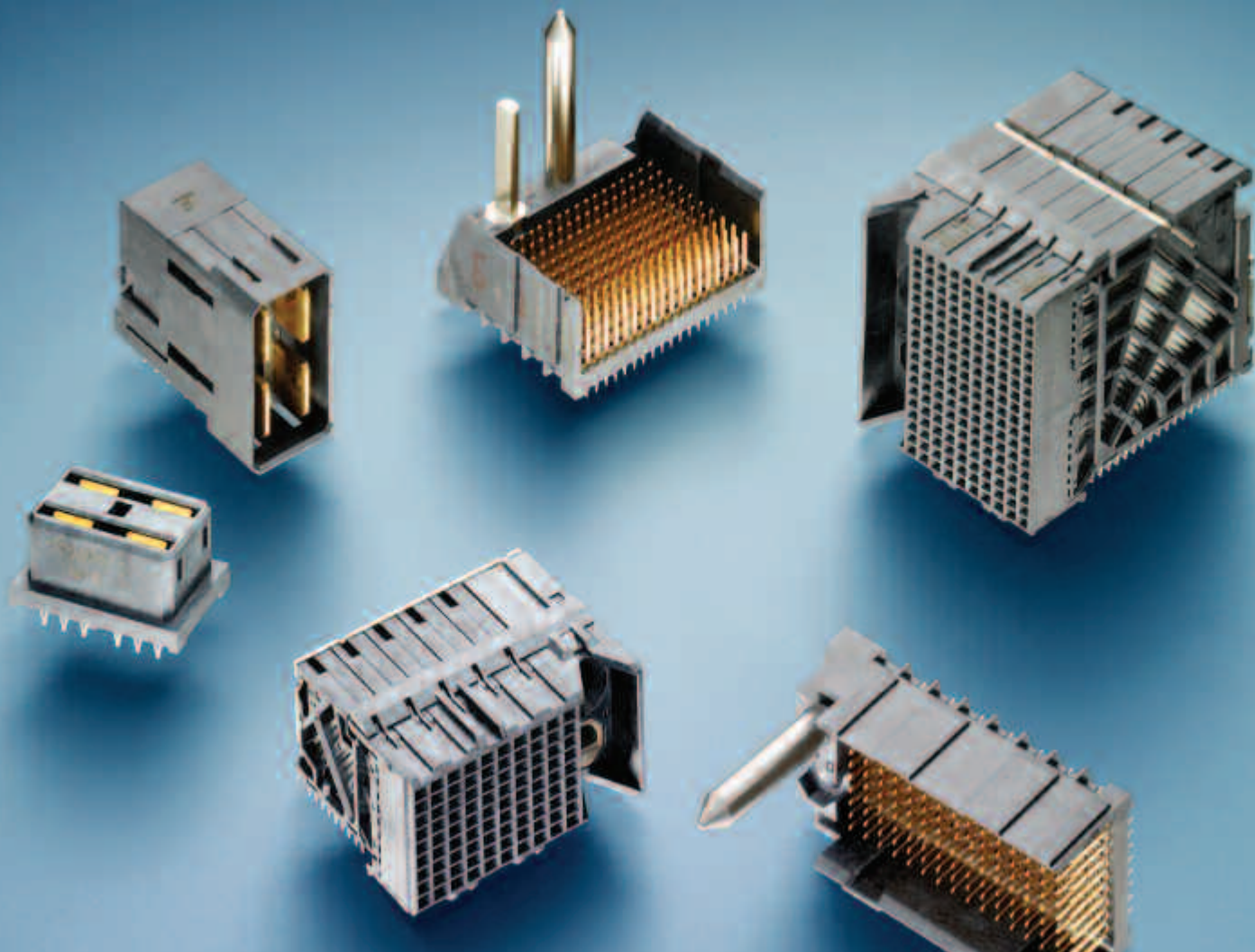




IMPACT™ Backplane Connector System

RoHS
Ready 



Table of Contents

Introduction	3-7
Daughter Card Receptacle Assemblies	
6 Pair Daughter Card Receptacle Assemblies	8
5 Pair Daughter Card Receptacle Assemblies	9
4 Pair Daughter Card Receptacle Assemblies	10
3 Pair Daughter Card Receptacle Assemblies	11
2 Pair Daughter Card Receptacle Assemblies	12
Mezzanine Assemblies	
5 Pair Mezzanine Assemblies	13
Backplane Header Assemblies	
6 Pair Backplane Header Assemblies	14
5 Pair Backplane Header Assemblies	15
4 Pair Backplane Header Assemblies	16
3 Pair Backplane Header Assemblies	17
2 Pair Backplane Header Assemblies	18
Coplanar Header (RAM) Assemblies	
2 Pair Coplanar Header (RAM) Assemblies	19
Orthogonal Receptacle Assemblies	
6 Pair Orthogonal Receptacle Assemblies	20
5 Pair Orthogonal Receptacle Assemblies	21
4 Pair Orthogonal Receptacle Assemblies	22
3 Pair Orthogonal Receptacle Assemblies	23
Orthogonal Header Assemblies	
6 Pair Orthogonal Header Assemblies	24
5 Pair Orthogonal Header Assemblies	25
4 Pair Orthogonal Header Assemblies	26
3 Pair Orthogonal Header Assemblies	27
Part Number Index	28
Global Contacts	31

Disclaimer

While TE has made every reasonable effort to ensure the accuracy of the information in this catalog, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalog are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.

© Copyright 2011 Tyco Electronics Corporation. All Rights Reserved.

MULTIGIG RT, Z-PACK, Z-PACK HM-Zd, Z-PACK HS3, Z-PACK Slim UHD, Z-PACK TinMan, TE Connectivity, TE connectivity (logo) and TE (logo) are trademarks of the TE Connectivity Ltd family of companies.

IMPACT is a trademark of Molex, Inc.

Other logos, product and Company names mentioned herein may be trademarks of their respective owners.

Visit the IMPACT connector webpage at: www.te.com/products/Impact

Introduction

Product Facts

- Differential pair density up to 80 pairs per linear inch
- Broad-edge-coupled, differential-pair system
- PCB routing complexity and costs are reduced by using 1.90 mm by 1.35 mm (.075" by .053") grid on backplane and daughter card
- Offers flexibility and advanced mechanical and electrical performance with two compliant-pin attach options
- Inline staggered, bifurcated contact beams in daughter card interface provides improved mating performance

Industry Applications

- Telecommunications equipment
 - Hubs, routers, switches
- Central office, cellular infrastructure and multi-platform service (DSL, Cable Data) systems
- Data networking equipment
 - Servers
 - Storage
- Test and measurement equipment
- Medical diagnostic equipment



TE Connectivity offers a variety of backplane/ midplane solutions to meet the demand for increased network bandwidth and advanced technology. Each solution is designed for high performance, increased density and compatibility with industry-standard interfaces. TE provides a user-friendly transition between the PCB-mounted connector and the backplane/ midplane. TE has extensive knowledge and expertise on high-speed interface design. Your specific needs can be customized and transformed into new manufacturable designs.

The IMPACT backplane connector and cable system from TE pushes the speed and density envelope to meet the growing demands of next-generation telecommunication and data net-

working equipment; the system is available in 2-6 pair configurations with a complete range of guidance and power-solution options plus right-angle cable assemblies.

The IMPACT system is available in two compliant-pin design options on both daughter card and backplane connectors, providing customers ultimate flexibility to optimize their designs for advanced mechanical and electrical performance. The IMPACT system's mating interface provides in-line staggered, bifurcated contacts that provide 2 points of contact for the long-term reliability performance and built-in, ground-signal sequencing. This reduces the average mating force per connector to improve the mechanical mating performance of the system.

Material and Finish

Signal Contact — High Performance Copper (Cu) Alloy
Ground Contact — High Performance Copper (Cu) Alloy
Housing — Liquid Crystal Polymer, UL 94V-0

Platings

Contact Area — 0.76 μm (30 μm) Gold (Au) min.
Solder Tail Area — Tin (Sn) or Tin/Lead (Sn/Pb)
Underplating — Nickel (Ni)
PCB Thickness — 1.60 mm (.062") typical

Ratings

Temperature Range — -55°C to 85°C max.
Current Rating — 0.75 A per pin max.
Durability — 200 cycles
Operating Voltage — 30 VAC RMS/ DC max.
Mating Force — 0.30 N (9.066 lb) max. per pin
Compliant Pin Retention Force to PCB — 3.56 N (.80 lb) per compliant pin average min.
Compliant Pin Insertion Force to PCB — 26.7 N (6.0 lb) max. per contact
Signal Integrity
Insulation Resistance — 10,000 Megohms min.

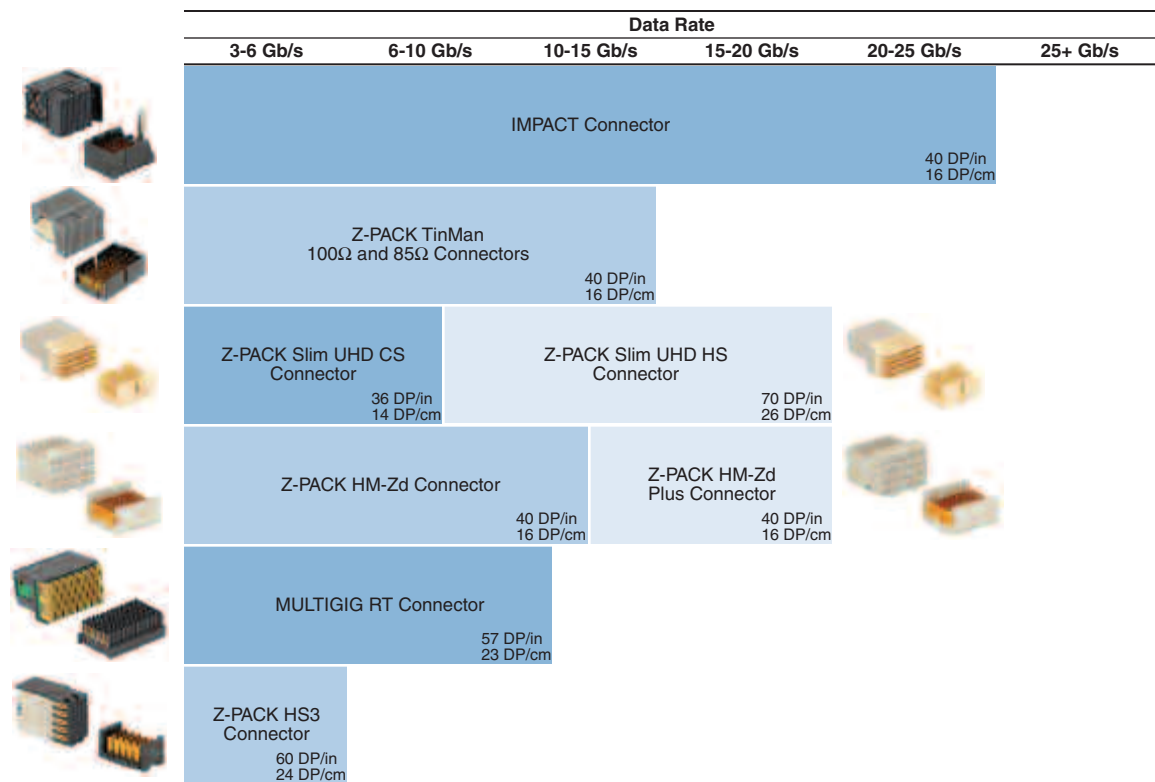
Technical Documents

Product Specification
 108-2351

Application Specification
 114-13258

Visit the IMPACT connector webpage at: www.te.com/products/Impact

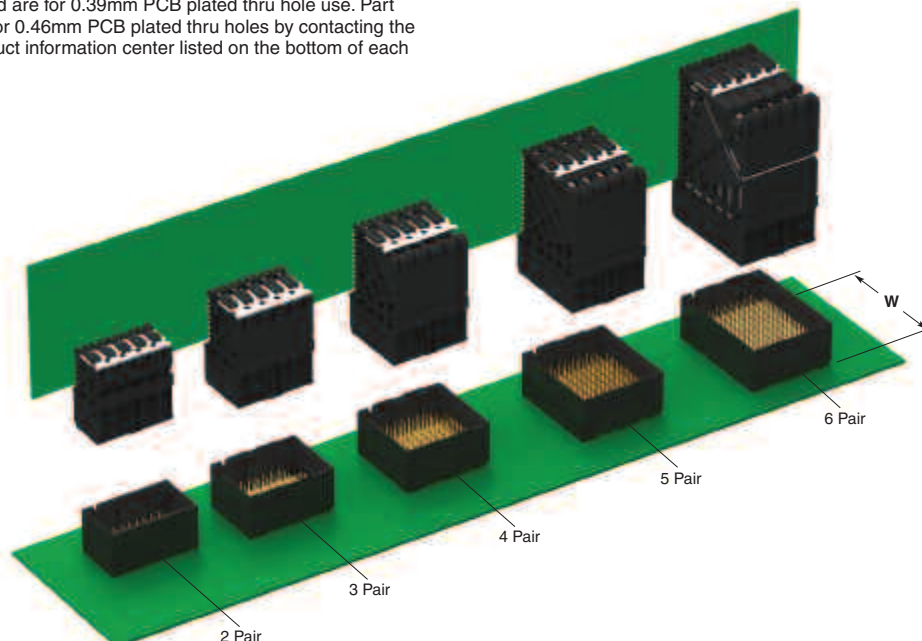
Introduction (Continued)



