

**Table of Contents**

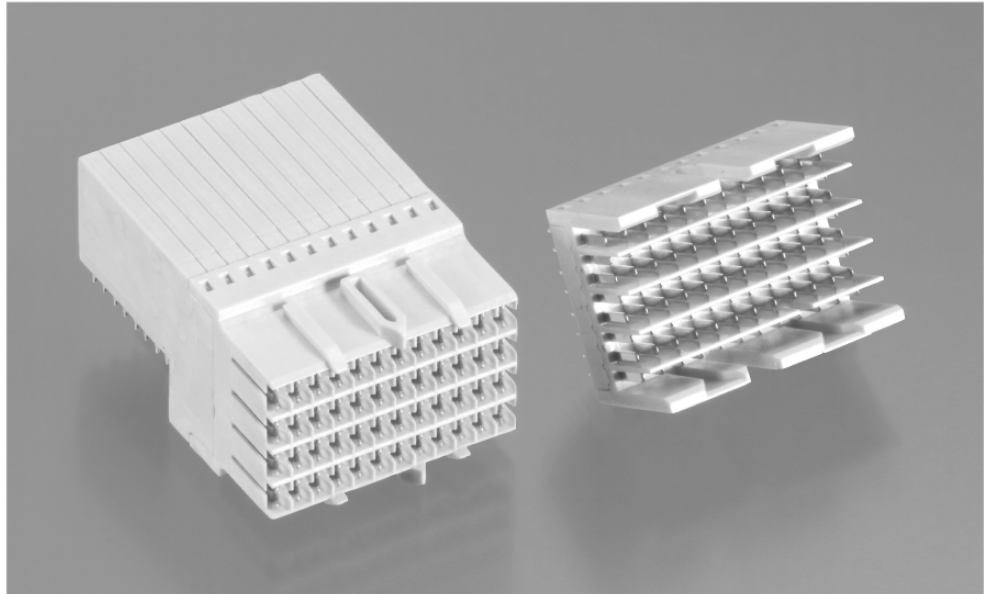
**Z-PACK Slim UHD Connector** . . . . . 47-54  
 Product Line Overview . . . . . 48  
 Connector Concept . . . . . 49  
 Flexibility . . . . . 49  
 Upgradeability . . . . . 50  
 Connector Footprint . . . . . 50  
 Typical Electrical Properties . . . . . 51  
 Female and Male Connectors . . . . . 52  
 Right-Angle Male (RAM) Connector . . . . . 53  
 Power Connector . . . . . 53  
 Guide Pins and Guide Module . . . . . 54

**2**  
Z-PACK Slim UHD Connector

## Z-PACK Slim UHD Connectors

### Product Facts

- Density of 55 pins/cm<sup>2</sup>
- Fits +13 mm slot pitches
- 20+ Gbps scalable signal speed
- Complete end-to-end stackable
- Press-fit termination technology
- Different pin assignments possible
- Post/Premating possible
- Integrated polarization & guiding



Z-PACK Slim (low profile) UHD (Ultra High Density) is a flexible and upgradeable connector system designed to fit 15 mm (0.6 inch) slot pitch applications.

The Z-PACK Slim UHD connector has an extremely high contact density combined with excellent high speed signal performance.

For more Information:  
<http://www.zpackuhd.com>

### Applications

- Telecom Equipment
- Switches
- Routers
- Servers, etc.

**Z-PACK Slim UHD Connectors** (Continued)

**Connector Concept**

**Flexibility**

Multiple types of high speed pin assignments are permissible. See Application Specifications or contact Tyco Electronics.

