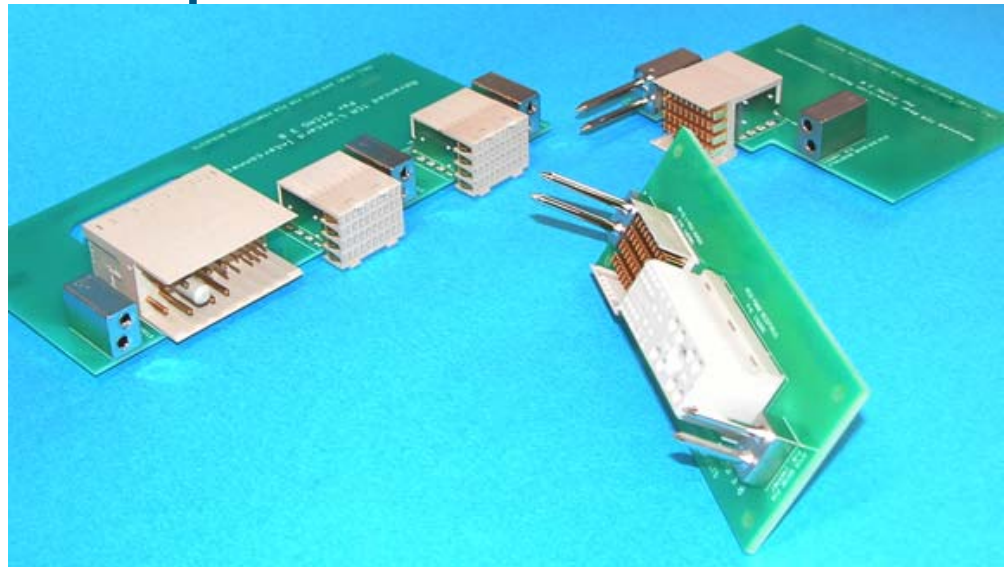


Interconnects for the AdvancedTCA Standard

- All TE Connectors – per the PICMG 3.0 Standard

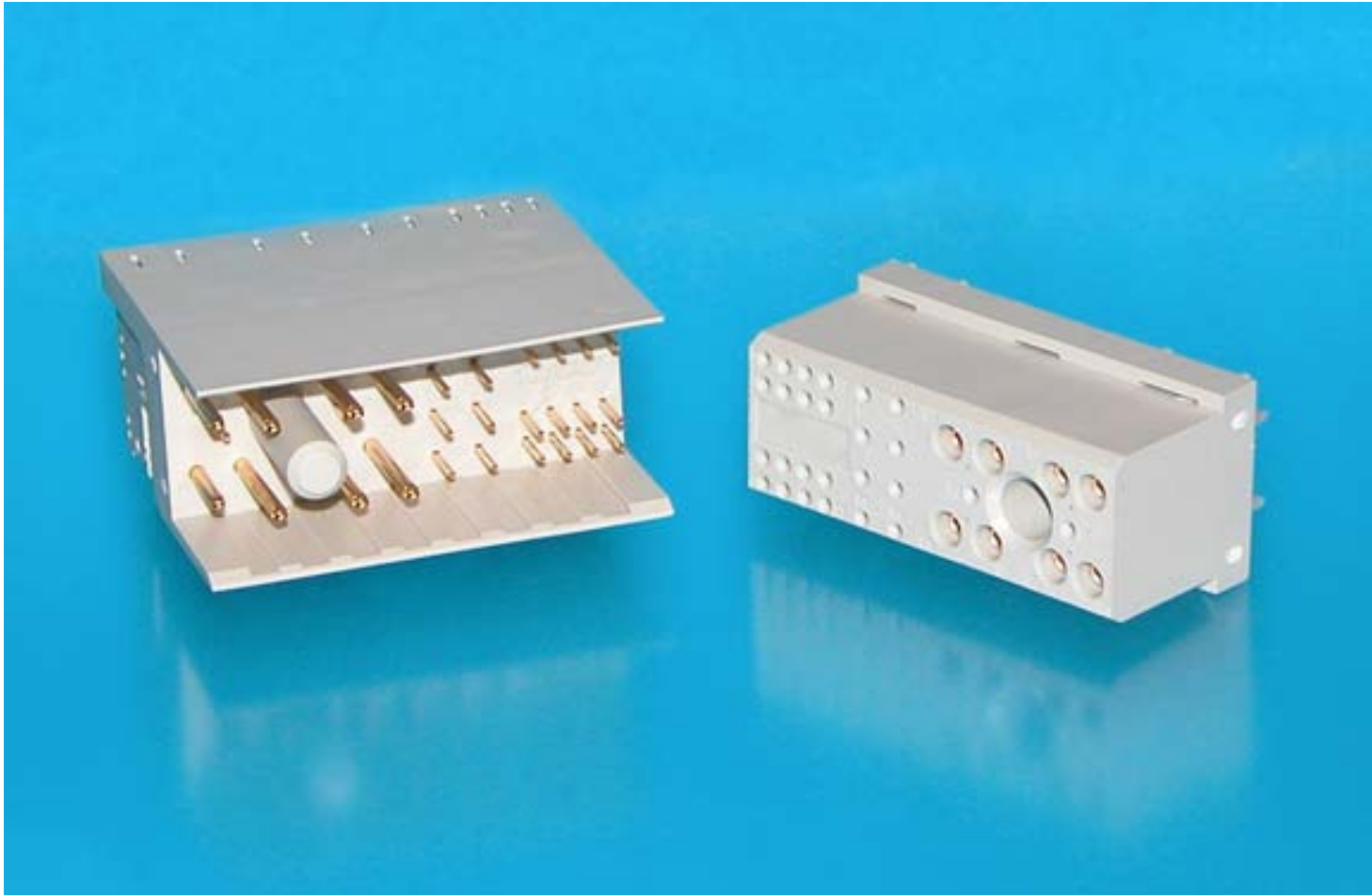


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October 13, 2008

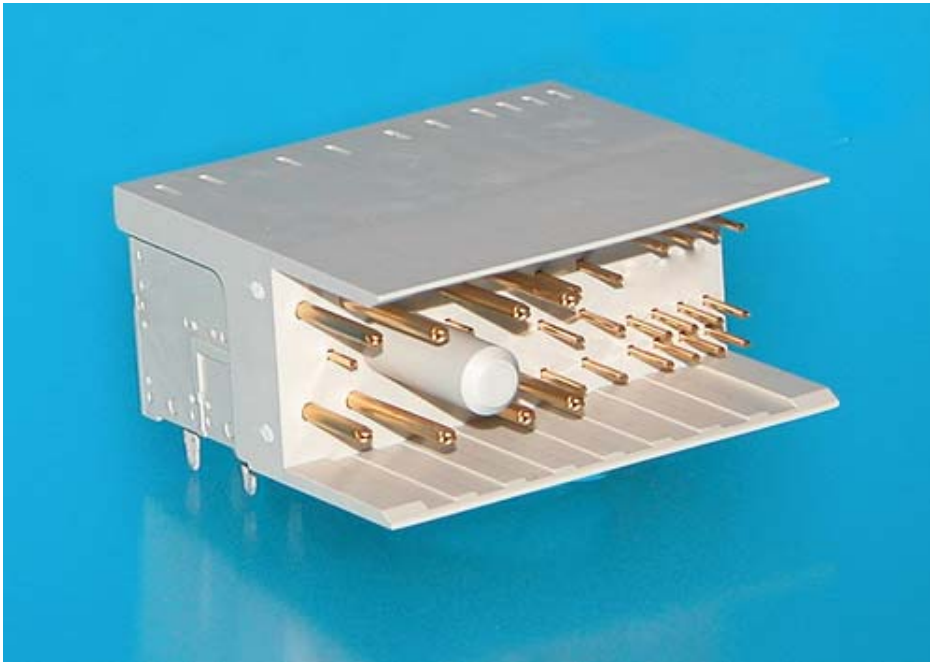
Z1 Power Connector

Zone 1 Power Connector for PICMG 3.0 Std.



