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**Part Number:** [0746502512](#)  
**Status:** **Active**  
**Overview:** [vhdm\\_\\_hsd](#)  
**Description:** 2.00mm (.079") Pitch 8-Row VHDM-HSD™ Backplane Header, Guide Pin Signal Module, Pin End Version, 150 Circuits, Pin Length 6.25mm (.246")

**Documents:**  
[Drawing \(PDF\)](#)

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

**Agency Certification**  
CSA

LR19980

**General**

|                               |                                                                                 |
|-------------------------------|---------------------------------------------------------------------------------|
| Product Family                | Backplane Connectors                                                            |
| Series                        | <a href="#">74650</a>                                                           |
| Application                   | Backplane                                                                       |
| Application Tooling Documents | <a href="http://www.molex.com/pdm_docs/ats/TM-622010999.pdf">Tooling Manual</a> |
| Comments                      | Keying Position A                                                               |
| Component Type                | PCB Header                                                                      |
| Overview                      | <a href="#">vhdm__hsd</a>                                                       |
| Product Name                  | VHDM-HSD™                                                                       |
| Style                         | N/A                                                                             |

**Physical**

|                                |                                                                      |
|--------------------------------|----------------------------------------------------------------------|
| Circuits (Loaded)              | 150                                                                  |
| Circuits (maximum)             | 150                                                                  |
| Color - Resin                  | Black                                                                |
| Durability (mating cycles max) | 200                                                                  |
| First Mate / Last Break        | No                                                                   |
| Flammability                   | 94V-0                                                                |
| Guide to Mating Part           | Yes                                                                  |
| Keying to Mating Part          | Yes                                                                  |
| Material - Metal               | Copper-Nickel-Silicon, High Performance Alloy (HPA), Stainless Steel |
| Material - Plating Mating      | Gold                                                                 |
| Material - Plating Termination | Tin-Lead                                                             |
| Material - Resin               | High Temperature Thermoplastic                                       |
| Number of Columns              | 25                                                                   |
| Number of Pairs                | Open Pin Field                                                       |
| Number of Rows                 | 8                                                                    |
| Orientation                    | Vertical                                                             |
| PC Tail Length (in)            | 0.098 In                                                             |
| PC Tail Length (mm)            | 2.50 mm                                                              |
| PCB Locator                    | No                                                                   |
| PCB Retention                  | None                                                                 |
| PCB Thickness Recommended (in) | 0.070 In                                                             |
| PCB Thickness Recommended (mm) | 1.80 mm                                                              |
| Packaging Type                 | Tube                                                                 |
| Pitch - Mating Interface (in)  | 0.079 In                                                             |
| Pitch - Mating Interface (mm)  | 2.00 mm                                                              |
| Pitch - Term. Interface (in)   | 0.079 In                                                             |
| Pitch - Term. Interface (mm)   | 2.00 mm                                                              |
| Plating min: Mating (µin)      | 30                                                                   |
| Plating min: Mating (µm)       | 0.75                                                                 |
| Plating min: Termination (µin) | 30                                                                   |

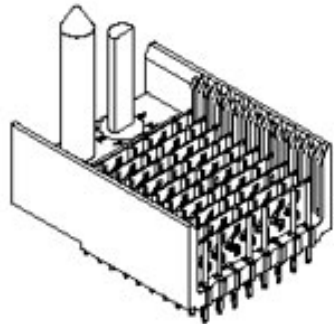


image - Reference only

Series

**EU RoHS**

**RoHS Compliant by Exemption**  
**REACH SVHC**  
Not Reviewed  
**Halogen-Free**  
**Status**  
**Not Reviewed**

**China RoHS**



**Need more information on product environmental compliance?**

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

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

**Search Parts in this Series**  
[74650Series](#)

**Mates With**  
HSD Daughtercards [74680](#) , [74686](#)

**Use With**  
Daughtercard Modules

**Application Tooling | FAQ**  
*Tooling specifications and manuals are found by selecting the products below. Crimp Height Specifications are then contained in the Application Tooling Specification document.*

| Global                                                                    |                            |
|---------------------------------------------------------------------------|----------------------------|
| Description                                                               | Product #                  |
| VHDM® Signal Pin                                                          | <a href="#">0622015700</a> |
| Insertor Repair Tool                                                      |                            |
| VHDM® Insertion                                                           | <a href="#">0622020206</a> |
| Module for Advanced Mate Signal Header, 6 Row by 25 Wide, 50.00mm (1.97") |                            |

|                                |                              |
|--------------------------------|------------------------------|
| Plating min: Termination (μm)  | 0.75                         |
| Polarized to PCB               | Yes                          |
| Stackable                      | Yes                          |
| Surface Mount Compatible (SMC) | Yes                          |
| Temperature Range - Operating  | -55°C to +105°C              |
| Termination Interface: Style   | Through Hole - Compliant Pin |