	Header Width (W)	Pairs/Inch
2 Pair IMPACT Connector	12.65 mm	27
3 Pair IMPACT Connector	16.70 mm	40
4 Pair IMPACT Connector	20.75 mm	54
5 Pair IMPACT Connector	24.8 mm	67
6 Pair IMPACT Connector	28.85 mm	80

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.

	Receptacles	Headers
2 Pair	2057405-1	2057428-1
3 Pair	2007705-1	2007786-1
4 Pair	2007717-1	2007818-1
5 Pair	2110106-1	2007850-1
6 Pair	2007741-1	2007882-1



Visit the IMPACT connector webpage at: www.te.com/products/Impact

Introduction (Continued)

IMPACT Connector Family Standard, Monoblock Solutions

2 Pair IMPACT (W = 12.65 mm)
Density = 27 Pairs/Inch
10 column = 20 Diff. Pairs
16 column = 32 Diff. Pairs



3 Pair IMPACT (W = 16.7 mm)
Density = 40 Pairs/Inch
10 column = 30 Diff. Pairs
16 column = 48 Diff. Pairs



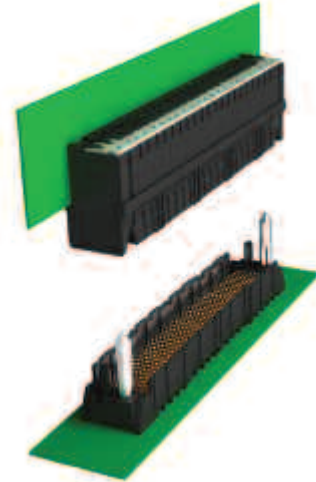
4 Pair IMPACT (W = 20.75 mm)
Density = 54 Pairs/Inch
10 column = 40 Diff. Pairs
16 column = 64 Diff. Pairs



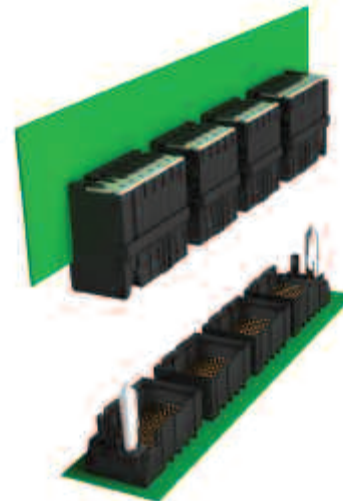
5 Pair IMPACT (W = 24.80 mm)
Density = 67 Pairs/Inch
10 column = 50 Diff. Pairs
16 column = 80 Diff. Pairs



6 Pair IMPACT (W = 28.85 mm)
Density = 80 Pairs/Inch
10 column = 60 Diff. Pairs
16 column = 96 Diff. Pairs



End-to-End Stackable Example



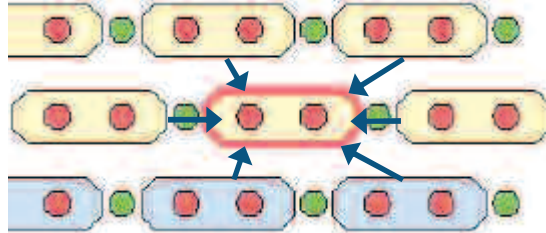
End Wall Separation Example

Visit the IMPACT connector webpage at: www.te.com/products/Impact

Introduction (Continued)

Worst Case Crosstalk

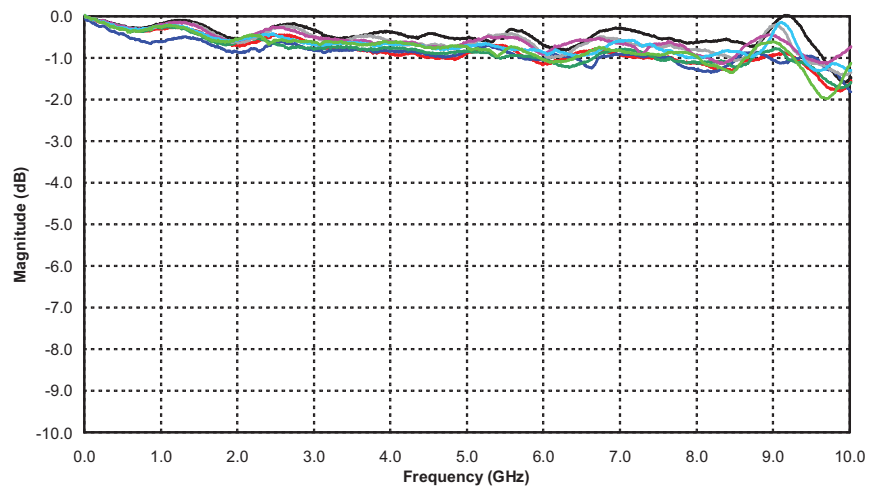
All NEXT	2.7%
All FeXT	0.7%
Recommended Pinout (as shown below)	1.5%



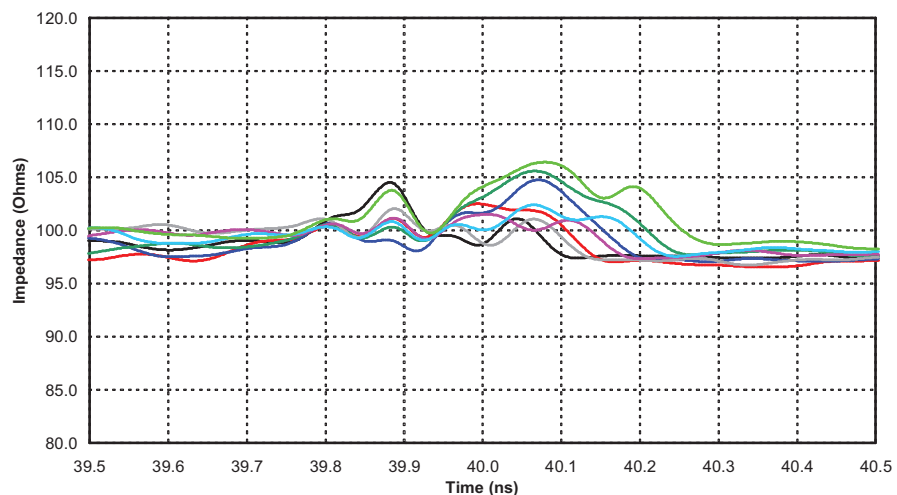
Test Data

- Vertical Header — Right-Angle Receptacle
 - 4 pair connector module
 - 1.9 mm column pitch
 - 0.0146" plated through holes
- 50 ps (20-80%) edge rate
- Includes two 1.5 mm [0.060] vias to bottom layer traces
- Asynchronous noise sum of peaks from each aggressor, divided by differential swing (A-B)

Differential Insertion Loss



Differential Impedance



Visit the IMPACT connector webpage at: www.te.com/products/Impact

Introduction (Continued)

IMPACT High Performance Cable Assembly Planned:

- 3 x 16 wafer stack — 96 diff. pair total
- IMPACT wafer to wafer pitch — 3.8 mm
- Assumes 3 m length — 26 AWG raw cable
- Integral guidance
- Robust, stamped, metal wafer stack stiffener



100 Ohm

Pair Size	Columns	Pins	Pairs
2 Pair	10	60	20
	16	96	32
3 Pair	8	72	24
	10	90	30
	16	144	48
4 Pair	8	96	32
	10	120	40
	16	192	64
5 Pair	10	150	50
	12	180	60
	16	240	80
6 Pair	10	180	60
	14	252	84
	16	288	96

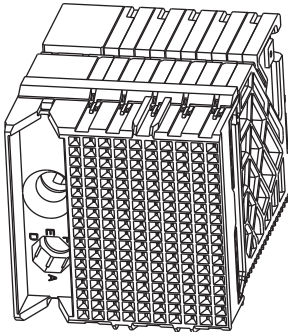
85 Ohm

Pair Size	Columns	Pins	Pairs
5 Pair	10	150	50
	16	240	80

Visit the IMPACT connector webpage at: www.te.com/products/Impact

Daughter Card Receptacle Assemblies

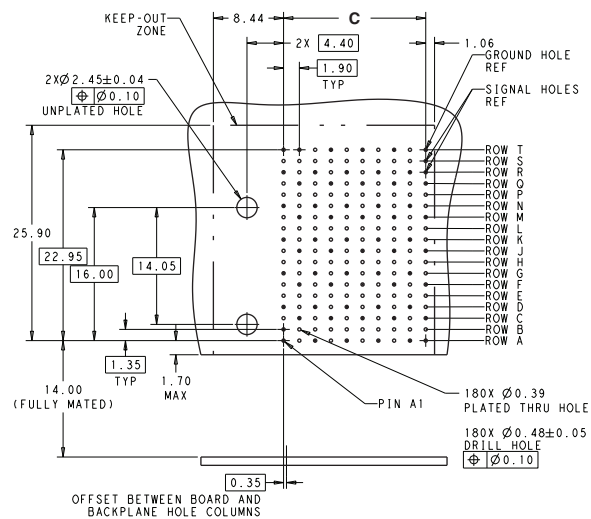
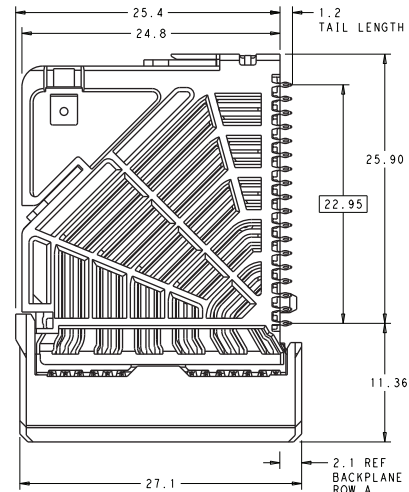
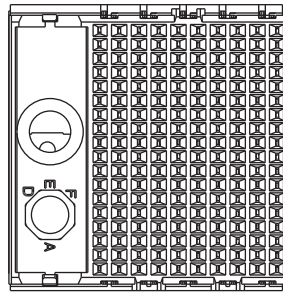
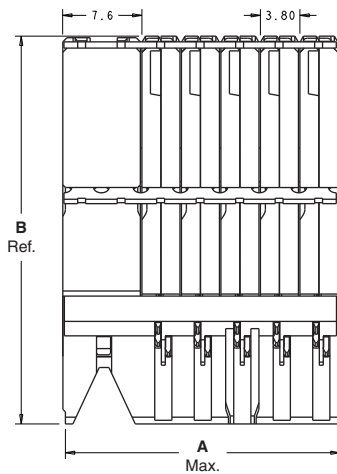
6 Pair Daughter Card Receptacle Assemblies