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Z1 Power Connector Right Angle Plug



- All Stamped & Formed contacts
- Duplex Plating
 - 30 Micro-Inch Gold interface
 - Tin plated pcb tails
 - RoHS Compliant
- Precision pcb tail positioning
- Superior Housing Design:
 - Dimensionally stable
- Flat-Rock PCB Seating

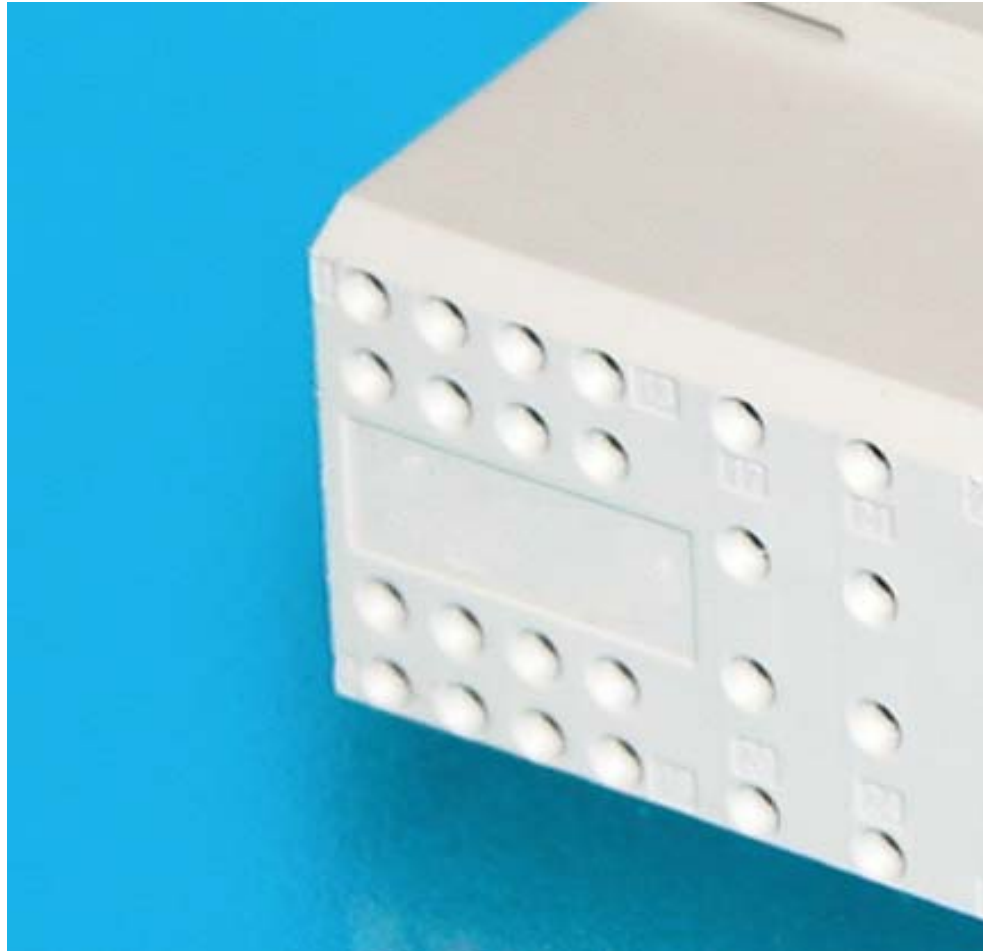
Z1 Power Connector Vertical Receptacle



Vertical Receptacle:

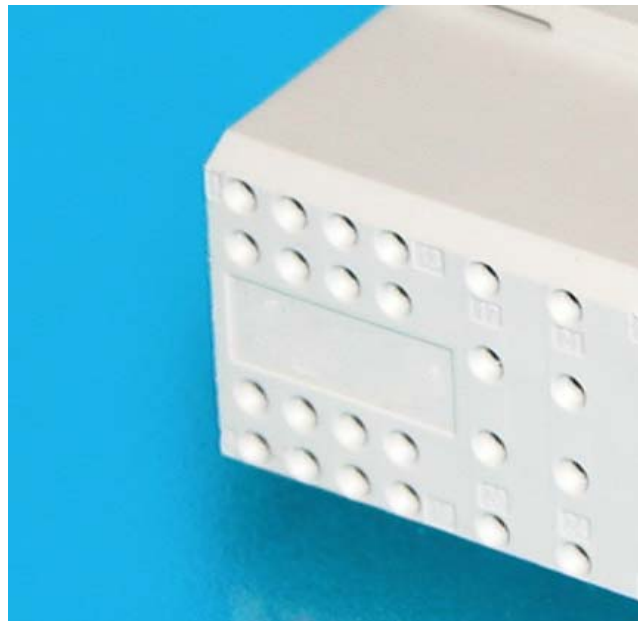
- Improved contact lead-in on signal contacts
- Duplex plating - 30 μ " gold interface, tin pcb tails, RoHS compliant.
- Flat-Rock seating – contacts remain touch-safe after seating

