TH only)  
1  
260

**Material Info**

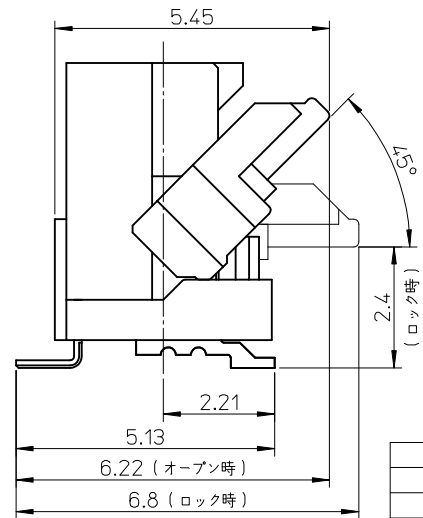
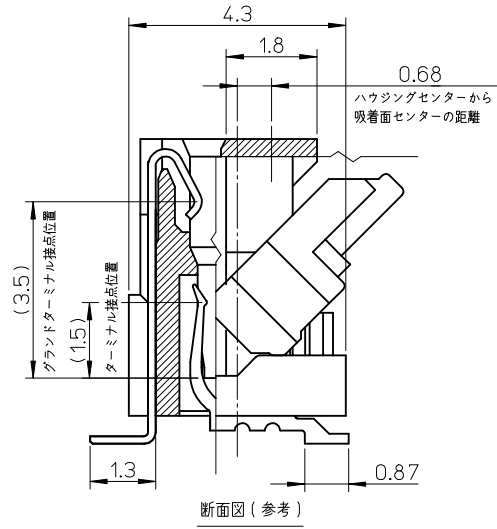
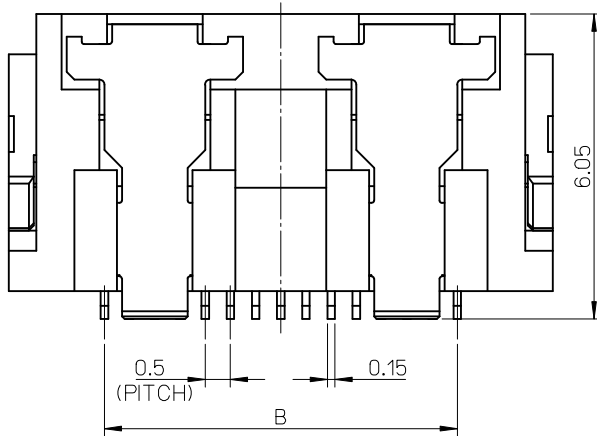
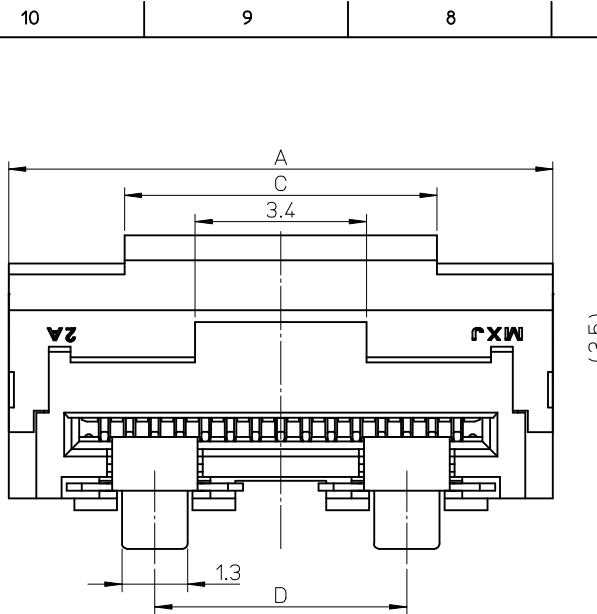
**Reference - Drawing Numbers**