Column	Guide	Part Number	Dimension			Application Tooling	Mates With
			A	B	C		
10	Left	2007739-1	26.6	37.3	17.1	2018534-1	2007873-1
	Right	2007740-1	26.6	37.3	17.1	2018534-1	2007877-1
	Unguided	2007741-1	19	37.3	17.1	2018534-1	2007886-1
16	Left	2007745-1	38	37.3	28.5	2018535-1	2007889-1
	Right	2007746-1	38	37.3	28.5	2018535-1	2007893-1
	Unguided	2007747-1	30.4	37.3	28.5	2018535-1	2007902-1

Note: 10 column part number 2007739-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



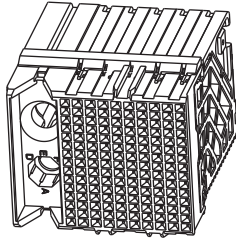
Key Position Chart	
	None

Recommended PCB Layout
Min. Board Thickness 1.0

Visit the IMPACT connector webpage at: www.te.com/products/Impact

Daughter Card Receptacle Assemblies (Continued)

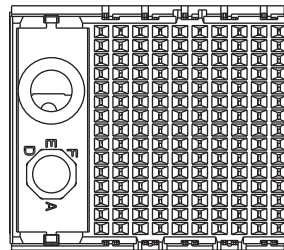
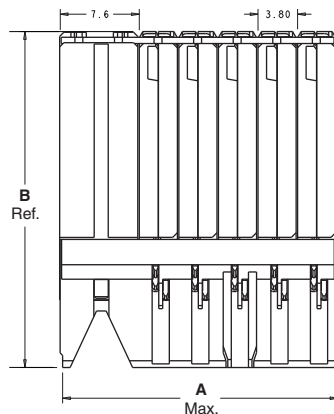
5 Pair Daughter Card Receptacle Assemblies



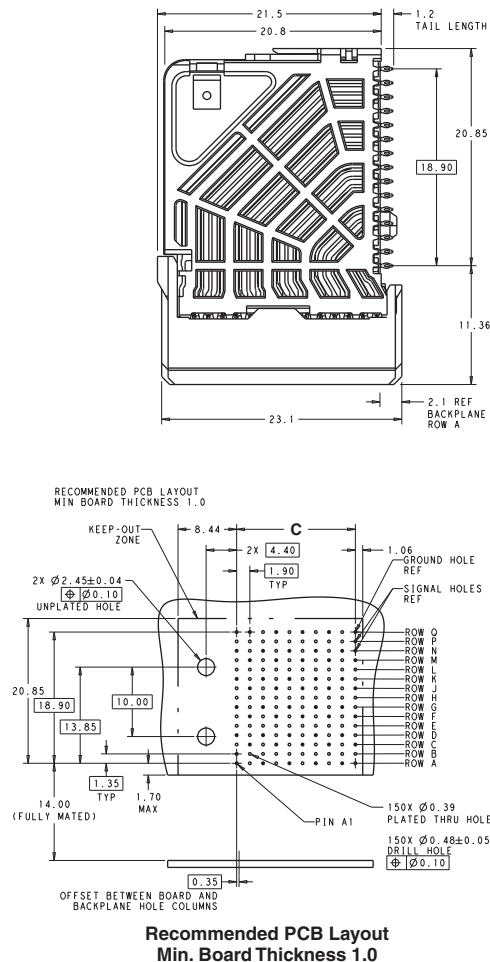
Column	Guide	Part Number	Dimension			Application Tooling	Mates With
			A	B	C		
10	Left	2110104-1	26.6	32.3	17.1	2018448-1	2007841-1
	Right	2110105-1	26.6	32.3	17.1	2018448-1	2007845-1
	Unguided	2110106-1	19.0	32.3	17.1	2018448-1	2007854-1
16	Left	2110122-1	38.0	32.3	28.5	2018532-1	2007857-1
	Right	2110123-1	38.0	32.3	28.5	2018532-1	2007861-1
	Unguided	2110124-1	30.4	32.3	28.5	2018532-1	2007870-1

Note: 10 column part number 2110104-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



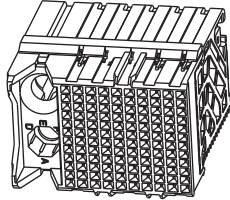
Key Position Chart	
	None
	A
	B
	C
	D
	E
	F
	G
	H



Visit the IMPACT connector webpage at: www.te.com/products/Impact

Daughter Card Receptacle Assemblies (Continued)

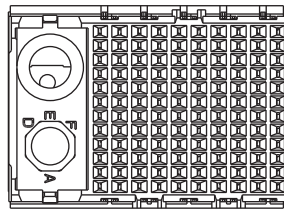
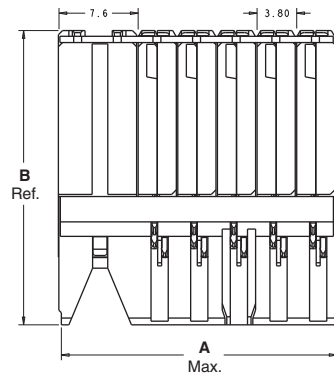
4 Pair Daughter Card Receptacle Assemblies



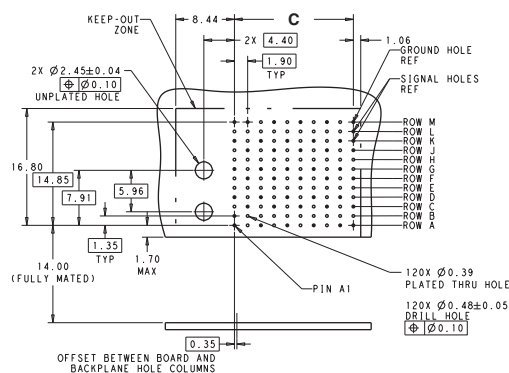
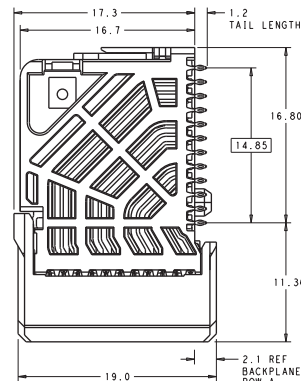
Column	Guide	Part Number	Dimension			Application Tooling	Mates With
			A	B	C		
10	Left	2007715-1	26.6	28.2	17.1	2018530-1	2007809-1
	Right	2007716-1	26.6	28.2	17.1	2018530-1	2007813-1
	Unguided	2007717-1	19	28.2	17.1	2018530-1	2007822-1
16	Left	2007721-1	38	28.2	28.5	2018531-1	2007825-1
	Right	2007722-1	38	28.2	28.5	2018531-1	2007829-1
	Unguided	2007723-1	30.4	28.2	28.5	2018531-1	2007838-1

Note: 10 column part number 2007715-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



Key Position Chart	
	None
	A
	B
	C
	D
	E
	F
	G
	H

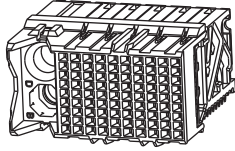


Recommended PCB Layout
Min. Board Thickness 1.0

Visit the IMPACT connector webpage at: www.te.com/products/Impact

Daughter Card Receptacle Assemblies (Continued)

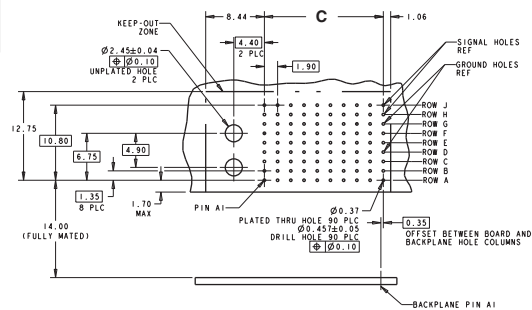
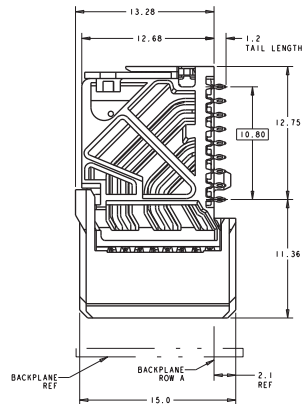
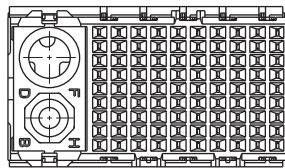
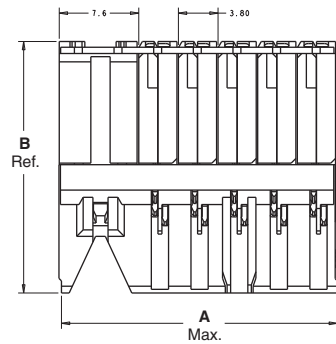
3 Pair Daughter Card Receptacle Assemblies



Column	Guide	Part Number	Dimension			Application Tooling	Mates With
			A	B	C		
10	Left	2007703-1	26.6	24.2	17.1	2018380-1	2007777-1
	Right	2007704-1	26.6	24.2	17.1	2018380-1	2007781-1
	Unguided	2007705-1	19	24.2	17.1	2018380-1	2007789-1
16	Left	2007709-1	38	24.2	28.5	2018381-1	2007793-1
	Right	2007710-1	38	24.2	28.5	2018381-1	2007797-1
	Unguided	2007711-1	30.4	24.2	28.5	2018381-1	2007805-1

Note: 10 column part number 2007703-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



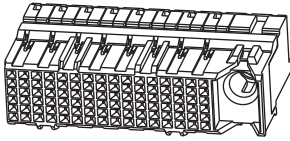
Recommended PCB Layout
Min. Board Thickness 1.0

Key Position Chart	
	None
A	E
B	F
C	G
D	H

Visit the IMPACT connector webpage at: www.te.com/products/Impact

Daughter Card Receptacle Assemblies (Continued)

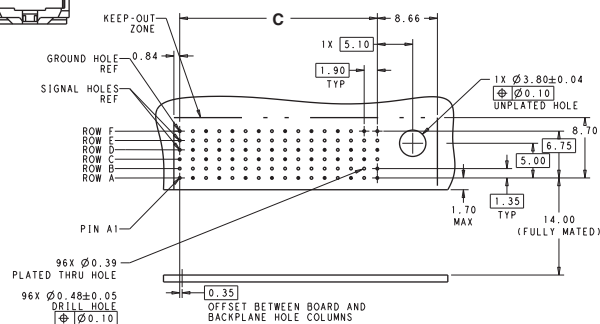
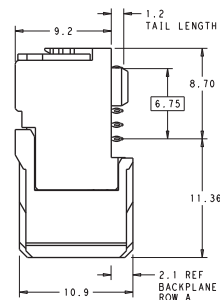
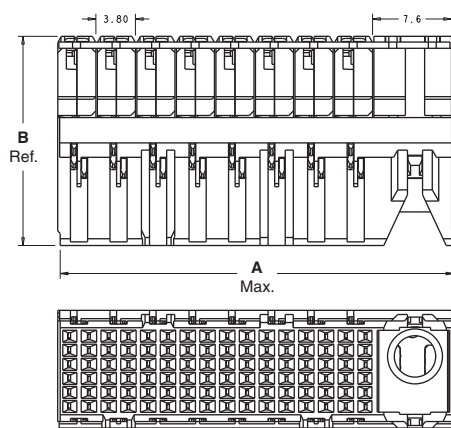
2 Pair Daughter Card Receptacle Assemblies



Column	Guide	Part Number	Dimension			Application Tooling	Mates With
			A	B	C		
10	Left	2057403-1	26.6	20.1	17.1	2018538-1	2057419-1
	Right	2057404-1	26.6	20.1	17.1	2018538-1	2057423-1
	Unguided	2057405-1	19	20.1	17.1	2018538-1	2057432-1
16	Left	2057409-1	38	20.1	28.5	2018539-1	2057737-1
	Right	2057410-1	38	20.1	28.5	2018539-1	2057741-1
	Unguided	2057411-1	30.4	20.1	28.5	2018539-1	2057750-1

Note: 16 column part number 2057410-1 is pictured below.