Z1 Power Connector Vertical Receptacle

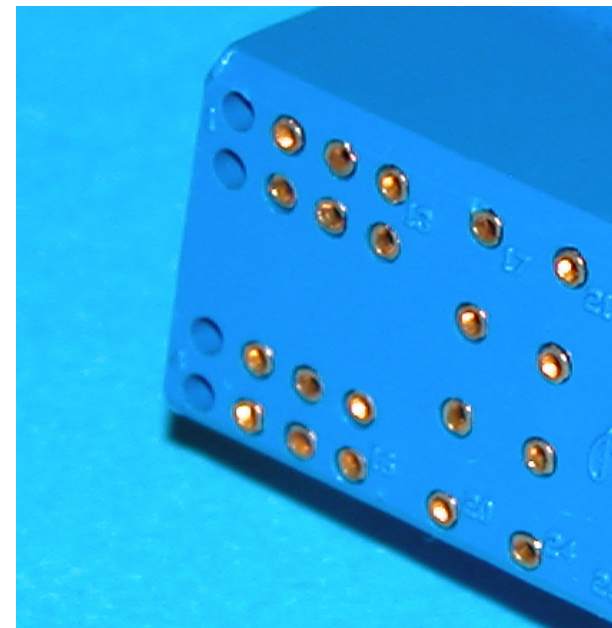


Improved lead-in for signal contacts– prevents stubbing

Z1 Power Connector Vertical Receptacle



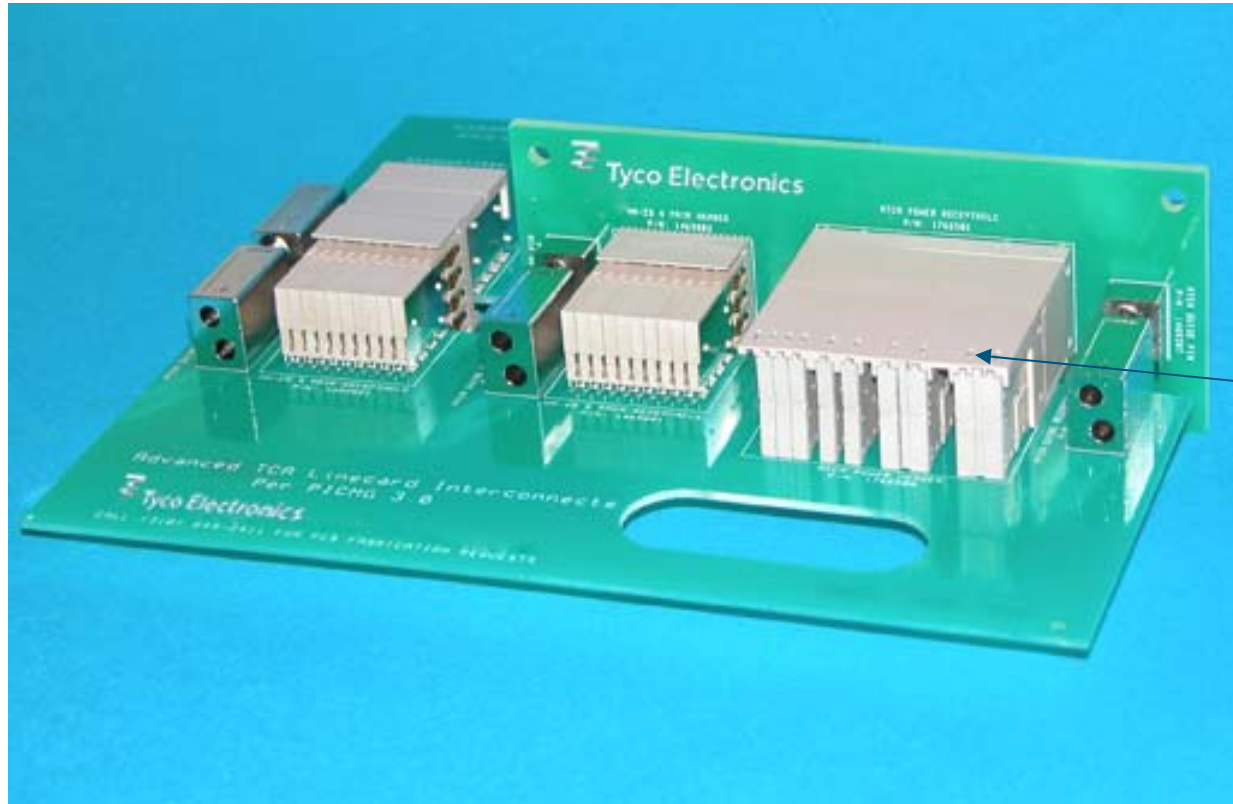
Tyco Electronics
(meets UL “Touch-Safe” requirement)



Competitor

Improved lead-in for signal contacts– prevents stubbing

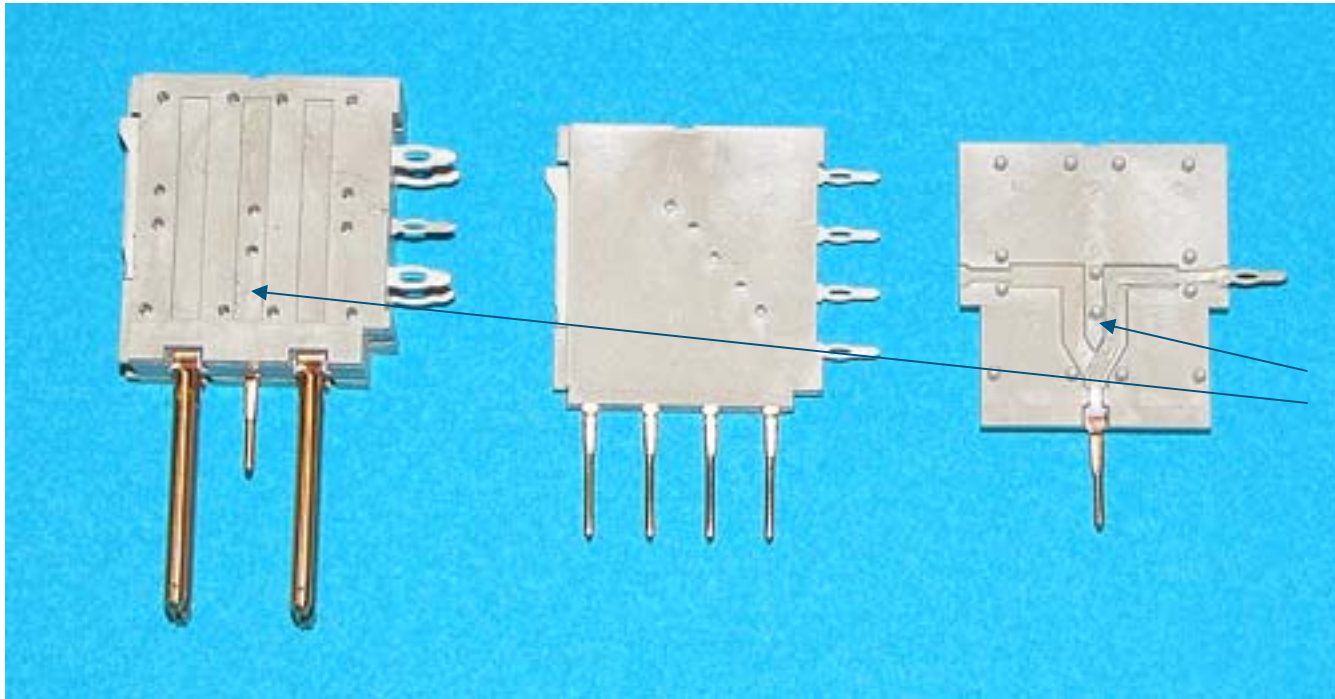
Z1 Power Connector Modular Chicklet Design



Designed for High Reliability

Connector design proven by tight tolerance, high performance, industry standard Z-PACK HM-Zd product.