Product Specification  
Sales Drawing

PS-64319-001  
SD-502225-001

This document was generated on 05/26/2010

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注記  
NOTES:  
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1.材質  
MATERIAL  
ハウジング:LCP(液晶ポリマー)、ガラス充填、ナチュラル色、UL94V-0  
HOUSING:LIQUID CRYSTAL POLYMER, GLASS FILLED, COLOR:NATURAL, UL94V-0  
アクチュエータ:ポリアミド9T、ガラス充填、茶色、UL94V-0  
ACTUATOR:POLYAMIDE 9T, GLASS FILLED, COLOR:BROWN, UL94V-0  
ターミナル:燐青銅 (t=0.15)  
TERMINAL:PHOSPHOR BRONZE (t=0.15)  
グラウンドターミナル:燐青銅 (t=0.15)  
GROUND TERMINAL:PHOSPHOR BRONZE (t=0.15)

2.めっき仕様  
PLATING  
ターミナル  
TERMINAL  
金めっき  
GOLD PLATING  
下地ニッケルめっき  
UNDER PLATING:NICKEL PLATING  
グラウンドターミナル  
GROUND TERMINAL  
錫めっき  
TIN PLATING  
下地ニッケルめっき  
UNDER PLATING:NICKEL PLATING

3.平坦度は、0.1ミリ以下とする。  
TAILS COPLANARITY TO BE 0.1 MAXIMUM.

△ 使用するFFCはターミナル用パターン導体部とグラウンドターミナル用パターン導体部が重ならないこと。  
FFC IS NOT OVER LAP PATTERN OF TERMINAL AND GROUND TERMINAL.

|                 |    |     |      |      |                 |             |      |
|-----------------|----|-----|------|------|-----------------|-------------|------|
| 3               | 10 | 10  | 16   | 19.8 | 502231-3300     | 502231-3309 | 33   |
| 2               | 5  | 10  | 11.5 | 15.3 | 502231-2400     | 502231-2409 | 24   |
| 2               | 5  | 6.2 | 7    | 10.8 | 502231-1500     | 502231-1509 | 15   |
| グラウンドターミナルピン数   | D  | C   | B    | A    | EMBOSSED TAPE   |             | 製品番号 |
| GROUND TERM QT. |    |     |      |      | ORDER No. オート番号 |             | 極数   |
|                 |    |     |      |      | MATERIAL NO.    |             | 回路数  |
|                 |    |     |      |      | CIRCUITS        |             |      |

|                                                                                                                  |                                       |                                                                                                                               |                            |                           |                                                                         |                        |                        |
|------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------|-------------------------------------------------------------------------|------------------------|------------------------|
| REVISED<br>EC NO.: J2009-2073<br>DRWN:MTAKASAKI 2009/03/13<br>CHKD:MHAYASHI 2009/03/13<br>APPR:NUKITA 2009/03/13 | GENERAL TOLERANCES (UNLESS SPECIFIED) |                                                                                                                               | DIMENSION STYLE<br>MM ONLY |                           | SCALE<br>10:1                                                           | DESIGN UNITS<br>METRIC | THIRD ANGLE PROJECTION |
|                                                                                                                  | 10 UNDER                              | ±0.2                                                                                                                          | DRAWN BY<br>TRSUZUKI       | DATE<br>2006/08/24        | TITLE<br>0.5 FFC CONN HSG ASSY FOR LVDS E/O STRAIGHT (GOLD) -LEAD FREE- |                        |                        |
|                                                                                                                  | 10 OVER 30 UNDER                      | ±0.25                                                                                                                         | CHECKED BY<br>HHIRATA      | DATE<br>2006/08/24        | MOLEX INCORPORATED                                                      |                        |                        |
|                                                                                                                  | 30 OVER                               | ±0.3                                                                                                                          | APPROVED BY<br>MSASAO      | DATE<br>2006/08/24        | DOCUMENT NO.<br>SD-502231-001                                           |                        |                        |
|                                                                                                                  | ANGULAR ±1 °                          | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS                                                                          |                            | MATERIAL NO.<br>SEE CHART |                                                                         | SHEET NO.<br>1 OF 2    |                        |
|                                                                                                                  |                                       | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |                            |                           |                                                                         |                        |                        |