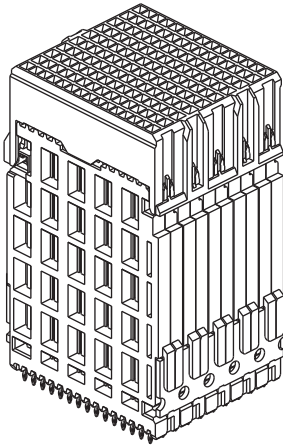
All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



Recommended PCB Layout
Min. Board Thickness 1.6

Mezzanine Assemblies

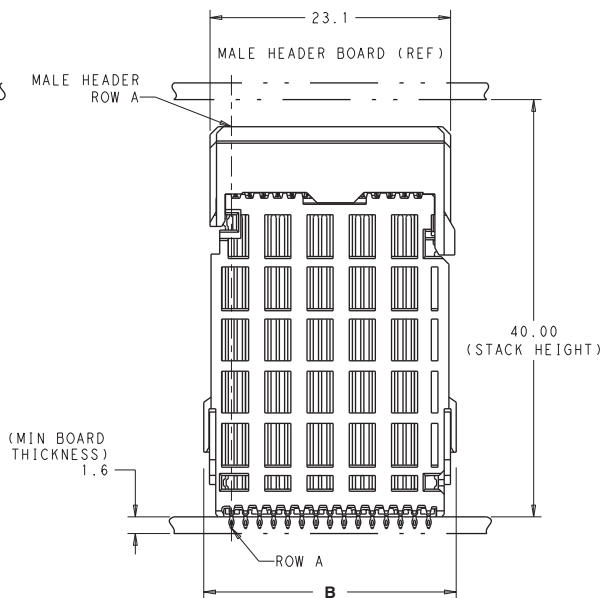
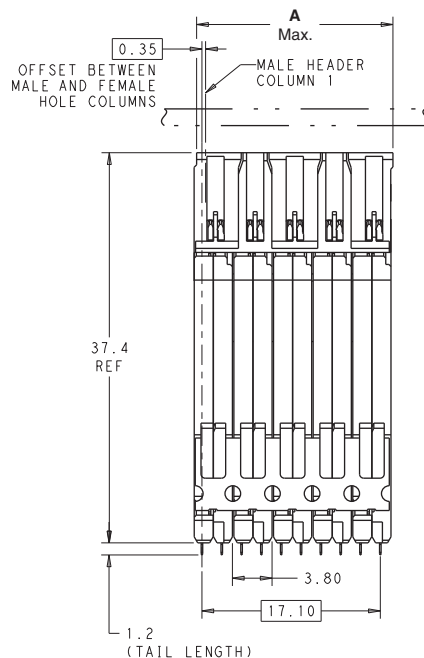
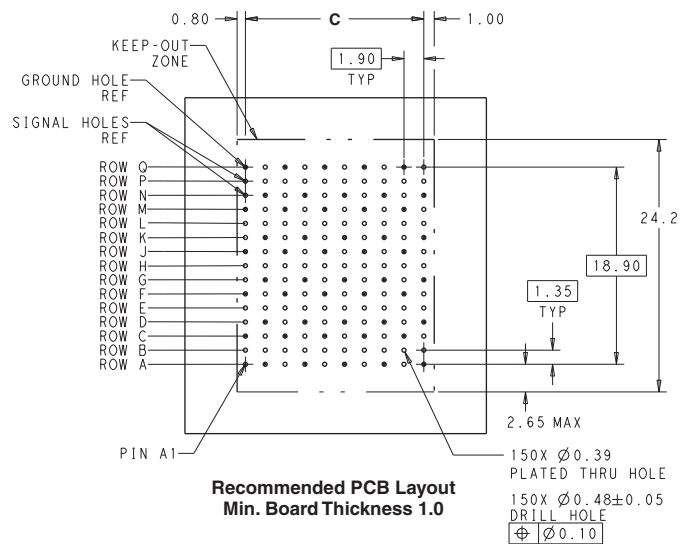
5 Pair Mezzanine Receptacle Assemblies



Column	Stack Height	Guide	Part Number	Dimension			Application Tooling	Mates With
				A	B	C		
10	40 mm	Left	2149911-1	26.6	24.2	17.1	2018774-1	2007840-1
		Right	2149912-1	26.6	24.2	17.1	2018774-1	2007844-1
		Unguided	2149913-1	19.0	24.2	17.1	2018774-1	2007850-1
16	28 mm	Left	2149392-1	26.6	24.2	28.5	2018774-2	2007856-1
		Right	2149393-1	26.6	24.2	28.5	2018774-2	2007860-1
		Unguided	2149394-1	19.0	24.2	28.5	2018774-2	2007866-1

Note: 10 column part number 2149913-1 is pictured below.

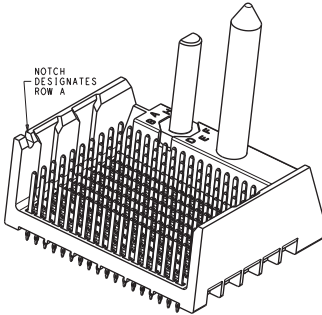
All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



Visit the IMPACT connector webpage at: www.te.com/products/Impact

Backplane Header Assemblies

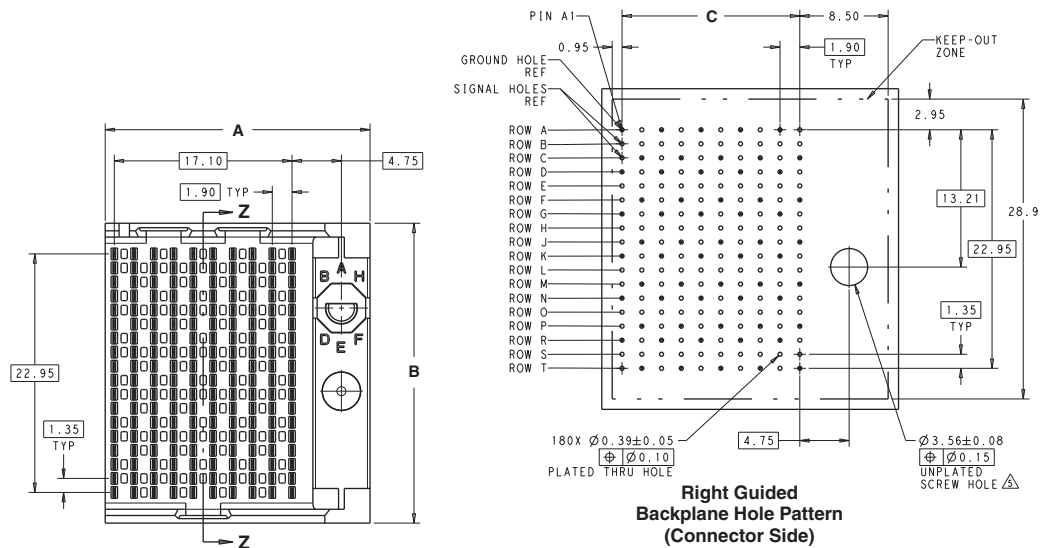
6 Pair Backplane Header Assemblies



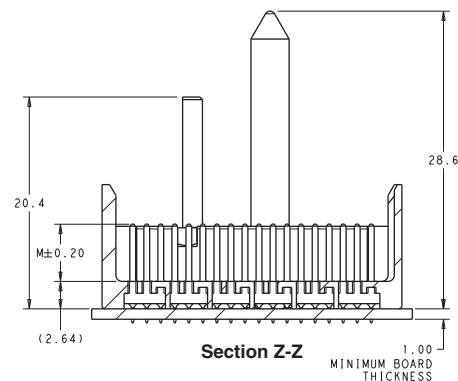
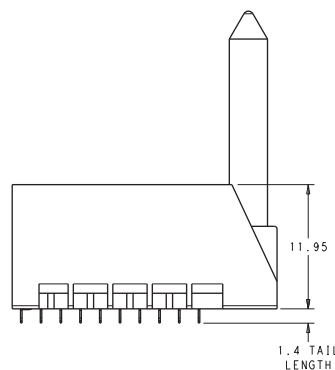
Column	Guide	Wall End	Part Number	Dimension			Application Tooling	Mates With
				A	B	C		
10	Left	Right	2007875-1	26.9	28.9	17.1	2018527-1	2007739-1
		Open	2007873-1	25.5	28.9	17.1	2018527-1	2007739-1
	Right	Left	2007879-1	26.9	28.9	17.1	2018527-1	2007740-1
		Open	2007877-1	25.5	28.9	17.1	2018527-1	2007740-1
	Unguided	Left	2007885-1	20.3	28.9	17.1	2018527-1	2007741-1
		Right	2007887-1	20.3	28.9	17.1	2018527-1	2007741-1
		Dual	2007886-1	21.7	28.9	17.1	2018527-1	2007741-1
		Open	2007884-1	18.9	28.9	17.1	2018527-1	2007741-1
	Left	Right	2007891-1	38.3	28.9	28.5	2018528-1	2007745-1
		Open	2007889-1	36.9	28.9	28.5	2018528-1	2007745-1
16	Right	Left	2007895-1	38.3	28.9	28.5	2018528-1	2007746-1
		Open	2007893-1	36.9	28.9	28.5	2018528-1	2007746-1
	Left	Right	2007901-1	31.7	28.9	28.5	2018528-1	2007747-1
		Open	2007903-1	31.7	28.9	28.5	2018528-1	2007747-1
	Unguided	Right	2007902-1	33.1	28.9	28.5	2018528-1	2007747-1
		Open	2007900-1	30.3	28.9	28.5	2018528-1	2007747-1

Note: 10 column part number 2007877-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



Key Position Chart	
	None



Visit the IMPACT connector webpage at: www.te.com/products/Impact

Backplane Header Assemblies (Continued)