**Some Examples:**

- 1.5 differential pairs per column
- 2.0 differential pairs per column
- Extremely high density in fully single ended arrangement up to 55 signal lines/cm<sup>2</sup>

**Upgradeability**

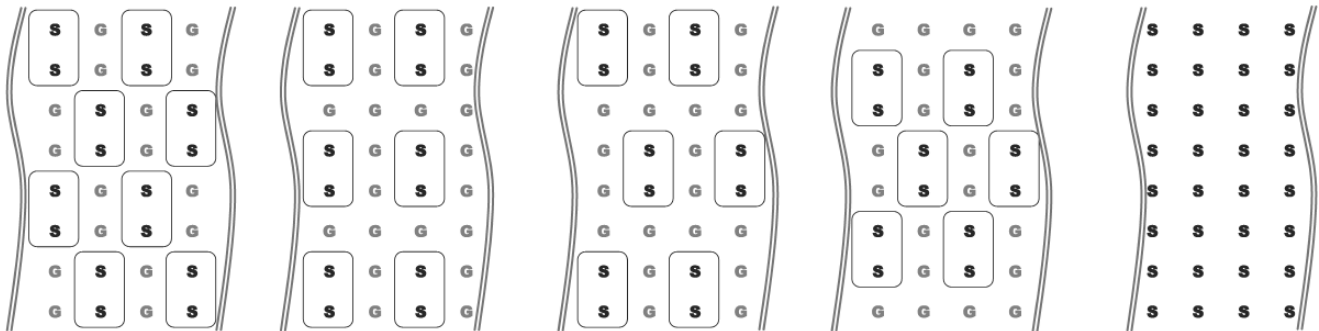
- Z-PACK Slim UHD CS (Common Speed) ≤3.5 Gbps
- Z-PACK Slim UHD HS (High Speed) 12.5+ Gbps (2.0 DP/Column) 20+ Gbps (1.5 DP/Column)