F

E

D

C

B

A

F

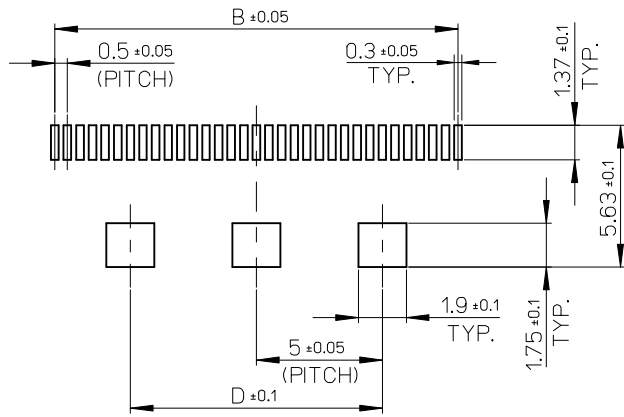
E

D

C

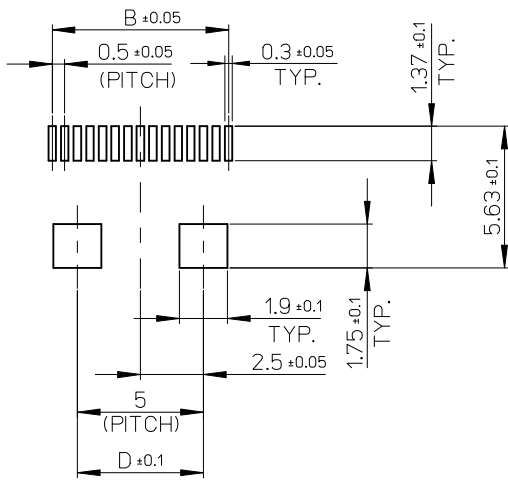
B

A



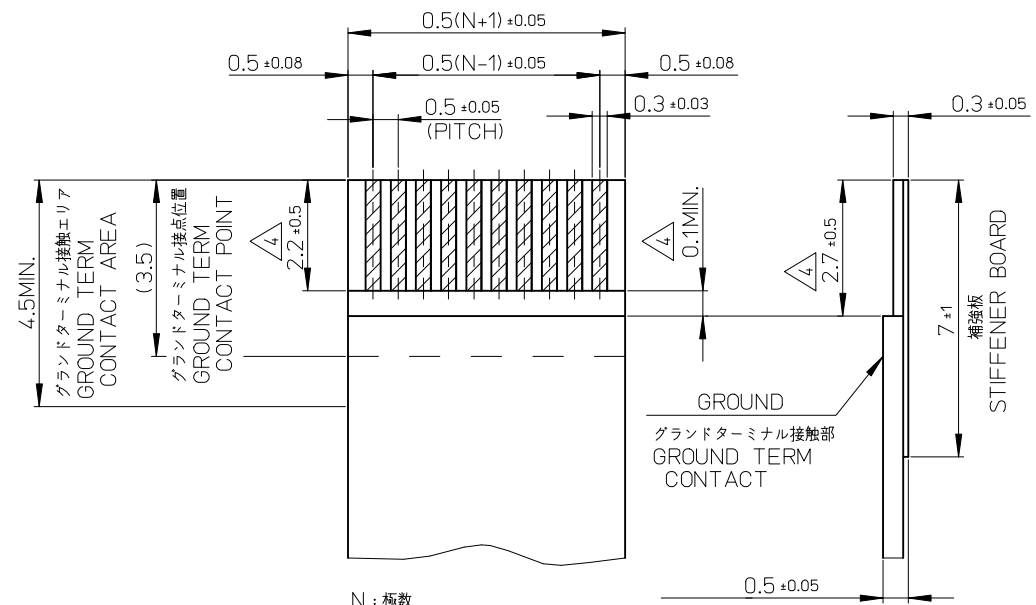
参考基板レイアウト  
(グラウンドターミナルピン数: 奇数品に適用)

P.C. BOARD PATTERN LAYOUT  
(GROUND TERMINAL QUANTITY : ODD NUMBER)



参考基板レイアウト  
(グラウンドターミナルピン数: 偶数品に適用)

P.C. BOARD PATTERN LAYOUT  
(GROUND TERMINAL QUANTITY : EVEN NUMBER)