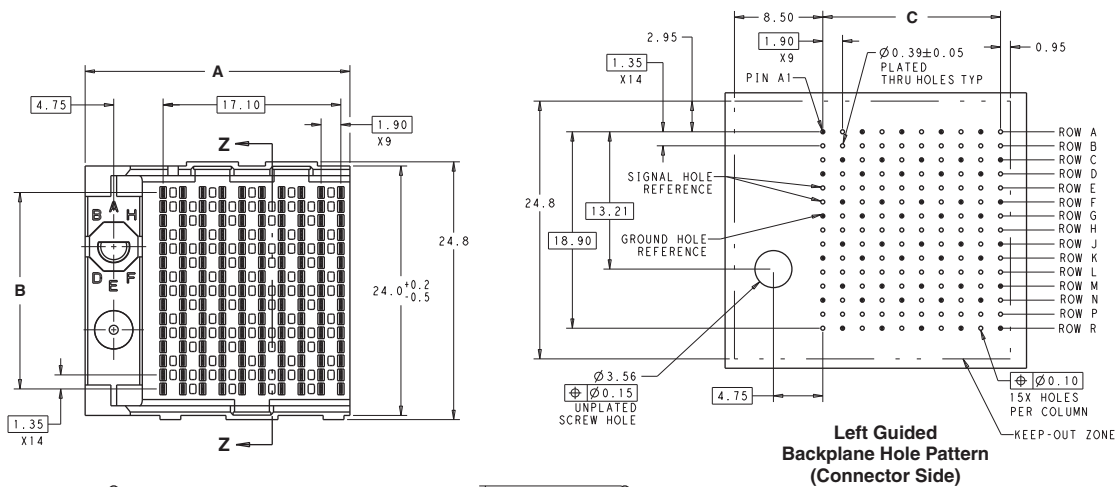
5 Pair Backplane Header Assemblies



Column	Guide	Wall End	Part Number	Dimension			Application Tooling	Mates With
				A	B	C		
10	Left	Right	2007843-1	26.9	24.8	17.1	2018446-1	2110104-1
		Open	2007841-1	25.5	24.8	17.1	2018446-1	2110104-1
	Right	Left	2007847-1	26.9	24.8	17.1	2018446-1	2110105-1
		Open	2007845-1	25.5	24.8	17.1	2018446-1	2110105-1
	Unguided	Left	2007853-1	20.3	24.8	17.1	2018446-1	2110106-1
		Right	2007855-1	20.3	24.8	17.1	2018446-1	2110106-1
		Dual	2007854-1	21.7	24.8	17.1	2018446-1	2110106-1
		Open	2007852-1	18.9	24.8	17.1	2018446-1	2110106-1
16	Left	Right	2007853-1	38.3	24.8	28.5	2018525-1	2110122-1
		Open	2007857-1	36.9	24.8	28.5	2018525-1	2110122-1
	Right	Left	2007863-1	38.3	24.8	28.5	2018525-1	2110123-1
		Open	2007861-1	36.9	24.8	28.5	2018525-1	2110123-1
	Unguided	Left	2007869-1	31.7	24.8	28.5	2018525-1	2110124-1
		Right	2007871-1	31.7	24.8	28.5	2018525-1	2110124-1
		Dual	2007870-1	33.1	24.8	28.5	2018525-1	2110124-1
		Open	2007868-1	30.3	24.8	28.5	2018525-1	2110124-1

Note: 10 column part number 2007841-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



Key Position Chart	
	None
	A
	B
	C
	D
	E
	F
	G
	H

Visit the IMPACT connector webpage at: www.te.com/products/Impact

Backplane Header Assemblies (Continued)

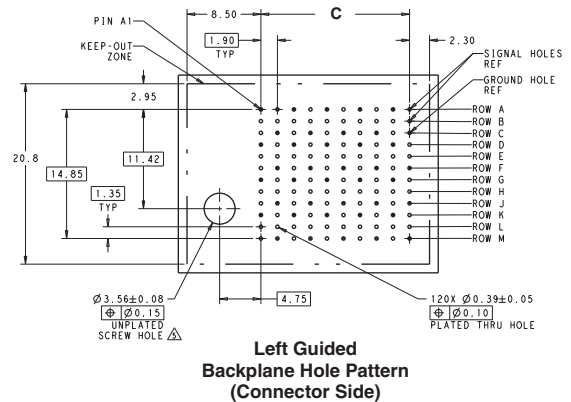
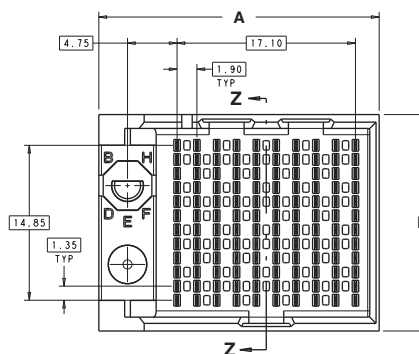
4 Pair Backplane Header Assemblies



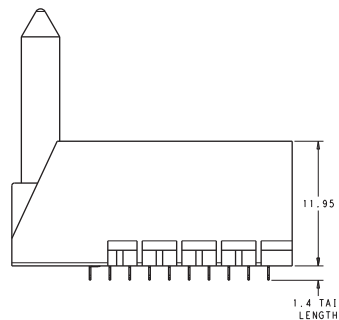
Column	Guide	Wall End	Part Number	Dimension			Application Tooling	Mates With
				A	B	C		
10	Left	Right	2007811-1	26.9	20.8	17.1	2018524-1	2007715-1
		Open	2007809-1	25.5	20.8	17.1	2018524-1	2007715-1
	Right	Left	2007815-1	26.9	20.8	17.1	2018524-1	2007716-1
		Open	2007813-1	25.5	20.8	17.1	2018524-1	2007716-1
	Unguided	Left	2007821-1	20.3	20.8	17.1	2018524-1	2007717-1
		Right	2007823-1	20.3	20.8	17.1	2018524-1	2007717-1
		Dual	2007822-1	21.7	20.8	17.1	2018524-1	2007717-1
		Open	2007820-1	18.9	20.8	17.1	2018524-1	2007717-1
16	Left	Right	2007827-1	38.3	20.8	28.5	2018513-1	2007721-1
		Open	2007825-1	36.9	20.8	28.5	2018513-1	2007721-1
	Right	Left	2007831-1	38.3	20.8	28.5	2018513-1	2007722-1
		Open	2007829-1	36.9	20.8	28.5	2018513-1	2007722-1
	Unguided	Left	2007837-1	31.7	20.8	28.5	2018513-1	2007723-1
		Right	2007839-1	31.7	20.8	28.5	2018513-1	2007723-1
		Dual	2007838-1	33.1	20.8	28.5	2018513-1	2007723-1
		Open	2007836-1	30.3	20.8	28.5	2018513-1	2007723-1

Note: 10 column part number 2007811-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



Key Position Chart	
	None
	A
	B
	C
	D
	E
	F
	G
	H



Visit the IMPACT connector webpage at: www.te.com/products/Impact

Backplane Header Assemblies (Continued)

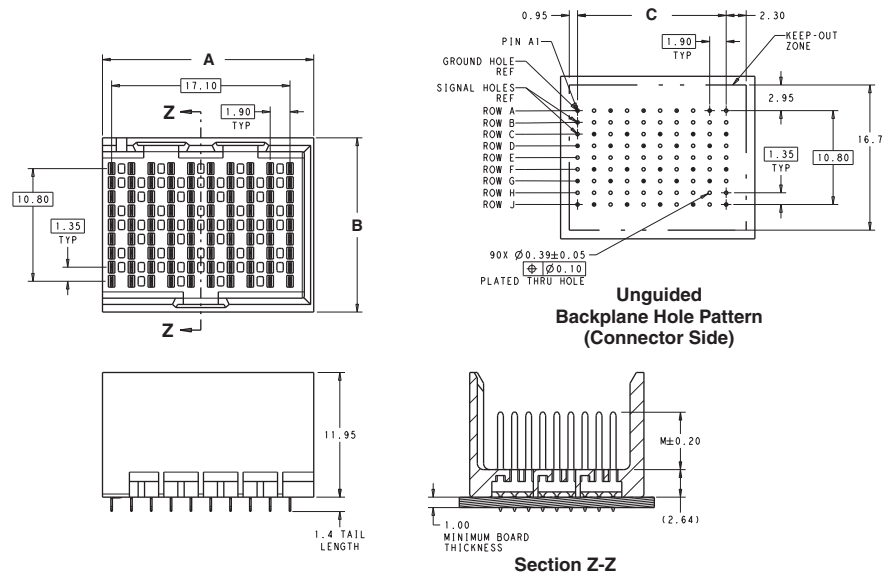
3 Pair Backplane Header Assemblies



Column	Guide	Wall End	Part Number	Dimension			Application Tooling	Mates With
				A	B	C		
10	Left	Right	2007779-1	26.9	16.7	17.1	2018377-1	2007703-1
		Open	2007777-1	25.5	16.7	17.1	2018377-1	2007703-1
	Right	Left	2007783-1	26.9	16.7	17.1	2018377-1	2007704-1
		Open	2007781-1	25.5	16.7	17.1	2018377-1	2007704-1
	Unguided	Left	2007789-1	20.3	16.7	17.1	2018377-1	2007705-1
		Right	2007791-1	20.3	16.7	17.1	2018377-1	2007705-1
		Dual	2007790-1	21.7	16.7	17.1	2018377-1	2007705-1
		Open	2007788-1	18.9	16.7	17.1	2018377-1	2007705-1
16	Left	Right	2007795-1	38.3	16.7	28.5	2018378-1	2007709-1
		Open	2007793-1	36.9	16.7	28.5	2018378-1	2007709-1
	Right	Left	2007799-1	38.3	16.7	28.5	2018378-1	2007710-1
		Open	2007797-1	36.9	16.7	28.5	2018378-1	2007710-1
	Unguided	Left	2007805-1	31.7	16.7	28.5	2018378-1	2007711-1
		Right	2007807-1	31.7	16.7	28.5	2018378-1	2007711-1
		Dual	2007806-1	33.1	16.7	28.5	2018378-1	2007711-1
		Open	2007804-1	30.3	16.7	28.5	2018378-1	2007711-1

Note: 10 column part number 2007791-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



Visit the IMPACT connector webpage at: www.te.com/products/Impact

Backplane Header Assemblies (Continued)

2 Pair Backplane Header Assemblies



Column	Guide	Wall End	Part Number	Dimension			Application Tooling	Mates With
				A	B	C		
10	Left	Right	2057421-1	26.9	12.7	17.1	2018536-1	2057403-1
		Open	2057419-1	25.5	12.7	17.1	2018536-1	2057403-1
	Right	Left	2057425-1	25.5	12.7	17.1	2018536-1	2057404-1
		Open	2057423-1	26.9	12.7	17.1	2018536-1	2057404-1
	Unguided	Left	2057431-1	20.3	12.7	17.1	2018536-1	2057405-1
		Right	2057433-1	20.3	12.7	17.1	2018536-1	2057405-1
		Dual	2057432-1	21.7	12.7	17.1	2018536-1	2057405-1
		Open	2057430-1	18.9	12.7	17.1	2018536-1	2057405-1
	Left	Right	2057739-1	38.3	12.7	28.5	2018537-1	2057409-1
		Open	2057737-1	36.9	12.7	28.5	2018537-1	2057409-1
16	Right	Left	2057743-1	38.3	12.7	28.5	2018537-1	2057410-1
		Open	2057741-1	36.9	12.7	28.5	2018537-1	2057410-1
	Left	Right	2057749-1	31.7	12.7	28.5	2018537-1	2057411-1
		Open	2057751-1	31.7	12.7	28.5	2018537-1	2057411-1
	Unguided	Right	2057750-1	33.1	12.7	28.5	2018537-1	2057411-1
		Open	2057748-1	30.3	12.7	28.5	2018537-1	2057411-1

Note: 10 column part number 2057419-1 is pictured below.