**Electrical**

|                               |                     |
|-------------------------------|---------------------|
| Current - Maximum per Contact | 1A                  |
| Data Rate                     | 5.0 Gbps            |
| Real Signals (per 25mm)       | 72                  |
| Shield Type                   | Ground Plane Shield |
| Shielded                      | Yes                 |
| Voltage - Maximum             | 250V                |

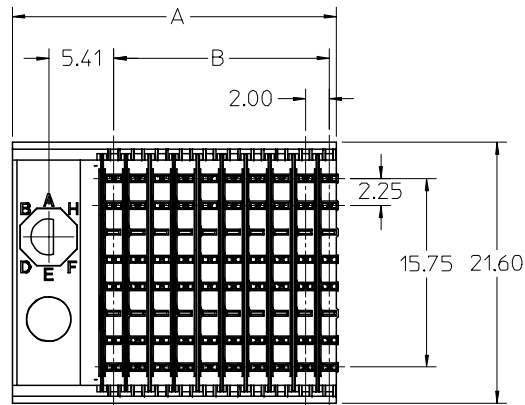
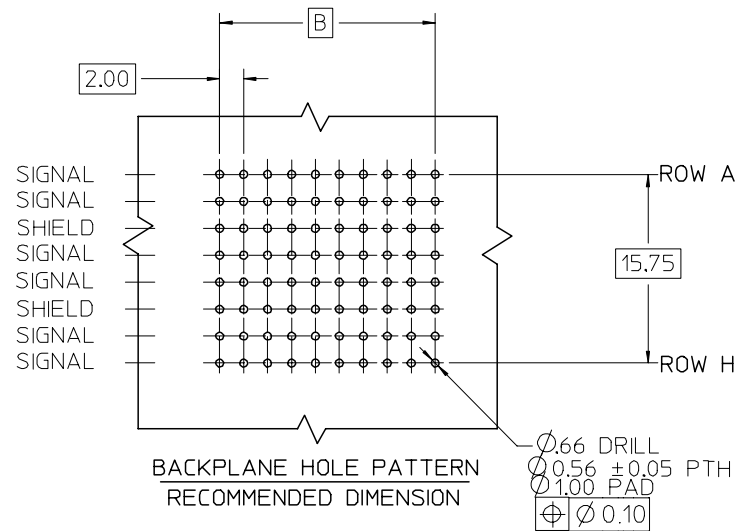
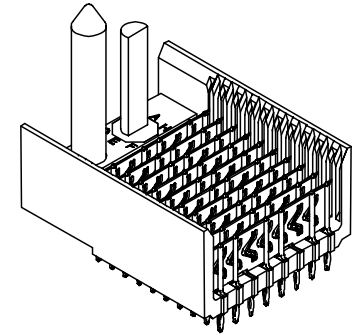
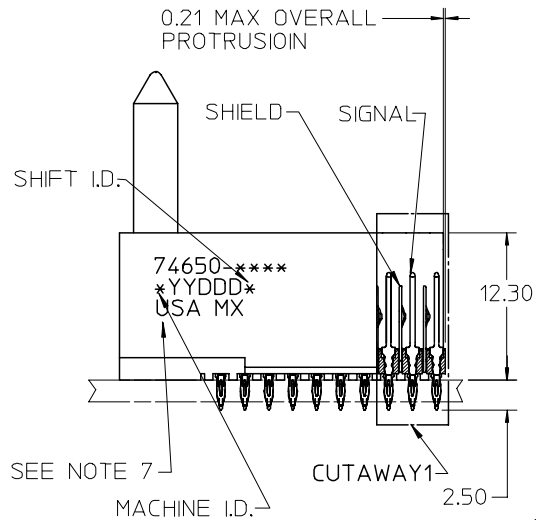
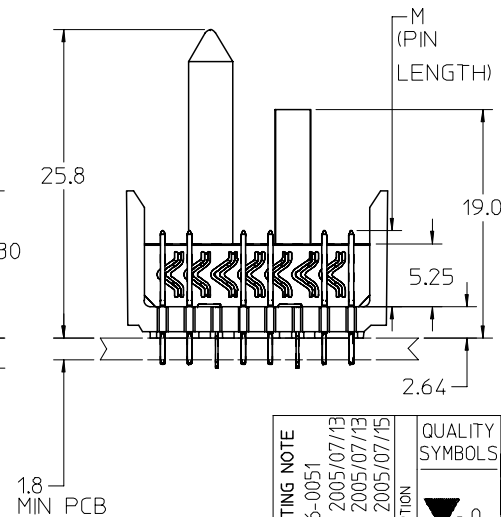
**Material Info**