**8 Contacts per Column — 12 Columns per Module**

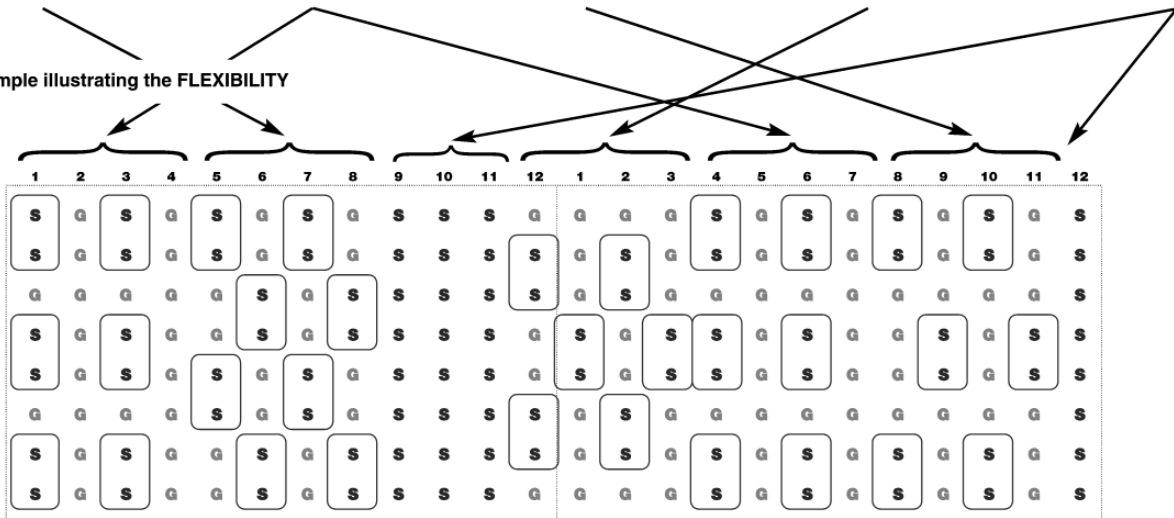
**2**  
Z-PACK Slim UHD Connector

**Flexibility**

**Pin Assignments**



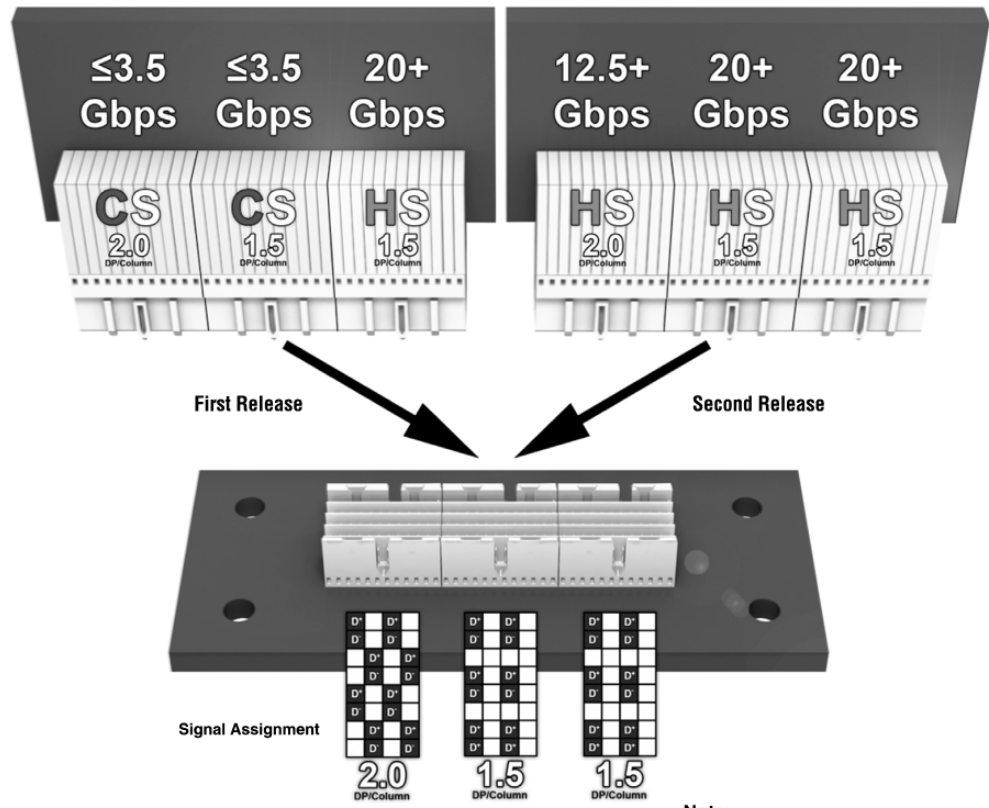
Example illustrating the FLEXIBILITY



For other assignments, please see Application Specification or contact Tyco Electronics.

**Z-PACK Slim UHD Connectors** (Continued)

**Upgradeability**

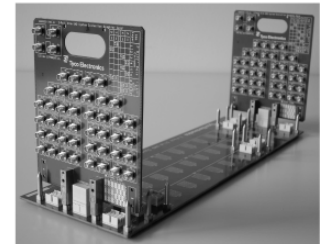
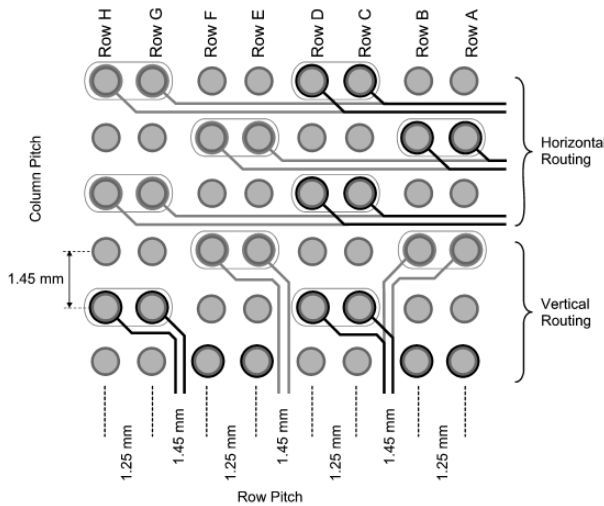


**Note:**  
A combination of CS and HS chiclets in one female connector housing is available upon customer request. Please contact Tyco Electronics.