N : 極数  
N : CIRCUITS

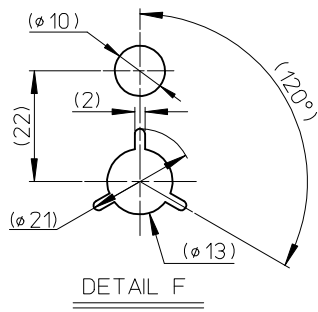
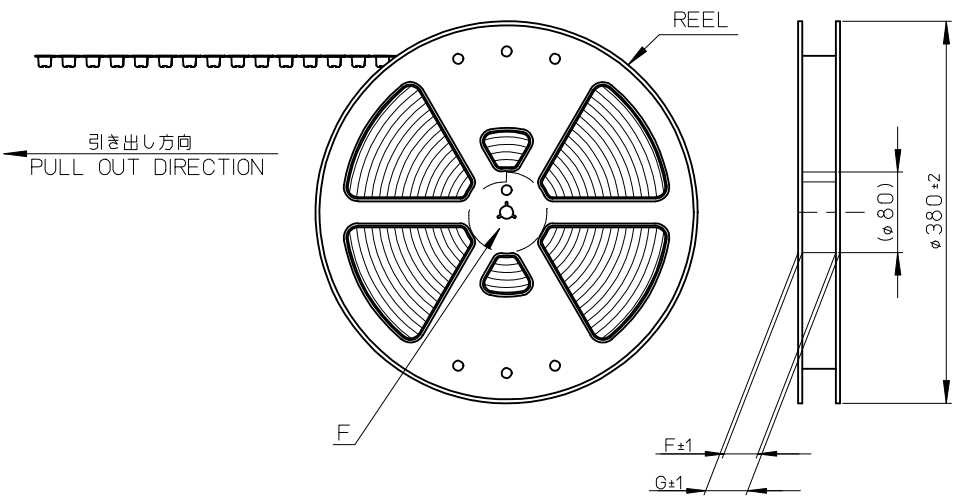
適合FFC推奨寸法  
APPLICABLE FFC  
RECOMMENDED DIMENSION

先端から5mm迄維持すること  
(コネクタグラウンドターミナル接触部)  
MAINTAIN MEASURE FROM  
THE POINT TO 5mm  
(GROUND TERM CONTACT)

FFCについて:  
抜き方向は導体側から補強板側を推奨致します。  
導体部については、軟銅箔: 35マイクロメーター又は50マイクロメーター  
金めっきを推奨致します。

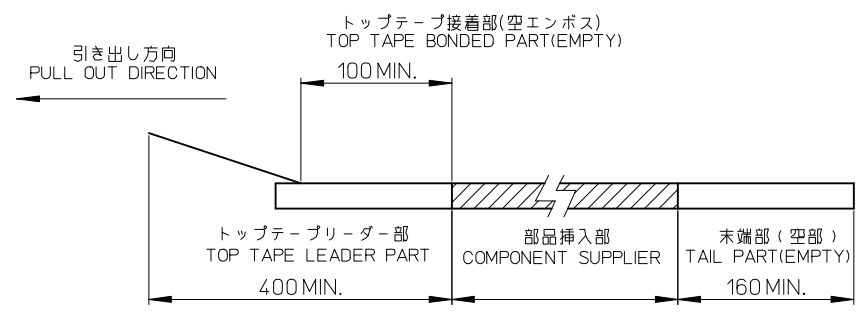
ABOUT FFC:  
RECOMMENDED PUNCHER DIRECTION :  
FROM CONDUCTOR SIDE TO STIFFENER FILM SIDE.  
RECOMMENDED CONDUCTOR SPEC :  
THICKNESS OF SOFT COPPER :  
35 MICROMETER OR 50 MICROMETER  
GOLD PLATING