**Reference - Drawing Numbers**

|                         |              |
|-------------------------|--------------|
| Packaging Specification | PK-74061-003 |
| Sales Drawing           | SD-74650-002 |

VHDM-HSD is a trademark of Amphenol Corporation

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## NOTES:

1. MATERIAL: HOUSING -LIQUID CRYSTAL POLYMER (LCP) GLASS-FILLED.  
UL 94-0. COLOR BLACK. SIGNAL & SHIELD -HIGH PERFORMANCE COPPER ALLOY.
2. FINISHES:  
CONTACT AREA: SELECTIVE GOLD (Au)  
PCB TAILS: SELECTIVE TIN/LEAD (Sn/Pb) OR SELECTIVE MATTE TIN (Sn)  
NICKEL (Ni) OVERALL.
3. THIS PART CONFORMS TO MOLEX PRODUCT SPECIFICATION PS-74031-999.
4. FOR MIXED CONTACT MATING LENGTHS CONSULT MOLEX FOR AVAILABILITY.
5. FOR SPECIFIC PART NUMBER AND MATING INFORMATION REFER TO SHEET 2.
6. PACKAGE PER PK-74061-003.
7. EITHER MARK PART NUMBER AND DATE CODE APPROXIMATELY WHERE SHOWN OR PLACE LABEL ON THE TUBE.

|                                                                                                                         |             |                                                  |                                       |             |                                                                                                                               |                        |                                                              |                    |                    |  |
|-------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------|---------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------------------------------|--------------------|--------------------|--|
| REVISED - PLATING NOTE<br>EC NO: UCP2006-0051<br>DRWN: KMULVEY 2005/07/13<br>CHKD: 2005/07/13<br>APPR: SREED 2005/07/15 | DESCRIPTION | QUALITY SYMBOLS<br><div>▽-0</div> <div>◁-0</div> | GENERAL TOLERANCES (UNLESS SPECIFIED) |             | SCALE<br>2.5:1                                                                                                                | DESIGN UNITS<br>METRIC | THIRD ANGLE PROJECTION                                       | REVISE ON CAD ONLY |                    |  |
|                                                                                                                         |             |                                                  | mm                                    | INCH        | DIMENSION STYLE<br>MM ONLY                                                                                                    |                        | TITLE<br>HSD SALES ASSEMBLY<br>8 ROW SIGNAL END<br>BACKPLANE |                    |                    |  |
|                                                                                                                         |             |                                                  | 4 PLACES                              | ± --- ± --- | DRAWN BY<br>MQWANG                                                                                                            |                        |                                                              |                    |                    |  |
|                                                                                                                         |             |                                                  | 3 PLACES                              | ± --- ± --- | CHECKED BY<br>JLAURX                                                                                                          |                        | DATE<br>2001/03/27                                           |                    | MOLEX INCORPORATED |  |
|                                                                                                                         |             |                                                  | 2 PLACES                              | ± --- ± --- | APPROVED BY<br>CBIXLER                                                                                                        |                        | DATE<br>2001/03/27                                           |                    |                    |  |
| REV                                                                                                                     |             |                                                  | ANGULAR ±1/2°                         |             | MATERIAL NO.                                                                                                                  |                        | DOCUMENT NO.                                                 |                    | SHEET NO.          |  |
|                                                                                                                         |             |                                                  | DRAFT WHERE APPLICABLE                |             | SEE SHEET 2                                                                                                                   |                        | SD-74650-002                                                 |                    | 1 OF 2             |  |
|                                                                                                                         |             |                                                  | MUST REMAIN WITHIN DIMENSIONS         |             | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |                        |                                                              |                    |                    |  |
| B                                                                                                                       |             |                                                  |                                       |             |                                                                                                                               |                        |                                                              |                    |                    |  |