Z1 Power Connector Modular Chicklet Design

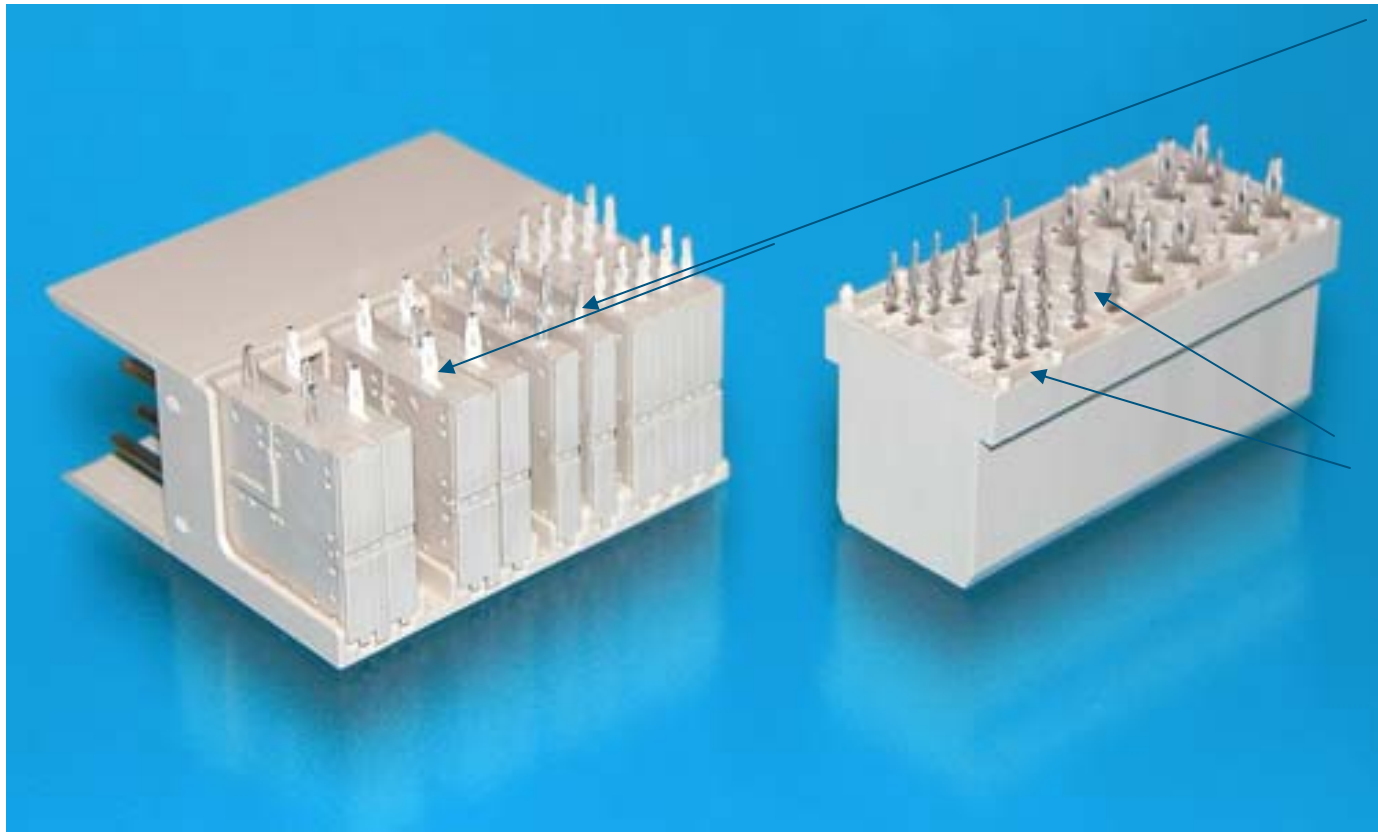


**Power and signal
modules produced
as sub-assemblies.**

**Module-to-module
positioning
controlled here**

**Sub-assemblies
utilize LCP plastics
to improve
dimensional
stability**

Z1 Power Connector Engineered Housing Designs



Power module layout design makes best use of available airflow to improve cooling – improving the current carrying capability

Housing coring in the vertical receptacle reduces dimensional fluctuations due to temp. & humidity changes

Z1 Power Connector

Vertical Receptacle Power Contact

- Type III+ Contact – Decades of proven experience

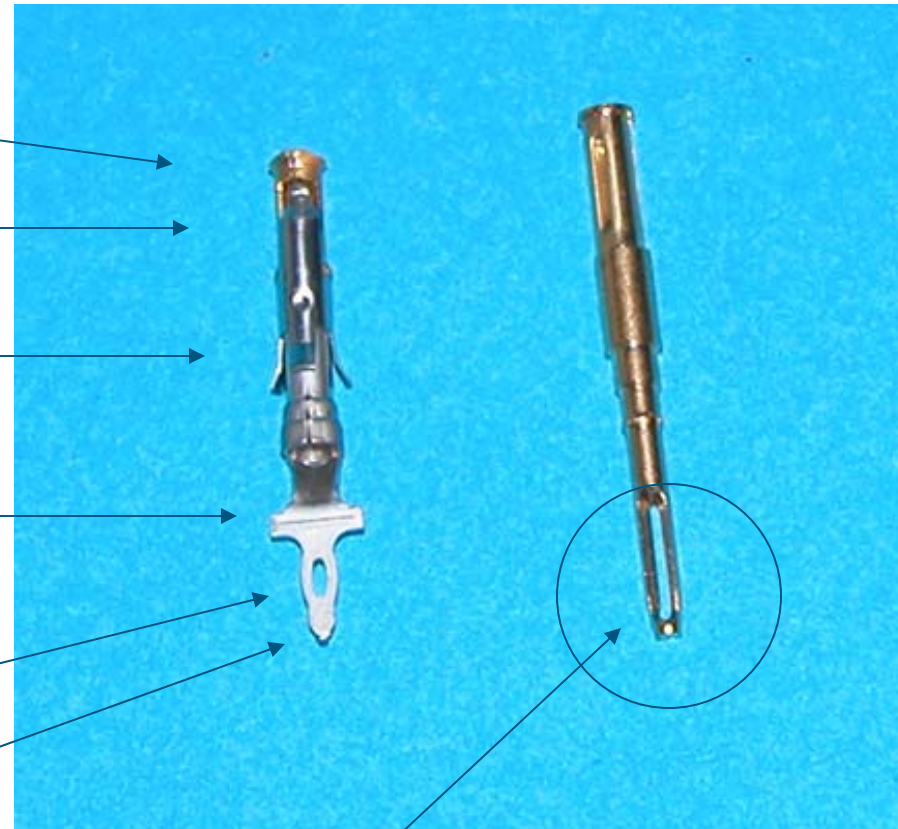
- Stainless Steel Normal Force Spring

- Stainless Steel Retention Spring

- Broad Seating Surface – along with rear-loaded contact - allows for flat-rock tooling

- Well defined mating points to plated through hole

- Better contact tip lead-in



Limited compliancy

Z1 Power Connector

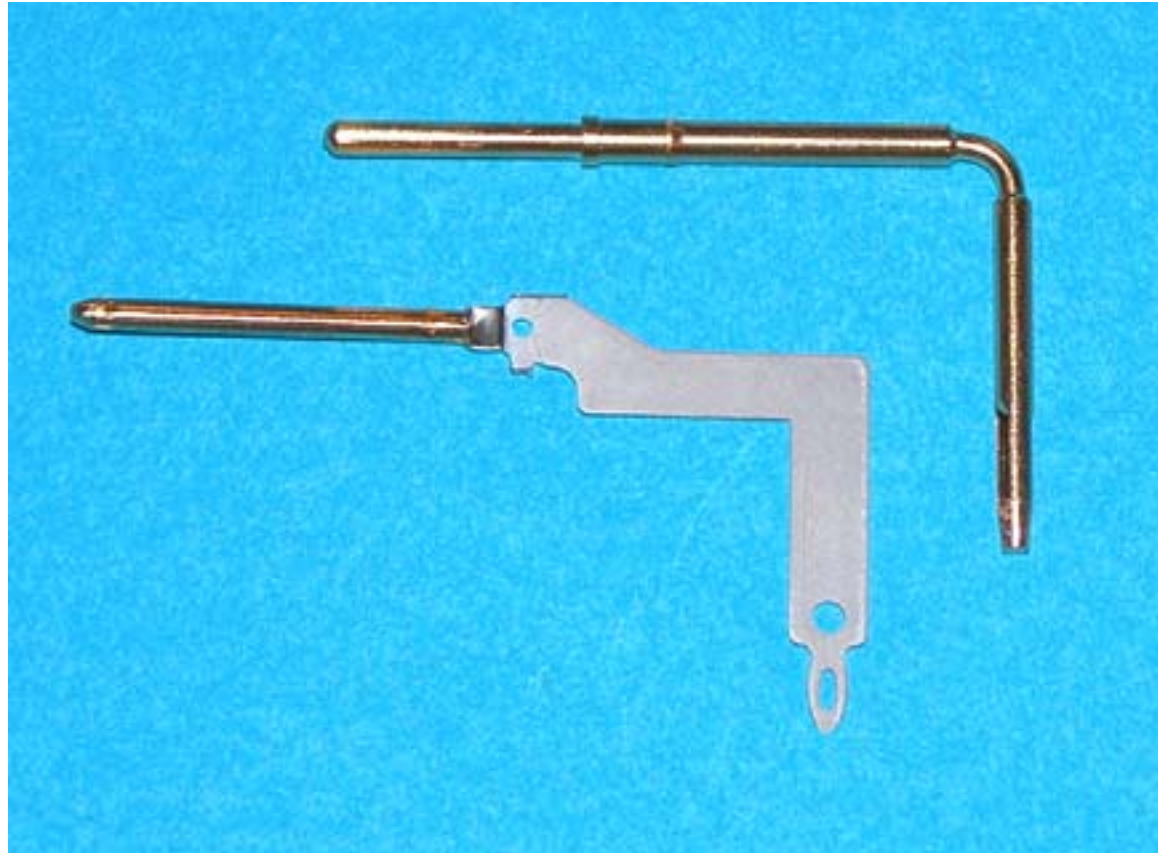
Right Angle Plug – Power Contact

Contacts stamped at 90° - no forming variation.