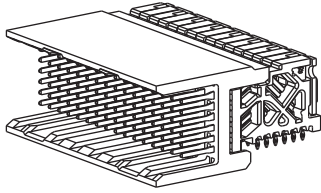
All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



Visit the IMPACT connector webpage at: www.te.com/products/Impact

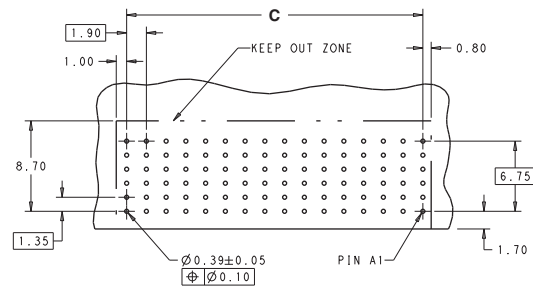
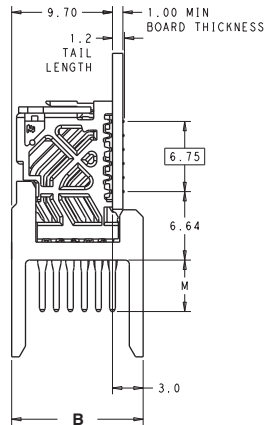
Coplanar Header (RAM) Assemblies (Continued)

2 Pair Coplanar Header (RAM) Assemblies



Column	Guide	Wall End	Part Number	Dimension			Application Tooling	Mates With
				A	B	C		
10	Left	Right	2143017-2	28	12.7	17.1	2018779-1	2057404-1
		Open	2143016-2	26.6	12.7	17.1	2018779-1	2057404-1
	Right	Left	2143019-2	28	12.7	17.1	2018779-1	2057403-1
		Open	2143018-2	26.6	12.7	17.1	2018779-1	2057403-1
	Unguided	Left	2143013-2	20.4	12.7	17.1	2018779-1	2057405-1
		Right	2143015-2	20.4	12.7	17.1	2018779-1	2057405-1
		Dual	2143014-2	21.8	12.7	17.1	2018779-1	2057405-1
		Open	2143012-2	19	12.7	17.1	2018779-1	2057405-1
16	Left	Right	2143314-2	39.4	12.7	28.5	2018779-2	2057410-1
		Open	2143313-2	38	12.7	28.5	2018779-2	2057410-1
	Right	Left	2143316-2	39.4	12.7	28.5	2018779-2	2057409-1
		Open	2143315-2	38	12.7	28.5	2018779-2	2057409-1
	Unguided	Left	2143310-2	31.8	12.7	28.5	2018779-2	2057411-1
		Right	2143312-2	31.8	12.7	28.5	2018779-2	2057411-1
		Dual	2143311-2	33.2	12.7	28.5	2018779-2	2057411-1
		Open	2143309-2	30.4	12.7	28.5	2018779-2	2057411-1

Note: 16 column part number 2143309-1 is pictured below.



Recommended PCB Layout



Coplanar Mated Signal Paths

DC PIN A10 ----- RAM PIN A10

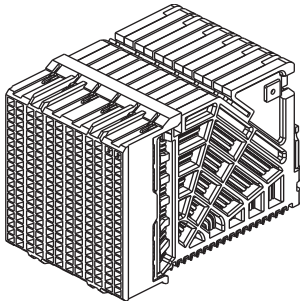
 DC PIN A1 ----- RAM PIN A1

**Left Guided Right Angle Male Mates To
 Right Guided Right Angle Receptacle**

Visit the IMPACT connector webpage at:
www.te.com/products/Impact

Orthogonal Receptacle Assemblies

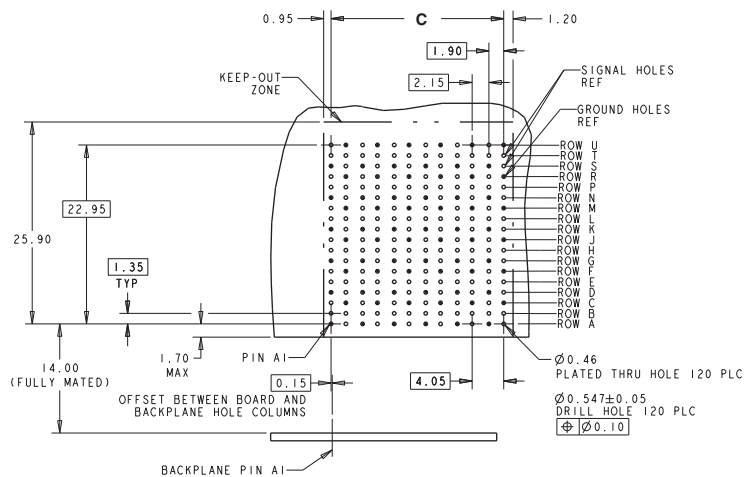
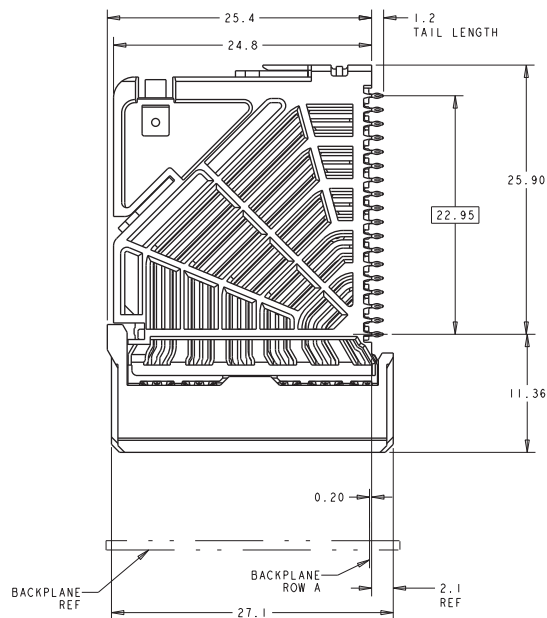
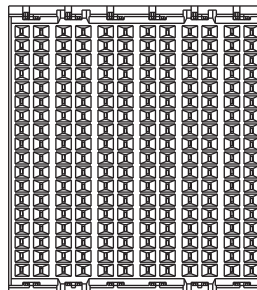
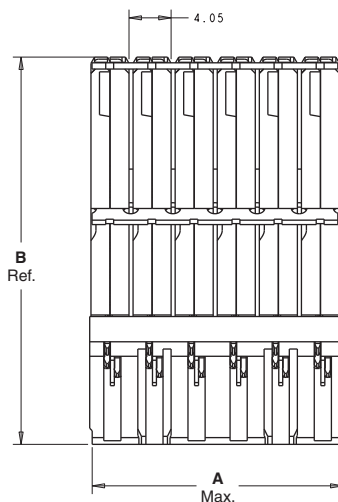
6 Pair Orthogonal Receptacle Assemblies



Column	Guide	Part Number	Dimension			Application Tooling	Mates With
			A	B	C		
10	Left	2132718-1	28.35	37.3	18.1	2018773-1	2143249-1
	Right	2132719-1	28.35	37.3	18.1	2018773-1	2143251-1
	Unguided	2132720-1	20.25	37.3	18.1	2018773-1	2143255-1
12	Left	2132721-1	32.4	37.3	22.15	2018773-2	2143265-1
	Right	2132722-1	32.4	37.3	22.15	2018773-2	2143267-1
	Unguided	2132723-1	24.3	37.3	22.15	2018773-2	2143271-1

Note: 12 column part number 2132723-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.

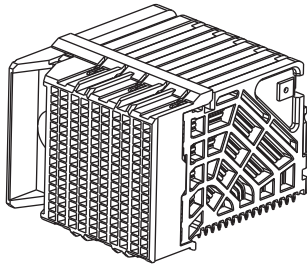


Recommended PCB Layout
Min. Board Thickness 1.0

Visit the IMPACT connector webpage at: www.te.com/products/Impact

Orthogonal Receptacle Assemblies (Continued)

5 Pair Orthogonal Receptacle Assemblies



Column	Guide	Part Number	Dimension			Application Tooling	Mates With
			A	B	C		
8	Left	2132690-1	24.3	32.3	14.05	2018772-1	2143545-1
	Right	2132691-1	24.3	32.3	14.05	2018772-1	2143547-1
	Unguided	2132692-1	16.2	32.3	14.05	2018772-1	2143550-1
10	Left	2132693-1	28.35	32.3	18.1	2018772-2	2143557-1
	Right	2132694-1	28.35	32.3	18.1	2018772-2	2143559-1
	Unguided	2132695-1	20.25	32.3	18.1	2018772-2	2143562-1
12	Left	2132696-1	32.4	32.3	22.15	2018772-3	2143569-1
	Right	2132697-1	32.4	32.3	22.15	2018772-3	2143571-1
	Unguided	2132698-1	24.3	32.3	22.15	2018772-3	2143574-1

Note: 10 column part number 2132693-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.

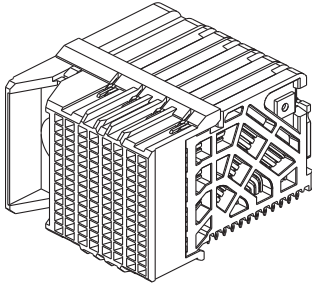


Recommended PCB Layout

Visit the IMPACT connector webpage at: www.te.com/products/Impact

Orthogonal Receptacle Assemblies (Continued)

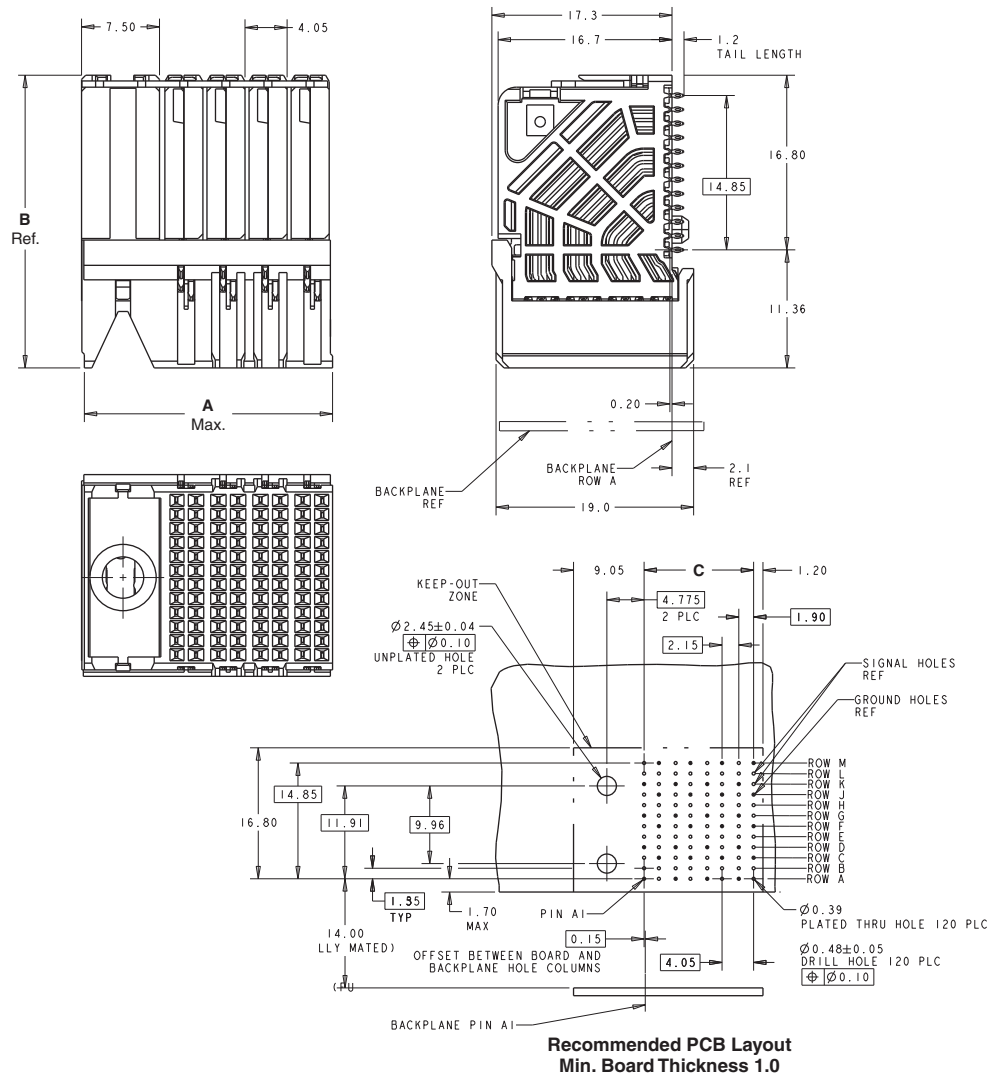
4 Pair Orthogonal Receptacle Assemblies



Column	Guide	Part Number	Dimension			Application Tooling	Mates With
			A	B	C		
6	Left	2132461-1	20.25	28.2	10	2018771-1	2132593-1
	Right	2132462-1	20.25	28.2	10	2018771-1	2132595-1
	Unguided	2132463-1	12.15	28.2	10	2018771-1	2132599-1
8	Left	2132464-1	24.3	28.2	14.05	2018771-2	2132609-1
	Right	2132465-1	24.3	28.2	14.05	2018771-2	2132611-1
	Unguided	2132466-1	16.2	28.2	14.05	2018771-2	2132615-1
10	Left	2132467-1	28.35	28.2	18.1	2018771-3	2132597-1
	Right	2132468-1	28.35	28.2	18.1	2018771-3	2132599-1
	Unguided	2132469-1	20.25	28.2	18.1	2018771-3	2132631-1

Note: 8 column part number 2132464-1 is pictured below.

