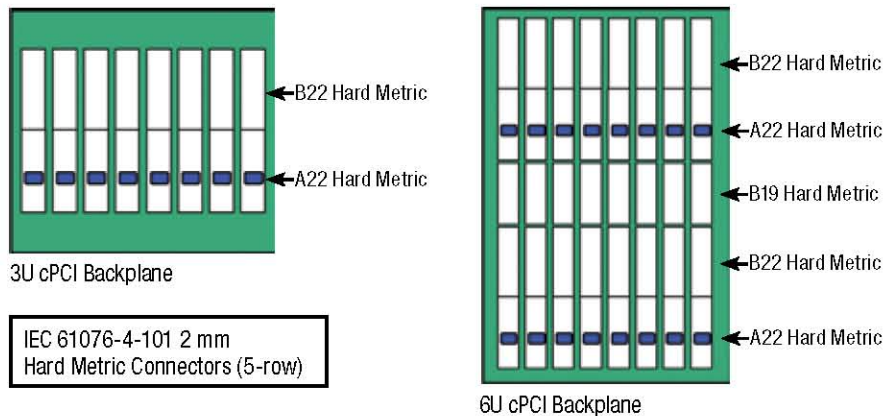




## 3M™ MetPak™ HSHM Press-Fit Connectors, B22

Over the past 10-15 years, engineers have been designing systems utilizing CompactPCI™ (cPCI) backplanes. Unfortunately, these legacy systems are limited to speeds of 1.0-1.5 Gbps and can not support newer high speed designs. Standards allow faster speeds, but current high speed connectors are not backward compatible with 5-row 2 mm hard metric connectors on PICMG 3.16 backplanes. This leaves no path for existing cPCI backplanes to utilize multi-gigabit speed daughter cards.

### Problem: CompactPCI™ Backplane Performance



#### Problem

- Industry standard cPCI connectors are limited to a maximum speed of 1.5 Gbps per differential pair
- Legacy systems using cPCI applications are transitioning to higher speeds with ATCA and microTCA – however, that requires a disruptive backplane upgrade

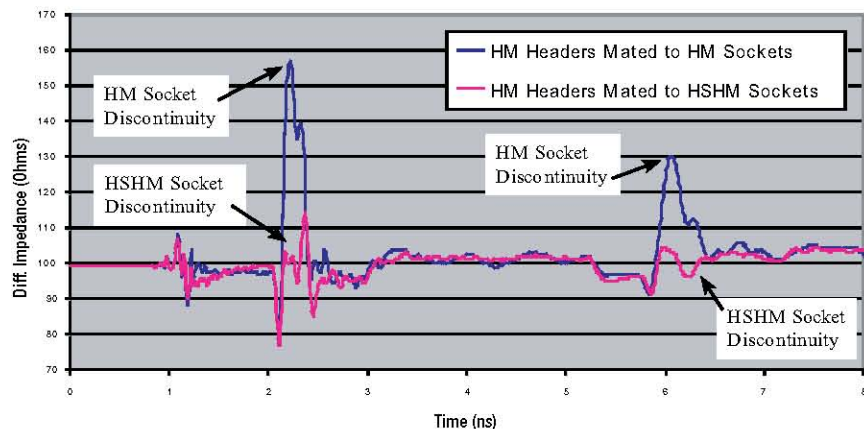
### What if you could supercharge legacy cPCI backplanes without disruptive and expensive backplane redesign?

3M MetPak High Speed Hard Metric (HSHM) Press-Fit Connectors in B19, B22 and A22 form factors, are designed to resolve this problem and provide a cost-effective solution to higher speed designs. With speeds up to 5.0 Gbps, 3M MetPak HSHM fully shielded connectors mate with 2 mm 5-row cPCI/hard metric (HM) headers. Full pin-to-pin compatibility can be maintained with existing cPCI backplanes.

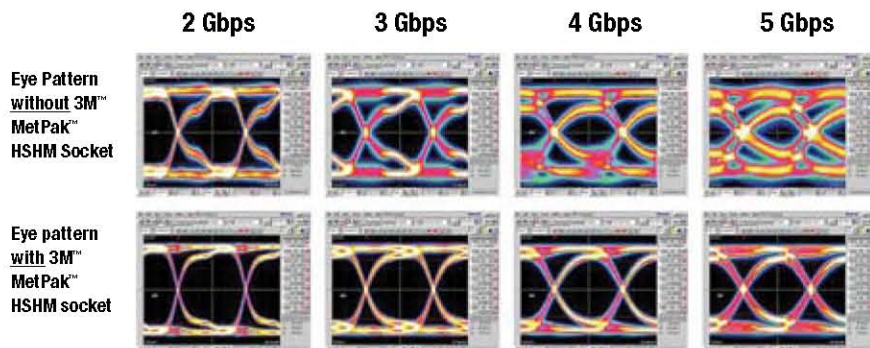
A performance improvement up to 3X can be obtained by using daughter cards with HSHM B19, B22 and A22 sockets mated to standard 5-row 2 mm hard metric headers.

	Configuration	3M Tech Sheet Number
Socket	A22	TS-2025
	B19	TS-2221
	B22	TS-2247
Header	A22	TS-2073
	B19	TS-2220
	B22	TS-2248





- All data measured at Risetime = 35 ps
- Peak impedance of HM-HM combination is 40 ohms higher at first interconnect compared to HM-HSHM socket.



- Typically HM mated connectors are not used in applications above 1.0 Gbps.
- HMheaders mated to HSHM sockets provide tremendous improvement in eye opening and jitter up to at least 5.0 Gbps.

### Crosstalk improvement

Row	ED-ED Crosstalk		Risetime	35 ps	100 ps	200 ps	300 ps
	Aggressor Pair	Victim Pair					
E	S +	S +	HM-HM	5.0%	4.4%	3.5%	2.9%
D	S -	S -					
C	G	G	HM-HSHM	3.3%	2.5%	1.7%	1.2%
B	S +	S +					
A	S -	S -	Improvement	34%	43%	51%	59%

If you want to dramatically improve your system performance without costly and time consuming backplane redesign, 3M has the solution for you with HSHM.

3M and MetPak are trademarks of 3M Company. CompactPCI is a trademark of PICMG-PCI Industrial Computer Manufacturers Group, Inc.

### Important Notice

Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use.

### Warranty; Limited Remedy; Limited Liability.

3M's product warranty is stated in its Product Literature available upon request. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**

