HDLP SERIES
High Density, Low Profile Connectors

- High density contact arrangement
- Light weight, low profile mated height
- Surface mount termination technology
- Miniature Hyperboloid contact
- Interfacial seal
- Polarized and scoop proof
- Pick and place compatible
### TECHNICAL CHARACTERISTICS

#### MECHANICAL

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Diameter</td>
<td>0.015 inches/0.39 mm</td>
</tr>
<tr>
<td>Contact Life Cycles</td>
<td>2,000+ operations</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-55°C to 125°C</td>
</tr>
<tr>
<td>Extraction Forces</td>
<td>1.0 oz./28.3 gr.</td>
</tr>
</tbody>
</table>

#### MATERIAL

<table>
<thead>
<tr>
<th>Feature</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulator Material</td>
<td>Liquid crystal polymer (LCP)</td>
</tr>
<tr>
<td>Contact Material</td>
<td>Copper alloy</td>
</tr>
<tr>
<td>Socket Wire Material</td>
<td>Beryllium copper</td>
</tr>
<tr>
<td>Interfacial Seal Material</td>
<td>Fluorosilicone</td>
</tr>
<tr>
<td>Guides Material</td>
<td>Stainless steel</td>
</tr>
</tbody>
</table>

#### ELECTRICAL

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Plating</td>
<td>ASTM-488-B (Type III, grade C, Class 1)</td>
</tr>
<tr>
<td>Contact Resistance</td>
<td>8 milliohms max.</td>
</tr>
<tr>
<td>Current Rating</td>
<td>1 Amp per contact</td>
</tr>
<tr>
<td>Voltage Rating</td>
<td>110 VDC or AC peak nominal</td>
</tr>
</tbody>
</table>

#### CONTACT PLATING FINISHES

<table>
<thead>
<tr>
<th>Connector Finish Ordering Code</th>
<th>Description</th>
<th>Component</th>
<th>Component Finish Ordering Code</th>
<th>Conforms to</th>
<th>Plating Thickness*</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>Gold Plate</td>
<td>Socket</td>
<td>/G</td>
<td>ASTM-488-B</td>
<td>1.27 μm gold plate min.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pin</td>
<td>-/F</td>
<td>(Type III, grade C, Class 1)</td>
<td>50 μin gold plate min.</td>
</tr>
</tbody>
</table>

*For electrical contact plating finishes, the plating thickness is specified in micrometers (μm) and includes a minimum thickness requirement of 50 microns.**
HOW TO ORDER

1  CONNECTOR FAMILY

2  ALIGNMENT PIPS  1 WITH  2 WITHOUT  Default is 2 if insulator style is 9

3  INSULATOR HEIGHT/STYLE
    1 SINGLE  2 DOUBLE  90°  Default is 9 for 90° contact termination (90° female not currently available)

4  NUMBER OF CONTACTS  030  058  090  118

5  CONTACT PLATING  U STANDARD GOLD PLATING  S GOLD PLATE WITH TIN DIPPED TERMINATIONS (PC Tail only)

6  CONTACT GENDER  M MALE  F FEMALE

7  CONTACT TERMINATIONS  Contact factory for more details
    C Through board solder-Straight PC Tail - 2.26mm long
    D Through board solder-Straight PC Tail - 3.16mm long
    E Through board solder-Straight PC Tail - 3.85mm long
    H Through board solder-90° PC Tail - 2.26mm long
    J Through board solder-90° PC Tail - 3.16mm long
    K Through board solder-90° PC Tail - 3.85mm long
    Q Surface Mount - Straight

8  GUIDES  Contact factory for more details
    AA No Guide hardware  E- Contact factory  I- Contact factory  M- Contact factory
    B- Locking socket  F- Polarizing socket  J- Connector to board fixing  O- Guide pin
    C- Contact factory  G- Contact factory  K- Contact factory  P- Contact factory
    D- Locking post  H- Polarizing pin  L- Guide socket  Q- Polarized transverse mounting

9  STANDARD VARIATIONS  Contact factory for more details
    0PO Back potted terminations and fitted with interfacial seal (preferred)
    0PX Tinned, back potted and fitted with interfacial seal
    0PC Back potted, coated to conformity and fitted with interfacial seal
    NP0 Back potted terminations and fitted with interfacial seal (preferred)
    N PX Tinned and back potted
    NPC Back potted and coated to conformity
INSULATORS