**Connector Footprint**

- Drill Size** — 0.5 mm
- Finished Hole Size** — 0.4 mm
- Pad Size** — 0.8 mm
- Anti-Pad Size** — 0.95 mm

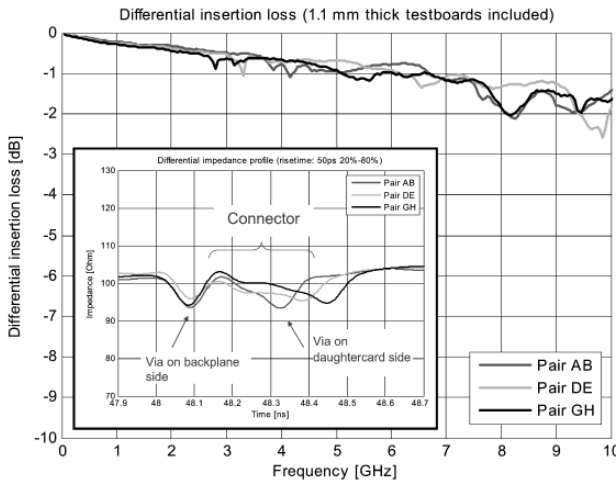
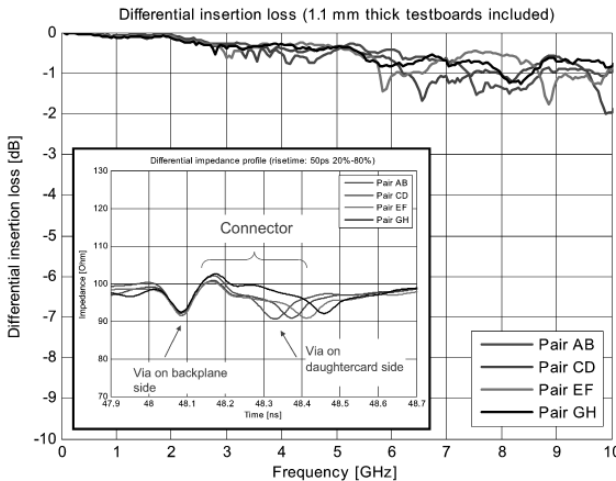
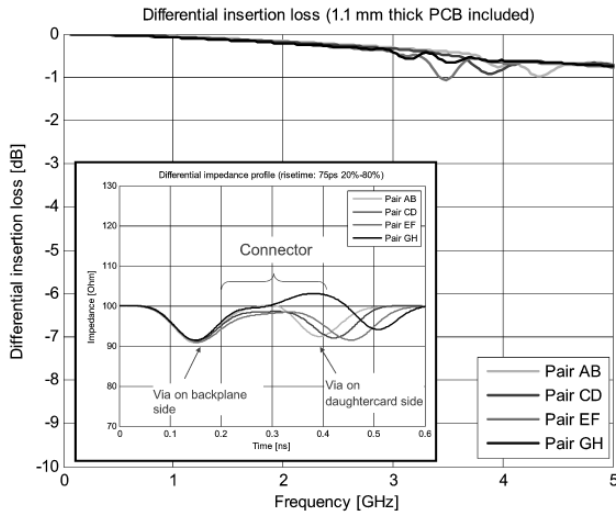
- **Identical board footprints on Backplane and Daughtercard**
- **1.45 mm routing channels available in Horizontal and Vertical Direction**
- **Footprint allows 4-6-4 MIL or 5-7-5 MIL differential routing**



**System and connector evaluation boards are available upon request.**

**Z-PACK Slim UHD Connectors** (Continued)

**Typical Electrical Properties**



**2.0 DP/Column Common Speed\***

Worst Case Noise with recommended TX/RX pinout:  
2.1% @ 75 ps (20% to 80%)

Noise Summary	Total Asynchronous Noise @ 75 ps Risetime (20% to 80%)	
	2.0 different pairs/column	
Victim Pair	Total Async. NEXT	Total Async. FEXT
Pair AB	1.4 %	0.7 %
Pair CD	2.9 %	1.1 %
Pair EF	2.9 %	1.2 %
Pair GH	1.4 %	0.7 %