Contact designed for maximum heat dissipation.

Selective Gold Plating minimizes cost fluctuations due to price of gold.

Designed to remain competitive – through the product life!

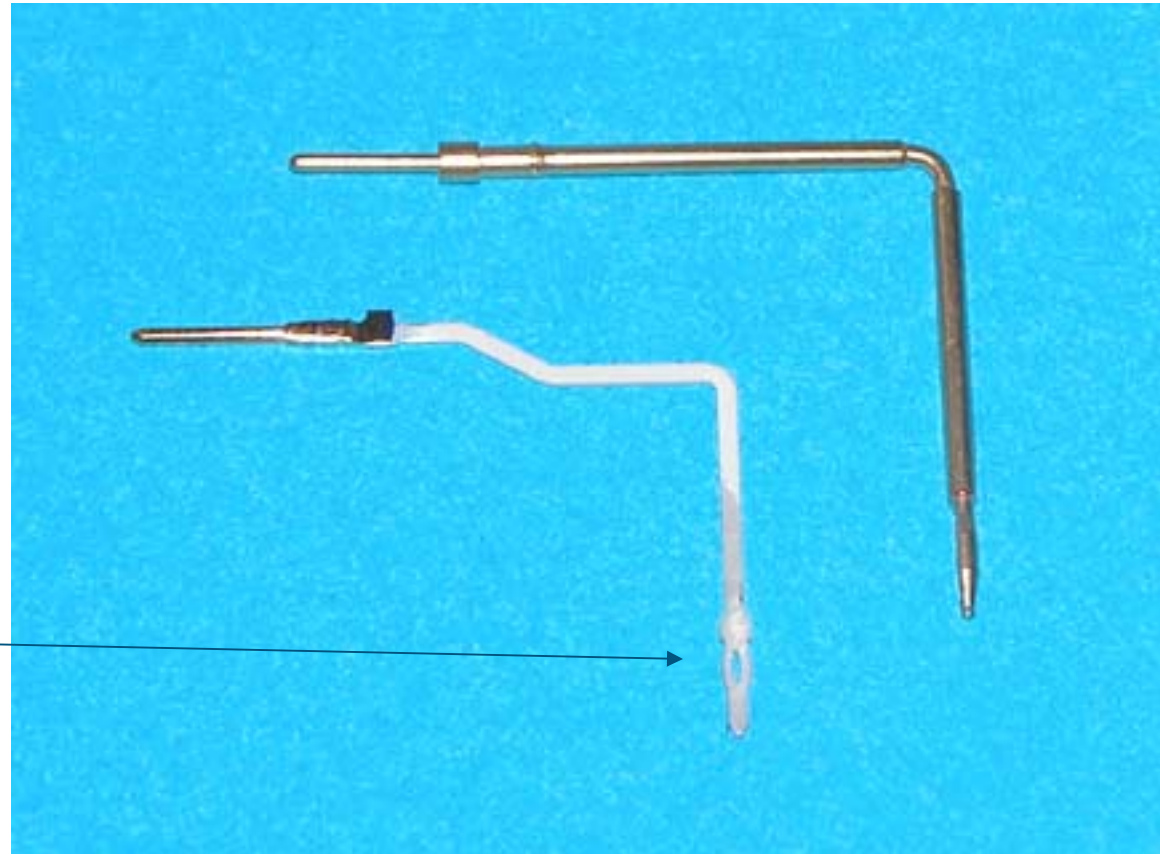


Z1 Power Connector Right Angle Plug - Signal Contact

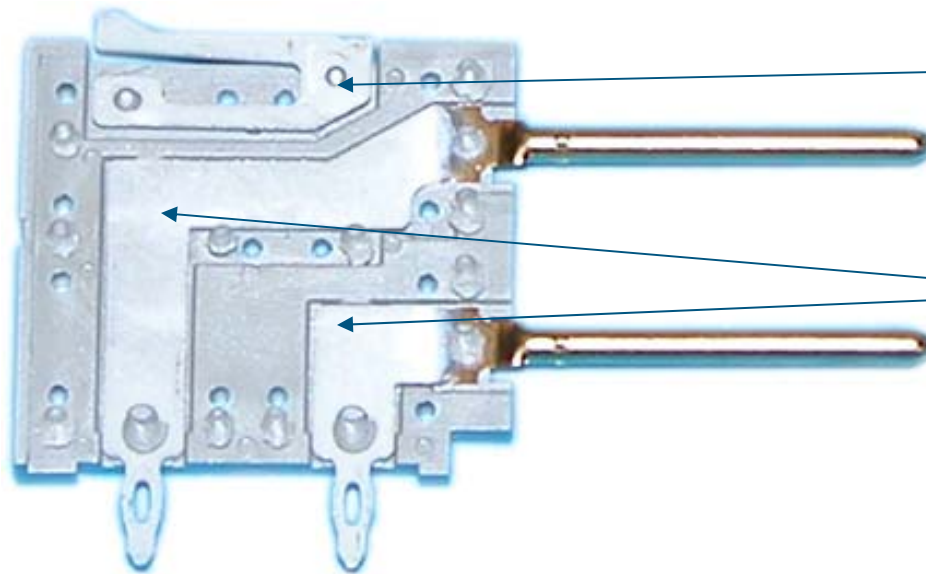
Contacts stamped
at 90° - no forming
variation.

Selective Gold
Plating minimizes
cost fluctuations
due to price of gold.

Proven Eye-Of-
Needle compliant
section – same
design as used in
TBC Connector – in
use for nearly over
15 years!



Z1 Power Connector Right Angle Plug – Power Chicklet



**Metal latch –
secures chicklet in
place – no screws
needed.**

**Housing supports
contact for flat-rock
seating tools.**

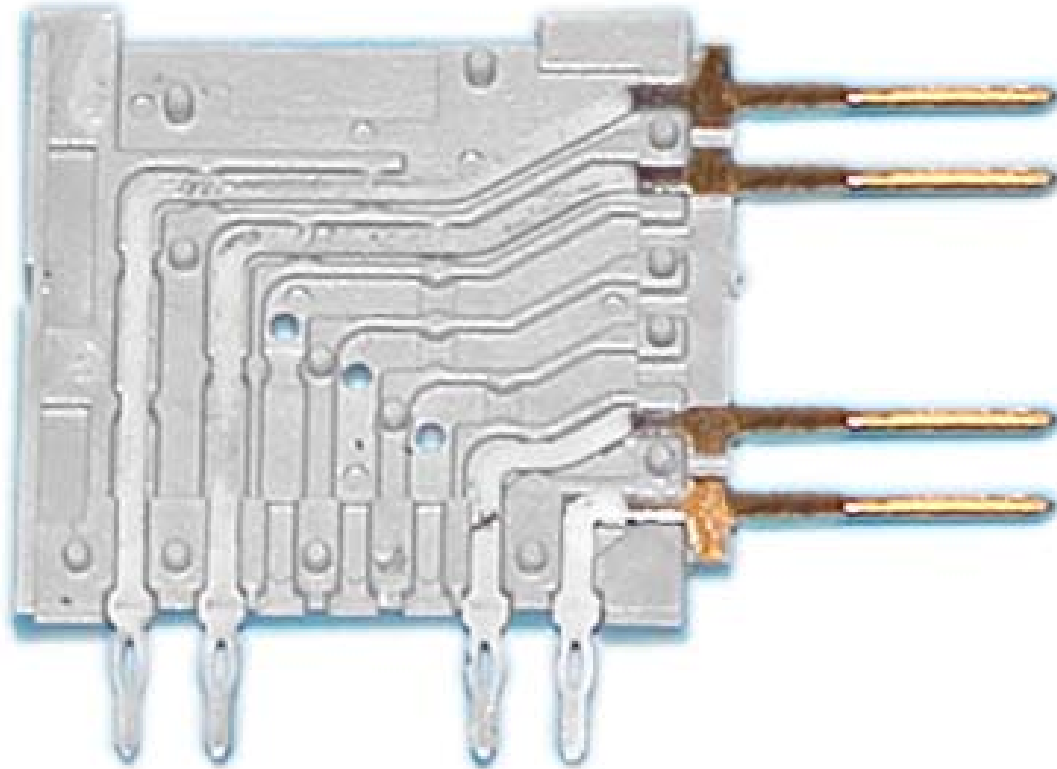
Z1 Power Connector

Right Angle Plug – Signal Chicklet

Chicklet system – multiple integrated contacts in a housing.