|                                                                                                                      |                                                                      |                                       |       |                            |                    |                                                                         |                        |                        |  |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------|-------|----------------------------|--------------------|-------------------------------------------------------------------------|------------------------|------------------------|--|
| SEE SHEET 1<br>EC NO.: J2009-2073<br>DRWN:MTAKASAKI 2009/03/13<br>CHKD:MHAYASHI 2009/03/13<br>APPR:NUKITA 2009/03/13 | DESCRIPTION                                                          | GENERAL TOLERANCES (UNLESS SPECIFIED) |       | DIMENSION STYLE<br>MM ONLY |                    | SCALE<br>5:1                                                            | DESIGN UNITS<br>METRIC | THIRD ANGLE PROJECTION |  |
|                                                                                                                      |                                                                      | 10 UNDER                              | ±0.2  | DRAWN BY<br>TRSUZUKI       | DATE<br>2006/08/24 | TITLE<br>0.5 FFC CONN HSG ASSY FOR LVDS E/O STRAIGHT (GOLD) -LEAD FREE- |                        |                        |  |
|                                                                                                                      |                                                                      | 10 OVER 30 UNDER                      | ±0.25 | CHECKED BY<br>HHRATA       | DATE<br>2006/08/24 | MOLEX INCORPORATED                                                      |                        |                        |  |
|                                                                                                                      |                                                                      | 30 OVER                               | ±0.3  | APPROVED BY<br>MSASAO      | DATE<br>2006/08/24 | DOCUMENT NO.<br>SD-502231-001                                           |                        |                        |  |
| REV                                                                                                                  | ANGULAR ±1 °<br>DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | MATERIAL NO.<br>SEE SHEET 1           |       | SIZE<br>A3                 |                    | SHEET NO.<br>2 OF 2                                                     |                        |                        |  |



NOTES

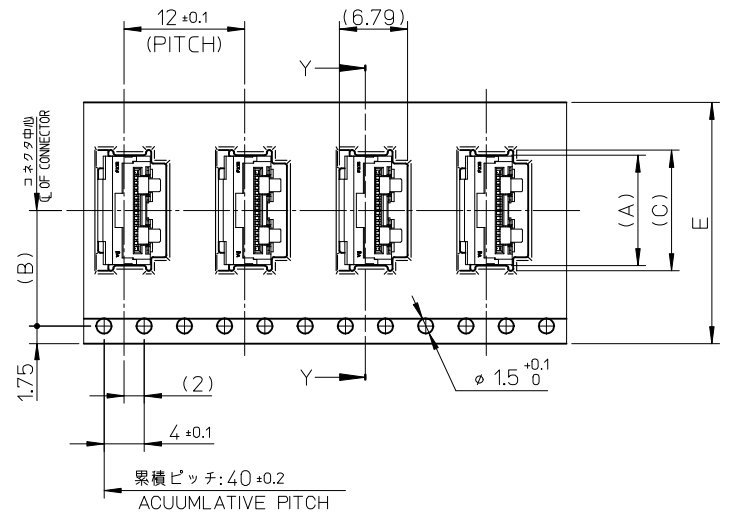
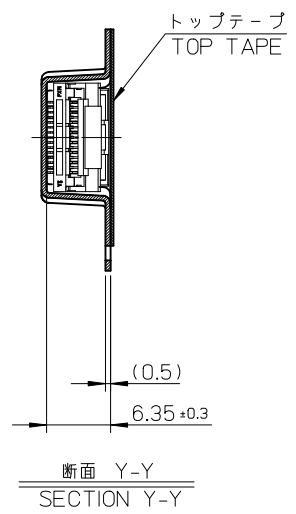
- 製品詳細寸法につきましては、製品単体図面を参照して下さい。  
FOR DETAIL OF CONNECTOR DIMENSIONS,  
PLEASE SEE THE DRAWING OF CONNECTOR ITSELF (NOT PACKAGED).
- 梱包数量：1000個/リール  
NUMBER OF CONNECTORS：1000PCS/REEL
- リードテープの長さ  
LEAD TAPE LENGTH



4. 材料  
MATERIAL
- キャリアテープ：ポリスチレン (PS)  
CARRIER TAPE：POLYSTYRENE (PS)
  - トップテープ：PET, OTHER  
TOP TAPE：PET, OTHER
  - リール：ポリスチレン (リサイクル材を含む)  
REEL：POLYSTYRENE (RECYCLE MATERIAL CONTAINED)