**2.0 DP/Column High Speed\*\***

Worst Case Noise with recommended TX/RX pinout:  
1.9% @ 50 ps (20% to 80%)

Noise Summary	Total Asynchronous Noise @ 50 ps Risetime (20% to 80%)	
	2.0 different pairs/column	
Victim Pair	Total Async. NEXT	Total Async. FEXT
Pair AB	1.5 %	0.6 %
Pair CD	3.1 %	1.3 %
Pair EF	3.1 %	1.5 %
Pair GH	1.5 %	0.8 %

**1.5 DP/Column High Speed\*\***

Worst Case Noise with recommended TX/RX pinout:  
0.9% @ 50 ps (20% to 80%)

Noise Summary	Total Asynchronous Noise @ 50 ps Risetime (20% to 80%)	
	2.0 different pairs/column	
Victim Pair	Total Async. NEXT	Total Async. FEXT
Pair AB	1.0 %	0.6 %
Pair DE	0.4 %	0.6 %
Pair GH	1.2 %	0.8 %

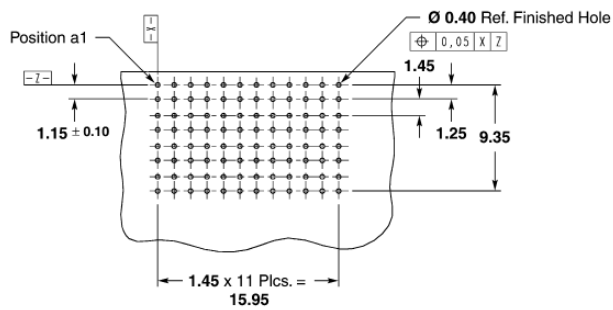
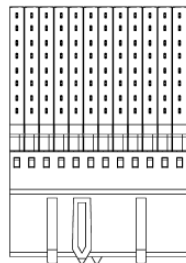
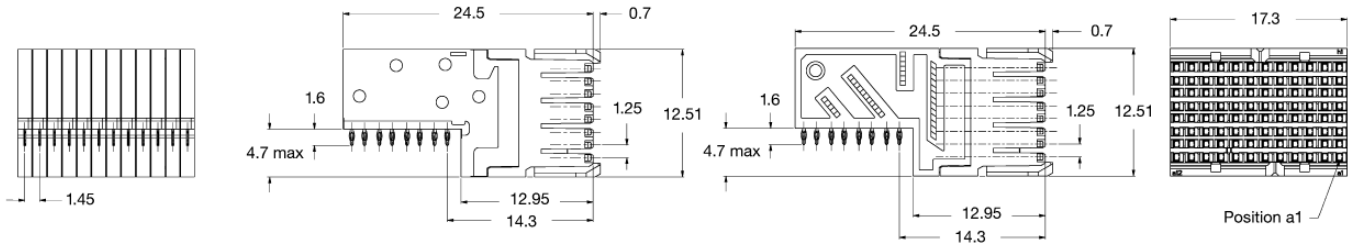
\* All simulation data include the footprint performance of a 1.1 mm thick PCB test-board.  
\*\* All measurement data include the footprint performance of a 1.1 mm thick PCB test-board.

**Z-PACK Slim UHD Connectors** (Continued)

**Female Connector**

**High Speed Version**

**Common Speed Version**



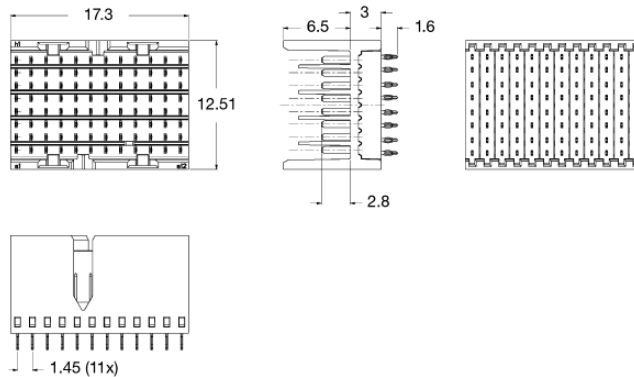
**Recommended PCB Layout\***  
Component side shown

**Male Connector**

**Uniform Male Connector for High/Common Speed**

\*Footprint of male connector is identical to footprint of female connector.