Contacts stamped in a lead-frame – provide superior dimensional stability between contacts

Contacts captivated in housing



Z1 Power Connector

For AdvancedTCA (PICMG 3.0) Systems

Advantages of Tyco Electronics product

Housing Lead-In for Signal Contacts	Yes	Prevents contact Stubbing
Touch-Safe Power and Signal Contacts	Yes	Meets international safety agency requirements
External Mounting Hardware Required	No	Superior contact retention eliminates potential damage to pcb
RoHS Compliant*	Yes	Tin plated pcb tails – process compatible in tin/lead or tin solder baths.
One pcb hole size – for all PTH finishes	Yes	Reduces customer design time/cost, reduces inventory and cost of pcb
Available through Distribution	Yes	Product is readily available from TTI

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Z1 Power Connector For AdvancedTCA (PICMG 3.0) Systems

Part Numbers, More Advantages of Tyco Electronics product

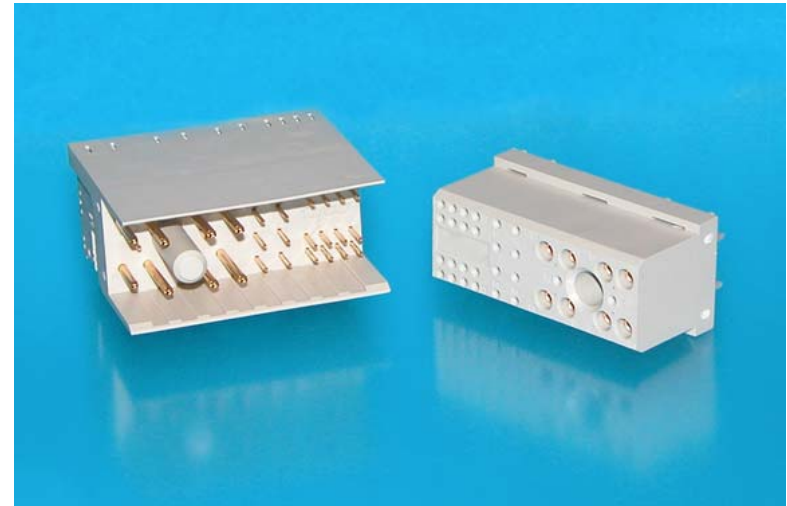
	Tyco Electronics P/N	Gold Plating	Advantage
Vertical Receptacle (backplane)	1766501-1	30 μ inch	Duplex (gold/tin) plating provides both high reliability and low cost
	Not Available	5 μ inch (gold flash)	Unacceptable due to gold porosity
Right Angle Plug (linecard)	1766500-1	30 μ inch	Duplex (gold/tin) plating provides both high reliability and low cost
	Not Available	5 μ inch (gold flash)	Unacceptable due to gold porosity
Notes:	<ul style="list-style-type: none"> - Tyco Electronics is offering a single part – fully loaded, with 30 μ-inch gold plating in the interface and tin plating on the pcb tails. - The result is Better performance, Better availability, Lower cost. 		

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Z1Power Connector

Tyco Electronics Validation Test Results

- **Static Load:**
 - Without using addition retentions screws, the Z1 Connector meets the PICMG 3.0 Specification for loads applied in X, Y and Z directions.
- **NEBS drop test**
 - The Z1 connector has passed the drop test of a 22lb pcb dropped on it's corner, as defined in NEBS GR-63 specification
- **Vibration:**
 - No discoloration of the compliant contact interface after vibration test. Compliant contact remains stable and shows no signs of fretting corrosion after vibration.
- **Current carrying Capacity:**
 - The Z1 connector meets the required 16 Amps applied to all 8 power contacts, with < 20°C temperature rise.



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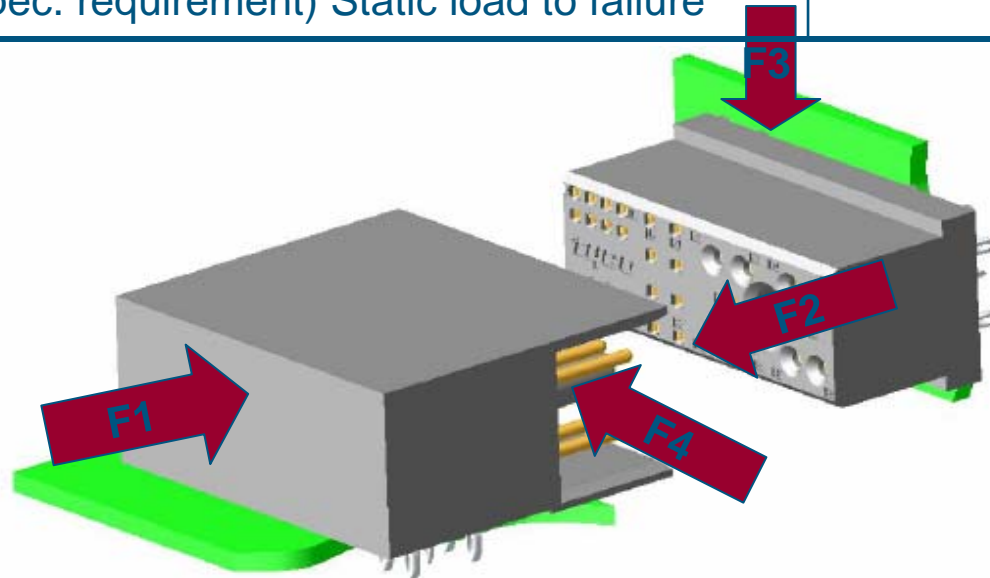
Z1 Power Connector Mechanical Verification Testing (ref the PICMG 3.0 Standard)

Test Description	Results
Mechanical Operation (125 cycles)	Pass
Vibration	Pass
Shock	Pass
Mechanical Operation (125 cycles)	Pass
Static Load	Pass