10 9 8 7 6 5 4 3 2 74650

| M/N<br>74650-( )          | -**0* | -**1* | -**2* | -**3* | -**4* | -**5* | -**6* | -**7* | -**8* |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| KEYING PIN<br>ORIENTATION | 0     | A     | B     | C     | D     | E     | F     | G     | H     |
|                           |       |       |       |       |       |       |       |       |       |

74650-\*\*\*

NUMBER OF COLUMNS/  
PLATING

10=10 COLUMN TIN/LEAD

25=25 COLUMN TIN/LEAD

90=10 COLUMN MATTE TIN

85=25 COLUMN MATTE TIN

CONTACT LOAD  
(PIN LENGTH)

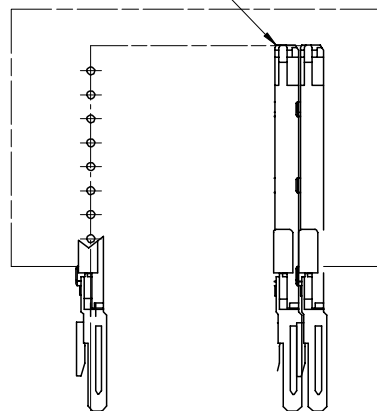
1 & 6 = 4.75

2 & 7 = 6.25

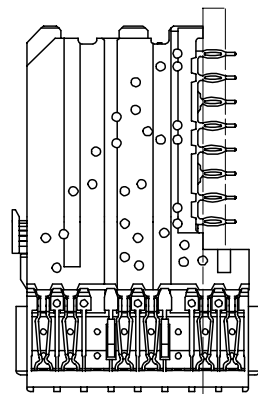
3 & 8 = 4.25

4 & 9 = 5.15

DAUGHTERCARD  
CONNECTOR SIDE

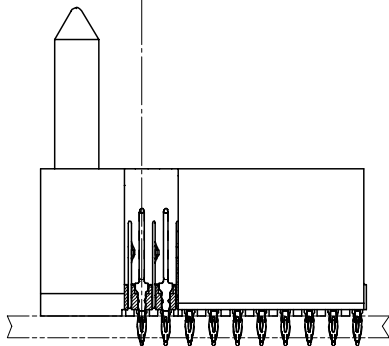
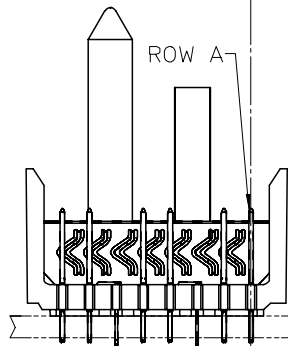


0.41  
SIGNAL TO SIGNAL



2.45  
TOP DAUGHTERCARD  
PCB TO CENTER OF  
ROW A

| PART<br>NUMBER | COLUMN | NUMBER OF<br>SIGNAL PINS | NUMBER OF<br>SHIELDS | A MAX | B     | M    | Au (um) MIN<br>THICKNESS | Sn/Pb (um)<br>THICKNESS |
|----------------|--------|--------------------------|----------------------|-------|-------|------|--------------------------|-------------------------|
| 74650-*0*1     | 10     | 60                       | 10                   | 27.00 | 18.00 | 4.75 | 0.76                     | 0.76-1.52               |
| 74650-*0*6     |        |                          |                      |       |       |      | 1.27                     |                         |
| 74650-*5*1     | 25     | 150                      | 25                   | 57.00 | 48.00 | 4.75 | 0.76                     |                         |
| 74650-*5*6     |        |                          |                      |       |       |      | 1.27                     |                         |
| 74650-*0*2     | 10     | 60                       | 10                   | 27.00 | 18.00 | 6.25 | 0.76                     |                         |
| 74650-*0*7     |        |                          |                      |       |       |      | 1.27                     |                         |
| 74650-*5*2     | 25     | 150                      | 25                   | 57.00 | 48.00 | 6.25 | 0.76                     |                         |
| 74650-*5*7     |        |                          |                      |       |       |      | 1.27                     |                         |
| 74650-*0*3     | 10     | 60                       | 10                   | 27.00 | 18.00 | 4.25 | 0.76                     |                         |
| 74650-*0*8     |        |                          |                      |       |       |      | 1.27                     |                         |
| 74650-*5*3     | 25     | 150                      | 25                   | 57.00 | 48.00 | 4.25 | 0.76                     |                         |
| 74650-*5*8     |        |                          |                      |       |       |      | 1.27                     |                         |
| 74650-*0*4     | 10     | 60                       | 10                   | 27.00 | 18.00 | 5.15 | 0.76                     |                         |
| 74650-*0*9     |        |                          |                      |       |       |      | 1.27                     |                         |
| 74650-*5*4     | 25     | 150                      | 25                   | 57.00 | 48.00 | 5.15 | 0.76                     |                         |
| 74650-*5*9     |        |                          |                      |       |       |      | 1.27                     |                         |