|                                                                                                                   |                                       |                             |                                                                                                                               |                     |                                                                                 |                        |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------------------------------------|------------------------|
| REVISED<br>EC NO: J2009-2073<br>DRW: MTAKASAKI 2009/03/13<br>CHK: DHHAYASHI 2009/03/13<br>APPR: NUKITA 2009/03/13 | GENERAL TOLERANCES (UNLESS SPECIFIED) |                             | DIMENSION STYLE<br>MM ONLY                                                                                                    | SCALE<br>---        | DESIGN UNITS<br>METRIC                                                          | THIRD ANGLE PROJECTION |
|                                                                                                                   | 10 UNDER                              | ± 0.2                       | DRAWN BY<br>TRSUZUKI                                                                                                          | DATE<br>2006/08/24  | TITLE<br>0.5 FFC CONN EMBSTP PKG<br>FOR LVDS E/O STRAIGHT<br>(GOLD) -LEAD FREE- |                        |
|                                                                                                                   | 10 OVER 30 UNDER                      | ± 0.25                      | CHECKED BY<br>HHIRATA                                                                                                         | DATE<br>2006/08/24  |                                                                                 |                        |
|                                                                                                                   | 30 OVER                               | ± 0.3                       | APPROVED BY<br>MSASAO                                                                                                         | DATE<br>2006/08/24  | MOLEX INCORPORATED                                                              |                        |
| ANGULAR ± 1 °                                                                                                     |                                       | MATERIAL NO.<br>SEE SHEET 2 | DOCUMENT NO.<br>SD-502231-002                                                                                                 | SHEET NO.<br>1 OF 3 |                                                                                 |                        |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS                                                              |                                       | SIZE<br>A3                  | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |                     |                                                                                 |                        |

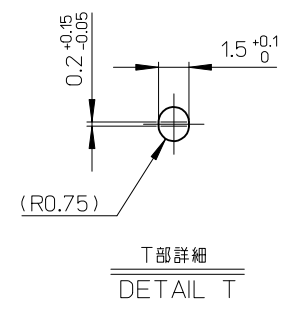
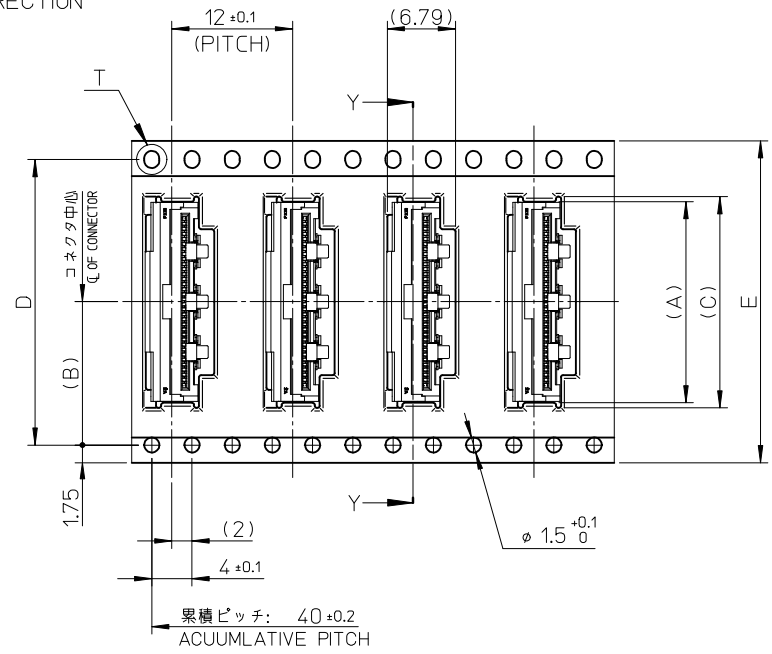
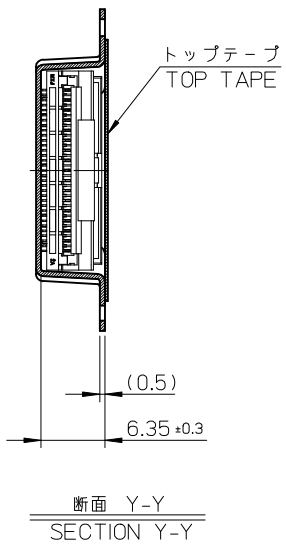
引き出し方向  
PULL OUT DIRECTION



|      |      |                                     |     |     |      |     |                   |                      |                |
|------|------|-------------------------------------|-----|-----|------|-----|-------------------|----------------------|----------------|
| 29.4 | 25.4 | 24 ± 0.3                            | --- | 12  | 11.5 | 11  | 502231-1509       | 502231-1500          | 15             |
| G    | F    | E<br>キャリアテープ幅<br>CARRIER TAPE WIDTH | D   | (C) | (B)  | (A) | 製品単体<br>CONNECTOR | 製品番号<br>MATERIAL NO. | 極数<br>CIRCUITS |