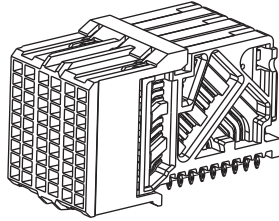
All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



Visit the IMPACT connector webpage at: www.te.com/products/Impact

Orthogonal Receptacle Assemblies (Continued)

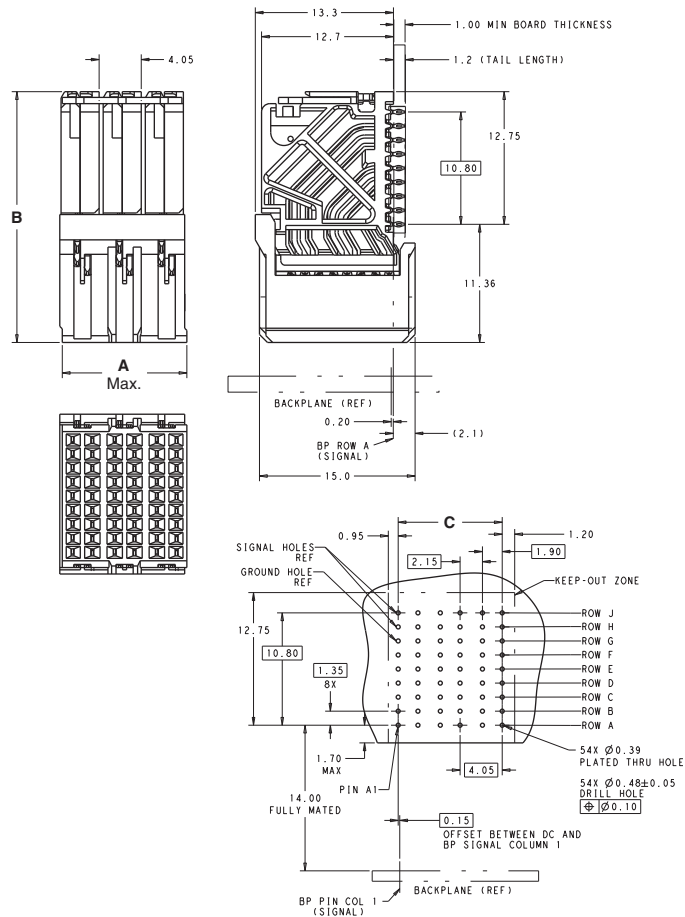
3 Pair Orthogonal Receptacle Assemblies



Column	Guide	Part Number	Dimension			Application Tooling	Mates With
			A	B	C		
6	Left	2132422-1	20.25	24.1	10	2018770-1	2132561-1
	Right	2132423-1	20.25	24.1	10	2018770-1	2132563-1
	Unguided	2132424-1	12.15	24.1	10	2018770-1	2132567-1
8	Left	2132425-1	24.3	24.1	14.05	2018770-2	2132577-1
	Right	2132426-1	24.3	24.1	14.05	2018770-2	2132579-1
	Unguided	2132427-1	16.2	24.1	14.05	2018770-2	2132583-1

Note: 6 column part number 2132424-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.

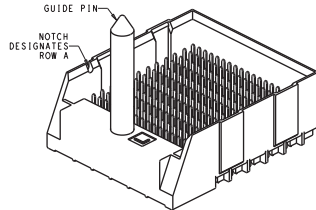


Recommended PCB Layout

Visit the IMPACT connector webpage at: www.te.com/products/Impact

Orthogonal Header Assemblies

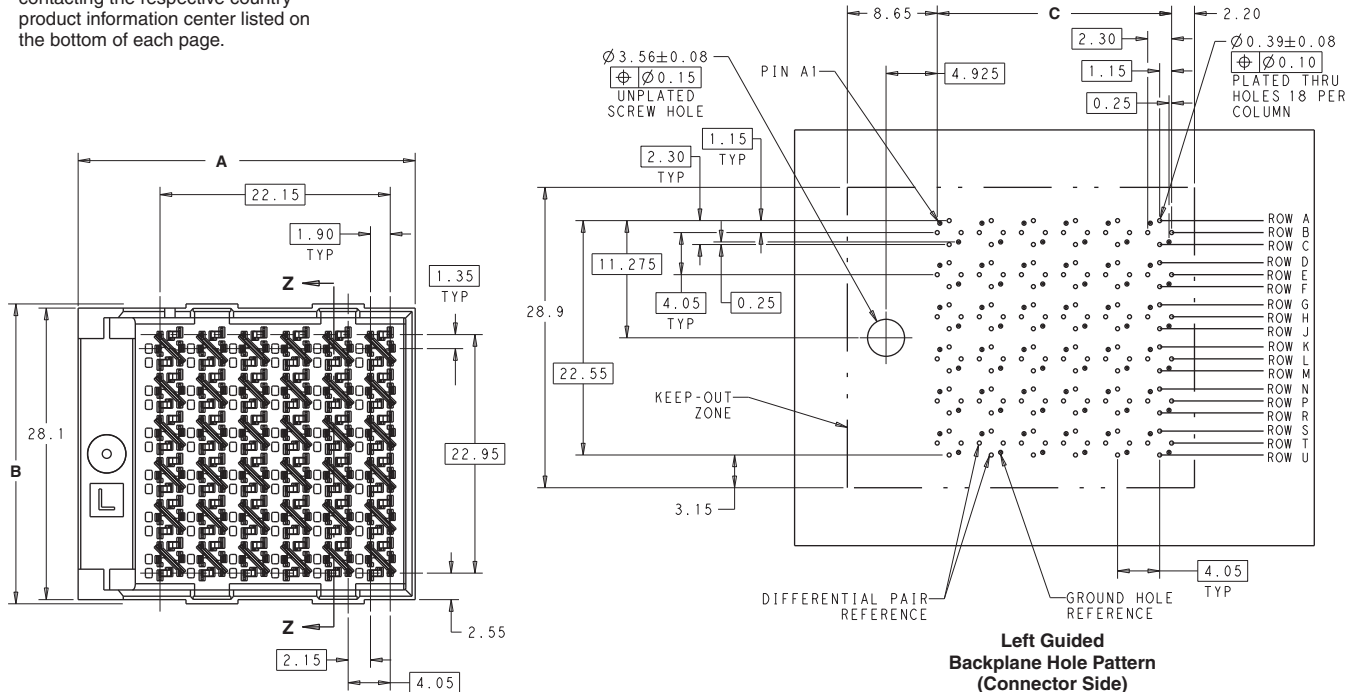
6 Pair Orthogonal Header Assemblies



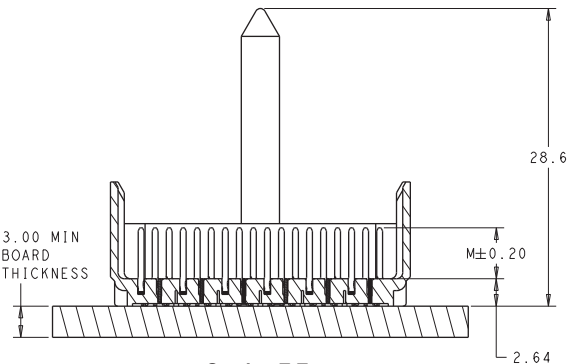
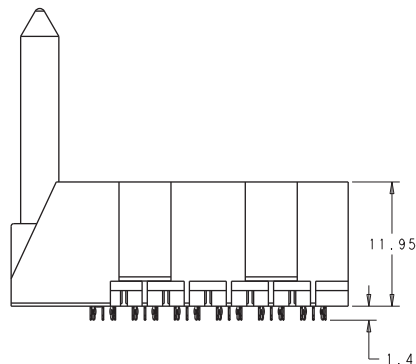
All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.

Column	Guide	Wall End	Part Number	Dimension			Application Tooling	Mates With
				A	B	C		
10	Left	Right	2143250-1	28.4	28.9	18.5	2018773-1	2132718-1
		Open	2143249-1	27	28.9	18.5	2018773-1	2132718-1
	Right	Left	2143252-1	28.4	28.9	18.5	2018773-1	2132719-1
		Open	2143251-1	27	28.9	18.5	2018773-1	2132719-1
	Unguided	Left	2143254-1	21.5	28.9	18.5	2018773-1	2132720-1
		Right	2143256-1	21.5	28.9	18.5	2018773-1	2132720-1
		Dual	2143255-1	22.9	28.9	18.5	2018773-1	2132720-1
		Open	2143253-1	20.1	28.9	18.5	2018773-1	2132720-1
12	Left	Right	2143266-1	32.4	28.9	22.55	2018773-2	2132721-1
		Open	2143265-1	31	28.9	22.55	2018773-2	2132721-1
	Right	Left	2143268-1	32.4	28.9	22.55	2018773-2	2132722-1
		Open	2143267-1	31	28.9	22.55	2018773-2	2132722-1
	Unguided	Left	2143270-1	25.55	28.9	22.55	2018773-2	2132723-1
		Right	2143272-1	25.55	28.9	22.55	2018773-2	2132723-1
		Dual	2143271-1	26.95	28.9	22.55	2018773-2	2132723-1
		Open	2143269-1	24.15	28.9	22.55	2018773-2	2132723-1

Note: 12 column part number 2143266-1 is pictured below.