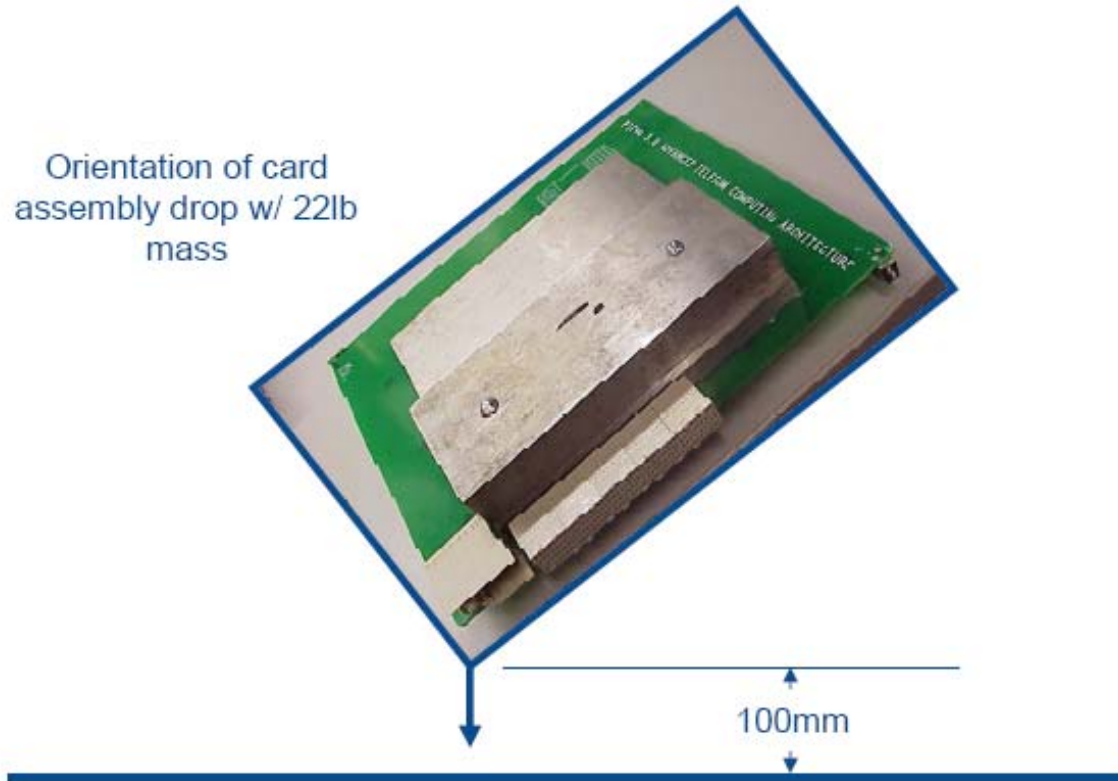
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Z1 Power Connector Mechanical Verification Testing – Static Load

Test Description	Avg Force (N)
F1 (100N Spec. Requirement) Static load to failure	715
F2 (75N Spec. Requirement) Static load to failure	556
F3 (50N Spec. Requirement) Static load to failure	330
F4 (No Spec. requirement) Static load to failure	808



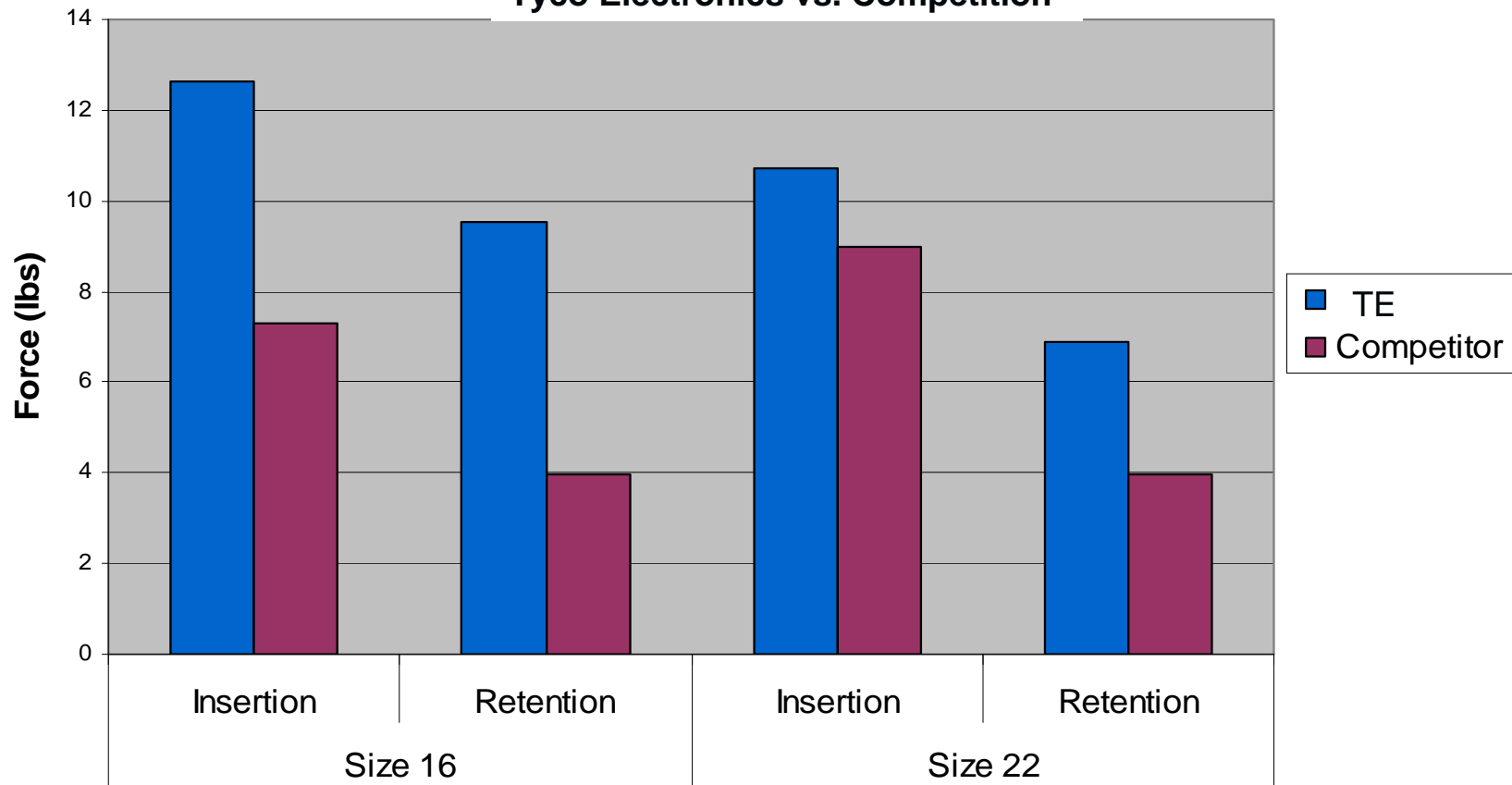
Z1 Power Connector Mechanical Verification Testing – Drop Test



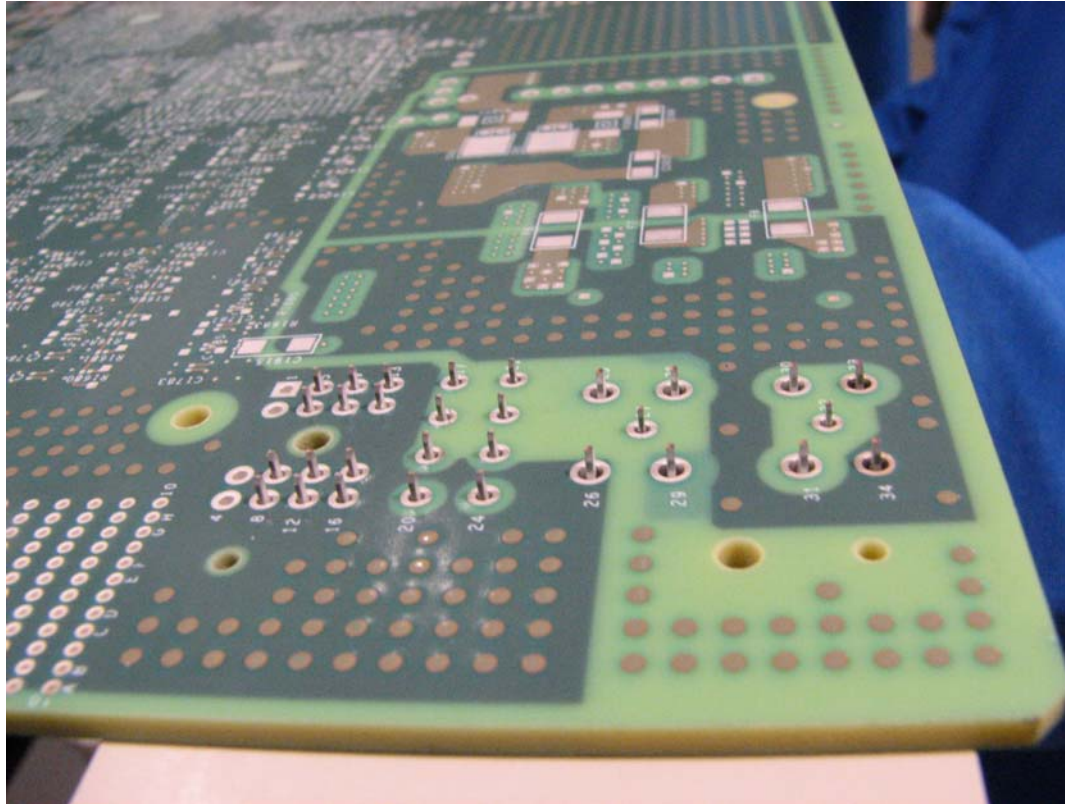
Result: Connector was still mate-able to mating connector, without any damage to pin contacts.