MALE / STRAIGHT

Dimensions are in mm

<table>
<thead>
<tr>
<th>No. of positions</th>
<th>30</th>
<th>58</th>
<th>90</th>
<th>118</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single</td>
<td>Double</td>
<td>Single</td>
<td>Double</td>
</tr>
<tr>
<td>Dimension A</td>
<td>16.70&quot;</td>
<td>0.657&quot;</td>
<td>27.20&quot;</td>
<td>1.070&quot;</td>
</tr>
<tr>
<td>Dimension B</td>
<td>23.45&quot;</td>
<td>0.923&quot;</td>
<td>33.95&quot;</td>
<td>1.337&quot;</td>
</tr>
<tr>
<td>Dimension C</td>
<td>2.28&quot;</td>
<td>0.090&quot;</td>
<td>6.85&quot;</td>
<td>0.270&quot;</td>
</tr>
<tr>
<td>Dimension D</td>
<td>6.18&quot;</td>
<td>0.243&quot;</td>
<td>10.75&quot;</td>
<td>0.423&quot;</td>
</tr>
<tr>
<td>Dimension E</td>
<td>20.20&quot;</td>
<td>0.795&quot;</td>
<td>30.70&quot;</td>
<td>1.209&quot;</td>
</tr>
</tbody>
</table>

Dimensions are in mm / inches
CONTACT TERMINATIONS

MALE SMT

FEMALE SMT

MALE 90° PCB

Termination Style  | Dimension A  
-------------------|--------------
H                  | 2.26 0.089"  
J                  | 3.16 0.124"  
K                  | 3.86 0.152"  
Dimensions are in mm inches

MALE VERTICAL PCB

FEMALE VERTICAL PCB

Termination Style  | Dimension A  
-------------------|--------------
C                  | 2.26 0.089"  
D                  | 3.16 0.124"  
E                  | 3.86 0.152"  
Dimensions are in mm inches
SMITHS CONNECTORS
PRODUCT LINES

**PCB**
- Low, medium and high density board-to-board, cable to board and stacking
- Rugged standard
- Low profile
- Signal, power, coaxial & high speed configurations
- Self configurable board-to-board
- Spring probe connectors
- Mixed signal, power and coaxial contact connectors
- Different termination styles: solder cup, crimp, SMT and SMT flex, press fit, solder dip.

**HIGH POWER**
- Circular
- Configurable rectangular
- Ruggedized
- Single and Multi-Way Connectors
- Power contact up to 1,200 Amps
- Excellent performance in harsh environment conditions
- Cable assembling

**EMI/EMP FILTER**
- EMI/RFI filtering and transient protection
- RoHS compliant solderless filter connectors available
- Circular, ARINC, D-Subminiature, Micro-D
- Filtered adapters for "bolt on" EMI/EMP solutions
- Filter hybrid capability

**MODULAR/RECTANGULAR**
- Configurable with modules for signal, power, coax, fiber optics and/or pneumatics
- Easy configuration in a single frame
- For rack & panel, and cable applications
- Guided hardware for blind
- D-sub connectors
- Micro-D style
- Signal connectors for hand held and docking stations

**CIRCULAR**
- Metal and Plastic
- Industrial M12, M23, M40, M58
- Crimp and solder terminations
- Various types of cable clamps
- Push Pull/ latch mechanism
- Color coding

**HEAVY DUTY**
- Ultra reliable hyperboloid contact
- Modular solution: signal, power, data contacts, and fiber optics
- High resistance in harsh environment
- EMC shielding
- Easy cable mounting
- High pressure up to 35K PSI, 250° C
- High temperature up to 440°C

**SPRING PROBE**
- Z-axis compliant
- Blind mate engagement
- Long cycle life
- High density
- Extreme miniaturization
- Printed circuit board test
- Bare board test
- Coaxial contacts

**MIL/AERO STANDARD**
- Standard military interface
- ARINC interface
- ARINC 801
- Custom inserts

**HIGH SPEED COPPER/ FIBER**
- Quadrax and Twainax Connectors
- Rugged D-Sub Connectors
- ARINC and MIL-STD Contacts
- Micro Quadax/Quadrax
- Butt-Joint and Expanded Beam Contacts
- ARINC 801 Termini
- Floating Fiber Terminii