Post/pre-mating pins at pre-defined positions can be obtained upon request. For further information, please contact Tyco Electronics.



	Design Objectives/ Product Specification	Application Specification	Reference Part Numbers	
			Female	Male
High Speed	108-19353 / 108-19320	114-19106	1857657-1/-2	2042088-1/-2
Common Speed	108-19354 / 108-19352	114-19112	1982738-1/-2	
Power (see page 53)	108-19367	114-19122	1982257-5	1982260-5

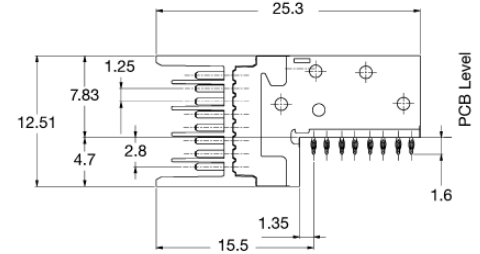
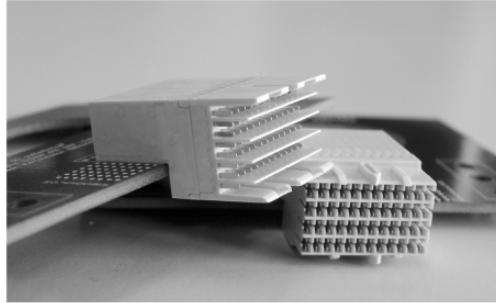
**Note:** All part numbers are RoHS compliant.

**Z-PACK Slim UHD Connectors** (Continued)

**Z-PACK Slim UHD**  
**Complimentary Products**

**Right Angle Male (RAM)**  
**Connector**

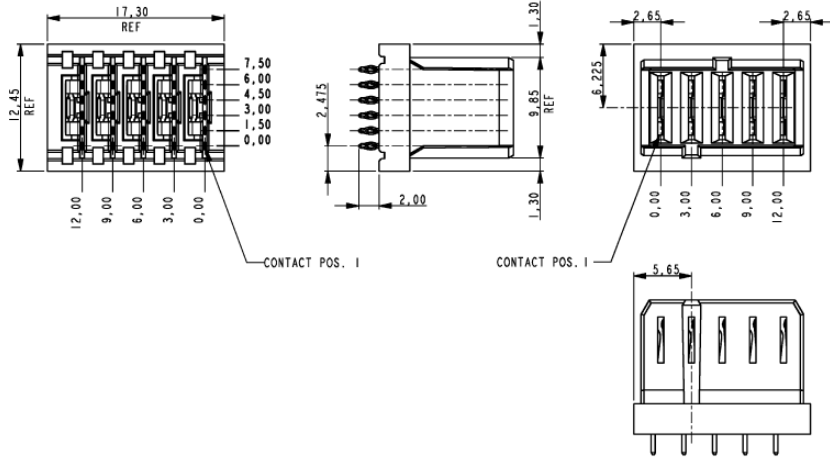
- Co-planar application based on right angle female and right angle male.
- Performance up to 20+ Gbps (in combination with Female HS)
- Part No. 2042162-1