|                                                                                                              |                                                            |                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                               |       |                              |                     |                    |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------|---------------------|--------------------|-------|----------|-------|-------|----------|-------|-------|---------|-------|-------|---------------|--|--|----------------|------------------------|------------------------|--------------------|--|
| SEE SHEET 1<br>EC NO: UCP2006-0051<br>DRWN: KMULVEY 2005/07/13<br>CHKD: 2005/07/13<br>APPR: SREED 2005/07/15 | QUALITY SYMBOLS<br><div>▽ 0</div> <div>▽ 0</div>           | GENERAL TOLERANCES (UNLESS SPECIFIED) <table><tr><td></td><td>mm</td><td>INCH</td></tr><tr><td>4 PLACES</td><td>± ---</td><td>± ---</td></tr><tr><td>3 PLACES</td><td>± ---</td><td>± ---</td></tr><tr><td>2 PLACES</td><td>± ---</td><td>± ---</td></tr><tr><td>1 PLACE</td><td>± ---</td><td>± ---</td></tr><tr><td colspan="3">ANGULAR ±1/2°</td></tr></table> |                                                                                                                               | mm    | INCH                         | 4 PLACES            | ± ---              | ± --- | 3 PLACES | ± --- | ± --- | 2 PLACES | ± --- | ± --- | 1 PLACE | ± --- | ± --- | ANGULAR ±1/2° |  |  | SCALE<br>2.5:1 | DESIGN UNITS<br>METRIC | THIRD ANGLE PROJECTION | REVISE ON CAD ONLY |  |
|                                                                                                              |                                                            |                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                               | mm    | INCH                         |                     |                    |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |
|                                                                                                              |                                                            |                                                                                                                                                                                                                                                                                                                                                                   | 4 PLACES                                                                                                                      | ± --- | ± ---                        |                     |                    |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |
|                                                                                                              |                                                            |                                                                                                                                                                                                                                                                                                                                                                   | 3 PLACES                                                                                                                      | ± --- | ± ---                        |                     |                    |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |
|                                                                                                              |                                                            |                                                                                                                                                                                                                                                                                                                                                                   | 2 PLACES                                                                                                                      | ± --- | ± ---                        |                     |                    |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |
| 1 PLACE                                                                                                      | ± ---                                                      | ± ---                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                               |       |                              |                     |                    |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |
| ANGULAR ±1/2°                                                                                                |                                                            |                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                               |       |                              |                     |                    |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |
| DESCRIPTION                                                                                                  | DIMENSION STYLE<br>MM ONLY                                 |                                                                                                                                                                                                                                                                                                                                                                   | TITLE<br>HSD SALES ASSEMBLY<br>8 ROW SIGNAL END<br>BACKPLANE                                                                  |       |                              |                     |                    |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |
|                                                                                                              | DRAWN BY<br>MQWANG                                         |                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                               |       |                              |                     | DATE<br>2001/03/22 |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |
|                                                                                                              | CHECKED BY<br>JLAURX                                       |                                                                                                                                                                                                                                                                                                                                                                   | DATE<br>2001/03/27                                                                                                            |       | MOLEX INCORPORATED           |                     |                    |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |
|                                                                                                              | APPROVED BY<br>CBIXLER                                     |                                                                                                                                                                                                                                                                                                                                                                   | DATE<br>2001/03/27                                                                                                            |       |                              |                     |                    |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |
| REV                                                                                                          | DRAFT WHERE APPLICABLE<br>MUST REMAIN<br>WITHIN DIMENSIONS |                                                                                                                                                                                                                                                                                                                                                                   | MATERIAL NO.<br>SEE TABLE                                                                                                     |       | DOCUMENT NO.<br>SD-74650-002 | SHEET NO.<br>2 OF 2 |                    |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |
|                                                                                                              |                                                            |                                                                                                                                                                                                                                                                                                                                                                   | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |       |                              |                     |                    |       |          |       |       |          |       |       |         |       |       |               |  |  |                |                        |                        |                    |  |