|                                                                                                                          |               |                                                      |                            |                                                                                                                               |                                                                           |                               |
|--------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------|
| SEE SHEET 1<br>EC NO: J2009-2073<br>DRW: N. AKASAKI 2009/03/13<br>CHK: D. HAYASHI 2009/03/13<br>APPR: N. KITA 2009/03/13 | DESCRIPTION   | GENERAL TOLERANCES (UNLESS SPECIFIED)                | DIMENSION STYLE<br>MM ONLY | SCALE<br>---                                                                                                                  | DESIGN UNITS<br>METRIC                                                    | THIRD ANGLE PROJECTION        |
|                                                                                                                          | REV           | 10 UNDER ± 0.2                                       | DRAWN BY<br>TRSUZUKI       | DATE<br>2006/08/24                                                                                                            | TITLE<br>0.5 FFC CONN EMBSTP PKG FOR LVDS E/O STRAIGHT (GOLD) -LEAD FREE- |                               |
|                                                                                                                          |               | 10 OVER 30 UNDER ± 0.25                              | CHECKED BY<br>HIRATA       | DATE<br>2006/08/24                                                                                                            | APPROVED BY<br>MSASAO                                                     |                               |
|                                                                                                                          |               | 30 OVER ± 0.3                                        | DATE<br>2006/08/24         | MATERIAL NO.<br>SEE CHART                                                                                                     |                                                                           | DOCUMENT NO.<br>SD-502231-002 |
|                                                                                                                          | ANGULAR ± 1 ° | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | SIZE<br>A3                 | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |                                                                           |                               |

引き出し方向  
PULL OUT DIRECTION



|      |      |                                     |      |            |      |            |                   |                      |                |
|------|------|-------------------------------------|------|------------|------|------------|-------------------|----------------------|----------------|
| 37.4 | 33.4 | 32 ± 0.3                            | 28.4 | 21<br>16.5 | 14.2 | 20<br>15.5 | 502231-3309       | 502231-3300          | 33             |
|      |      |                                     |      |            |      |            | 502231-2409       | 502231-2400          | 24             |
| G    | F    | E<br>キャリアテープ幅<br>CARRIER TAPE WIDTH | D    | (C)        | (B)  | (A)        | 製品単体<br>CONNECTOR | 製品番号<br>MATERIAL NO. | 極数<br>CIRCUITS |

|                                                                                                                      |             |                                       |                                                      |                            |                    |                                                                           |                        |                        |  |
|----------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------|------------------------------------------------------|----------------------------|--------------------|---------------------------------------------------------------------------|------------------------|------------------------|--|
| SEE SHEET 1<br>EC NO: J2009-2073<br>DRAWN: AKASAKI 2009/03/13<br>CHKD: HAYASHI 2009/03/13<br>APPR: NUKITA 2009/03/13 | DESCRIPTION | GENERAL TOLERANCES (UNLESS SPECIFIED) |                                                      | DIMENSION STYLE<br>MM ONLY |                    | SCALE<br>---                                                              | DESIGN UNITS<br>METRIC | THIRD ANGLE PROJECTION |  |
|                                                                                                                      |             | 10 UNDER                              | ± 0.2                                                | DRAWN BY<br>TRSUZUKI       | DATE<br>2006/08/24 | TITLE<br>0.5 FFC CONN EMBSTP PKG FOR LVDS E/O STRAIGHT (GOLD) -LEAD FREE- |                        |                        |  |
|                                                                                                                      |             | 10 OVER 30 UNDER                      | ± 0.25                                               | CHECKED BY<br>HIRATA       | DATE<br>2006/08/24 | MOLEX INCORPORATED                                                        |                        |                        |  |
|                                                                                                                      |             | 30 OVER                               | ± 0.3                                                | APPROVED BY<br>MSASAO      | DATE<br>2006/08/24 |                                                                           |                        |                        |  |
|                                                                                                                      |             | ANGULAR ± 1 °                         | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | MATERIAL NO.<br>SEE CHART  |                    | DOCUMENT NO.<br>SD-502231-002                                             | SHEET NO.<br>3 OF 3    |                        |  |