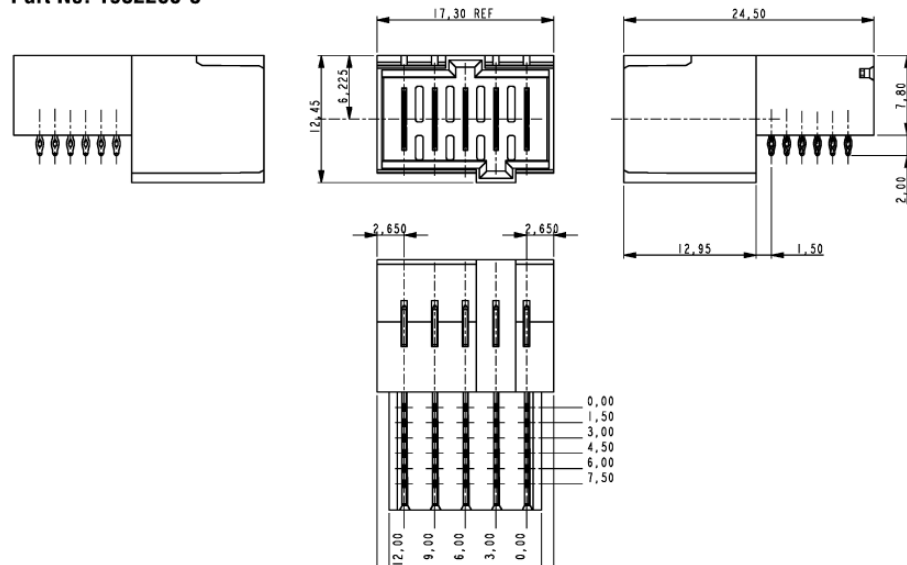
**Power Connector**

- Envelope dimensions identical to Z-PACK Slim UHD modules
- High durability (250 cycles)
- 2 Sequencing levels
- Current carrying capacity >18 Amp/Contact

**Female Connector**  
**Part No. 1982257-5**



**Male Connector**  
**Part No. 1982260-5**

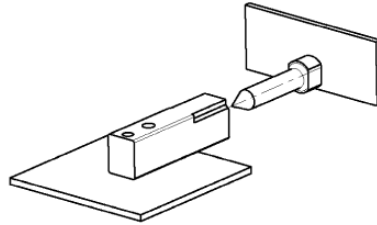


**Note:** All part numbers are RoHS compliant.

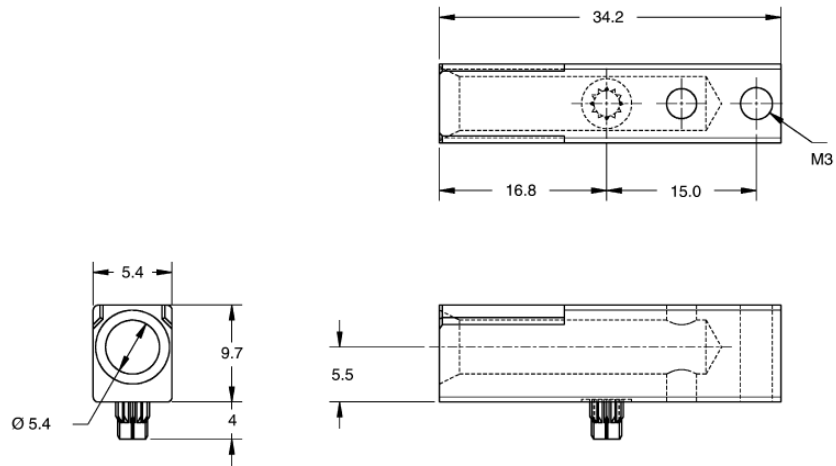
**Z-PACK Slim UHD Connectors** (Continued)

**Z-PACK Slim UHD**  
**Complimentary Products**  
(Continued)

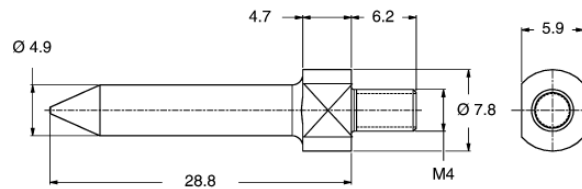
**Guiding Pins**



**Female Guide Module**  
**Part No. 223957-3**



**Male Guide Pin**  
**Part No. 1857988-1**



**Note:** All part numbers are RoHS compliant.