Z1 Power Connector Mechanical Verification Testing

Typical Individual R/A Compliant Tail Mechanical
Performance (Nominal Hole)
Tyco Electronics vs. Competition



Z1 Power Connector Mechanical Verification Testing – RoHS compliant PTH plating

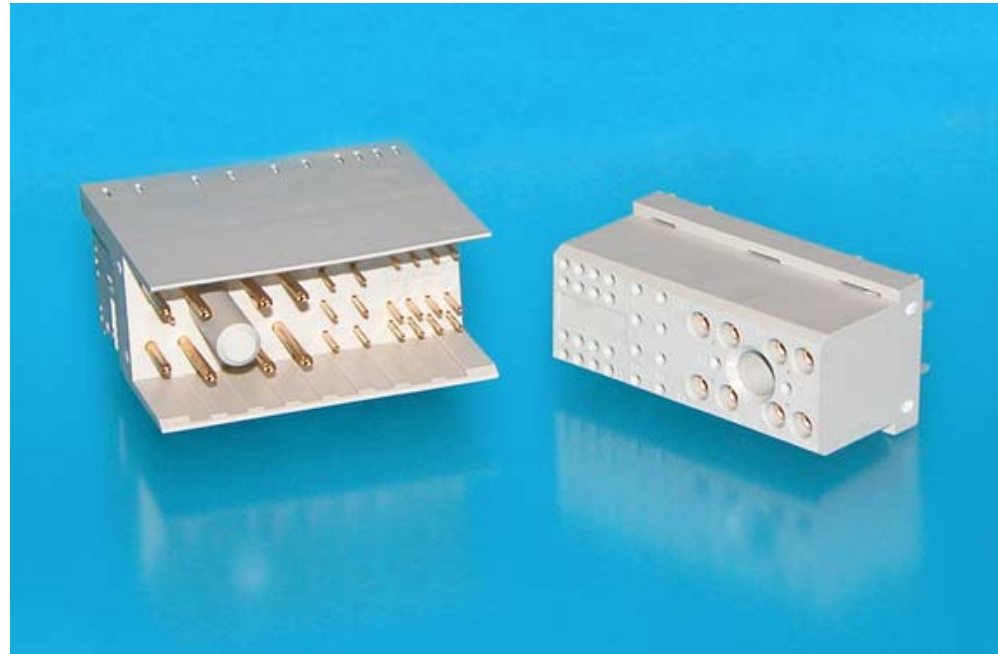


Tyco Electronics' Z1 Power Connector inserted into line-card with standard plated through hole (PTH) size and immersion silver plating. All contacts are fully seated – providing designed mechanical and electrical connection to PTH.

Z1 Power Connector

Mechanical Verification Testing

Conclusions

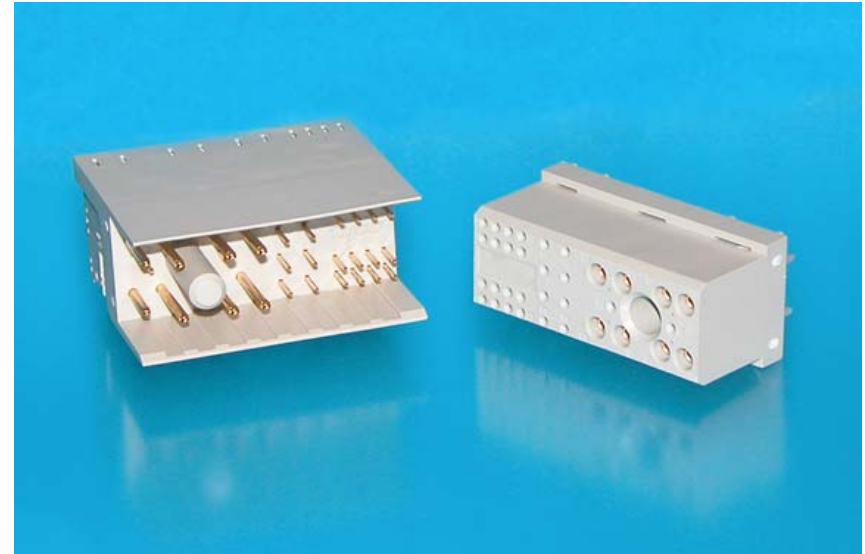


- **Tyco Electronics meets all PICMG 3.0 standard mechanical requirements without mounting screws!**
 - **Fewer components to stock, order, and assemble**
 - **Can eliminate thru-hole in PCB for better route-ability**
 - **Higher retention force means more reliable compliant contact tail**

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Z1Power Connector

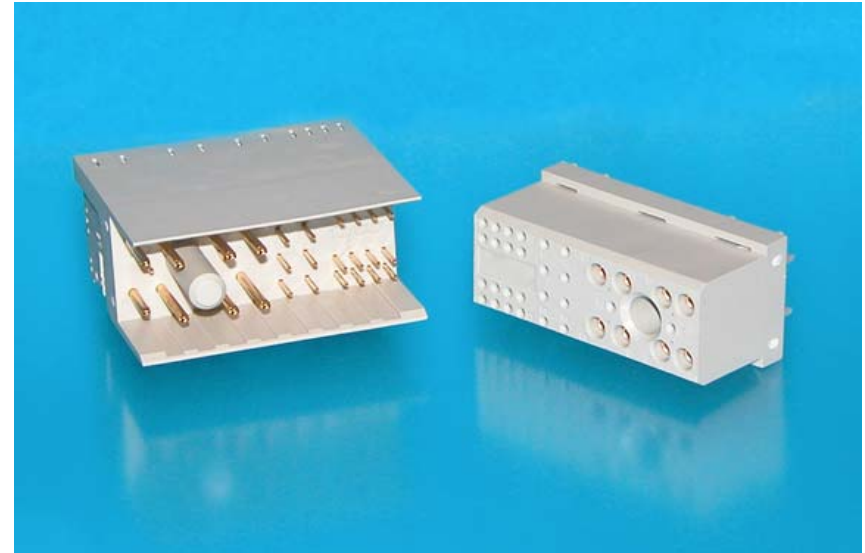
SAMPLE AVAILABILITY



- **1766500-1 - Right Angle Plug**
 - In Stock in US Sample Room
- **1766501-1 - Vertical Receptacle**
 - In Stock in US Sample Room

Z1Power Connector

*High Reliability Power Delivery
– for AdvancedTCA Systems*



- **Key Contacts:**
 - **Mike Percherke – Product Engineering Supervisor**
 - **Mike Blanchfield - Product Manager**

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