Left Guided Backplane Hole Pattern (Connector Side)

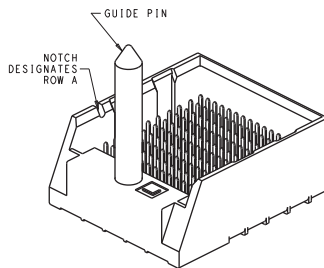


Section Z-Z

Visit the IMPACT connector webpage at: www.te.com/products/Impact

Orthogonal Header Assemblies (Continued)

5 Pair Orthogonal Header Assemblies

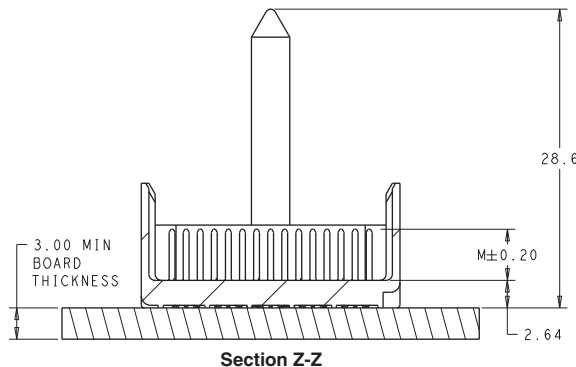
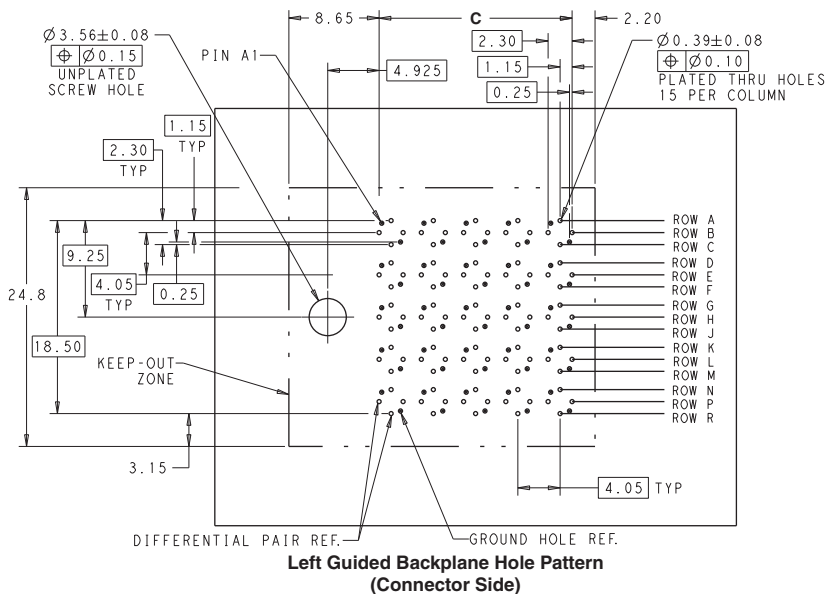
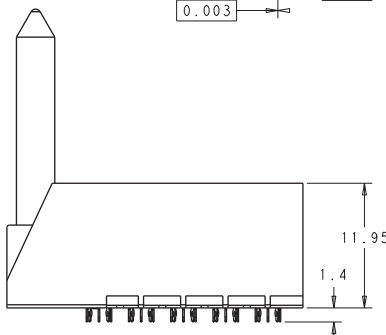
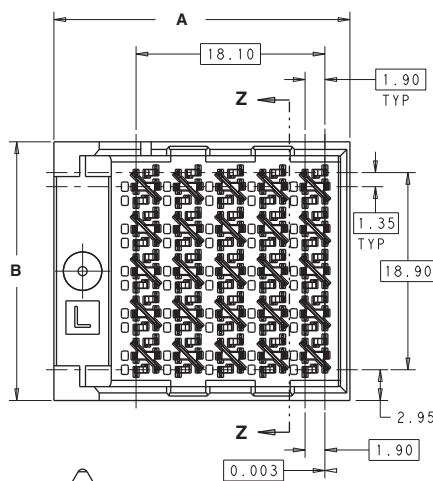


Note: 10 column part number 2143558-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.

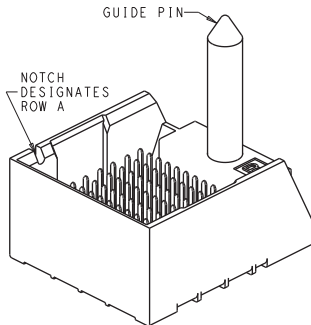
Column	Guide	Wall End	Part Number	Dimension			Application Tooling	Mates With
				A	B	C		
8	Left	Right	2143546-1	24.3	24.8	14.45	2018772-1	2132690-1
		Open	2143545-1	22.9	24.8	14.45	2018772-1	2132690-1
	Right	Left	2143548-1	24.3	24.8	14.45	2018772-1	2132691-1
		Open	2143547-1	22.9	24.8	14.45	2018772-1	2132691-1
	Unguided	Left	2143621-1	17.45	24.8	14.45	2018772-1	2132692-1
		Right	2143622-1	17.45	24.8	14.45	2018772-1	2132692-1
		Dual	2143550-1	18.85	24.8	14.45	2018772-1	2132692-1
		Open	2143549-1	16.05	24.8	14.45	2018772-1	2132692-1
10	Left	Right	2143558-1	28.4	24.8	18.5	2018772-2	2132693-1
		Open	2143557-1	27	24.8	18.5	2018772-2	2132693-1
	Right	Left	2143560-1	28.4	24.8	18.5	2018772-2	2132694-1
		Open	2143559-1	27	24.8	18.5	2018772-2	2132694-1
	Unguided	Left	2143625-1	21.5	24.8	18.5	2018772-2	2132695-1
		Right	2143626-1	21.5	24.8	18.5	2018772-2	2132695-1
		Dual	2143562-1	22.9	24.8	18.5	2018772-2	2132695-1
		Open	2143561-1	20.1	24.8	18.5	2018772-2	2132695-1
12	Left	Right	2143570-1	32.4	24.8	22.55	2018772-3	2132696-1
		Open	2143569-1	31	24.8	22.55	2018772-3	2132696-1
	Right	Left	2143572-1	32.4	24.8	22.55	2018772-3	2132697-1
		Open	2143571-1	31	24.8	22.55	2018772-3	2132697-1
	Unguided	Left	2143629-1	25.55	24.8	22.55	2018772-3	2132698-1
		Right	2143630-1	25.55	24.8	22.55	2018772-3	2132698-1
		Dual	2143574-1	26.95	24.8	22.55	2018772-3	2132698-1
		Open	2143573-1	24.15	24.8	22.55	2018772-3	2132698-1

Visit the IMPACT connector webpage at:
www.te.com/products/Impact



Orthogonal Header Assemblies (Continued)

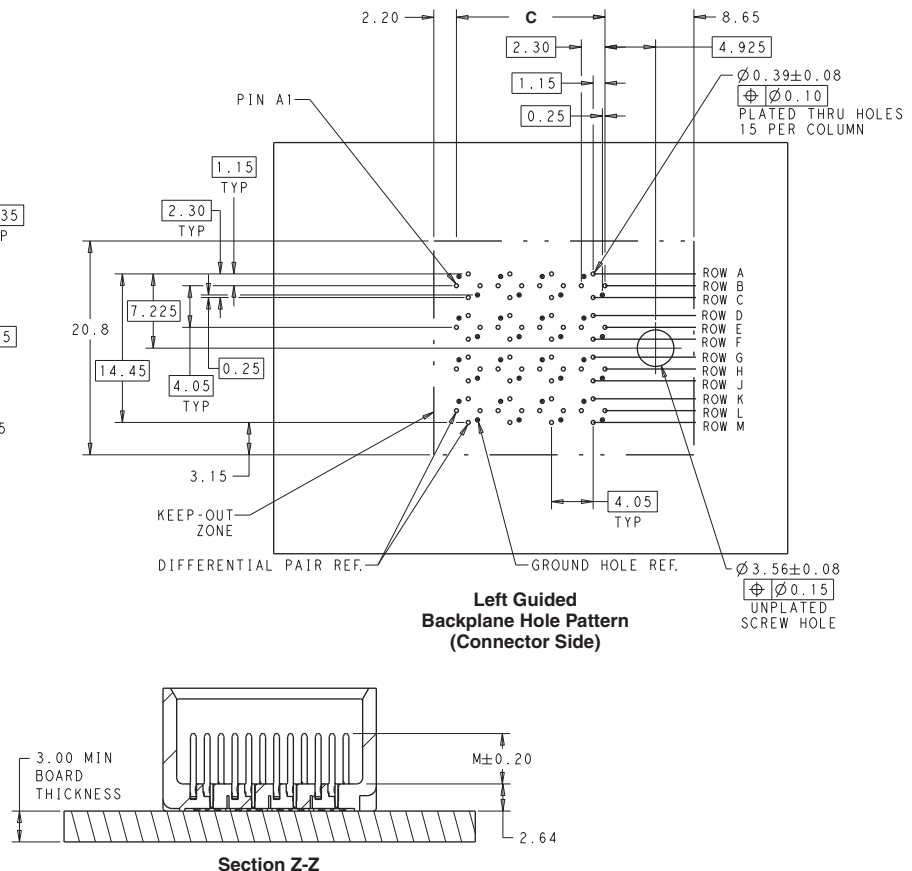
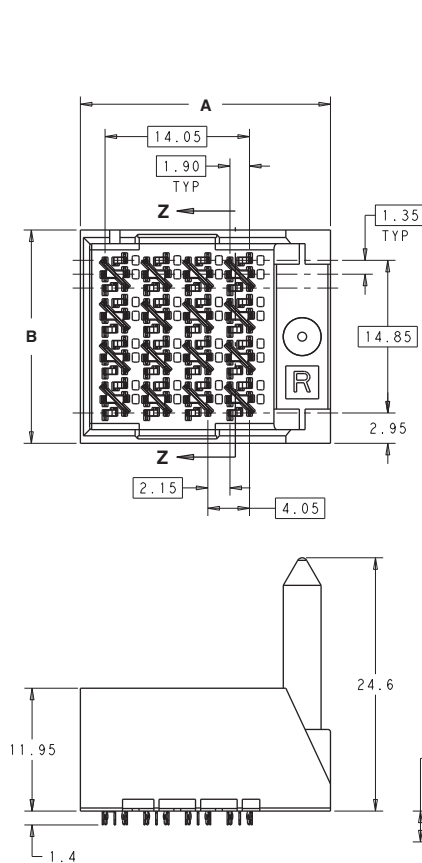
4 Pair Orthogonal Header Assemblies



Note: 8 column part number 2132610-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.

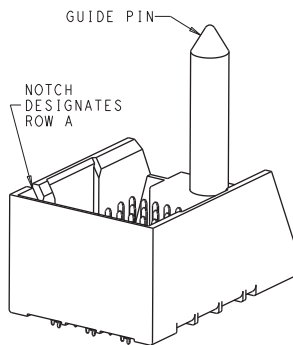
Column	Guide	Wall End	Part Number	Dimension			Application Tooling	Mates With
				A	B	C		
6	Left	Right	2132594-1	20.3	20.8	10.4	2018771-1	2132461-1
		Open	2132593-1	18.9	20.8	10.4	2018771-1	2132461-1
	Right	Left	2132596-1	20.3	20.8	10.4	2018771-1	2132462-1
		Open	2132595-1	18.9	20.8	10.4	2018771-1	2132462-1
	Unguided	Left	2132598-1	13.4	20.8	10.4	2018771-1	2132463-1
		Right	2132600-1	13.4	20.8	10.4	2018771-1	2132463-1
8	Left	Dual	2132599-1	14.8	20.8	10.4	2018771-1	2132463-1
		Open	2132597-1	12	20.8	10.4	2018771-1	2132463-1
	Right	Right	2132610-1	24.3	20.8	14.45	2018771-2	2132464-1
		Open	2132609-1	22.9	20.8	14.45	2018771-2	2132464-1
	Unguided	Left	2132612-1	24.3	20.8	14.45	2018771-2	2132465-1
		Open	2132611-1	22.9	20.8	14.45	2018771-2	2132465-1
	Unguided	Left	2132614-1	17.45	20.8	14.45	2018771-2	2132466-1
		Right	2132616-1	17.45	20.8	14.45	2018771-2	2132466-1
	Unguided	Dual	2132615-1	18.85	20.8	14.45	2018771-2	2132466-1
		Open	2132613-1	16.05	20.8	14.45	2018771-2	2132466-1
10	Left	Right	2132626-1	28.4	20.8	18.5	2018771-3	2132467-1
		Open	2132625-1	27	20.8	18.5	2018771-3	2132467-1
	Right	Left	2132628-1	28.4	20.8	18.5	2018771-3	2132468-1
		Open	2132627-1	27	20.8	18.5	2018771-3	2132468-1
	Unguided	Left	2132630-1	21.5	20.8	18.5	2018771-3	2132469-1
		Right	2132632-1	21.5	20.8	18.5	2018771-3	2132469-1
	Unguided	Dual	2132631-1	22.9	20.8	18.5	2018771-3	2132469-1
		Open	2132629-1	20.1	20.8	18.5	2018771-3	2132469-1



Visit the IMPACT connector webpage at: www.te.com/products/Impact

Orthogonal Header Assemblies (Continued)

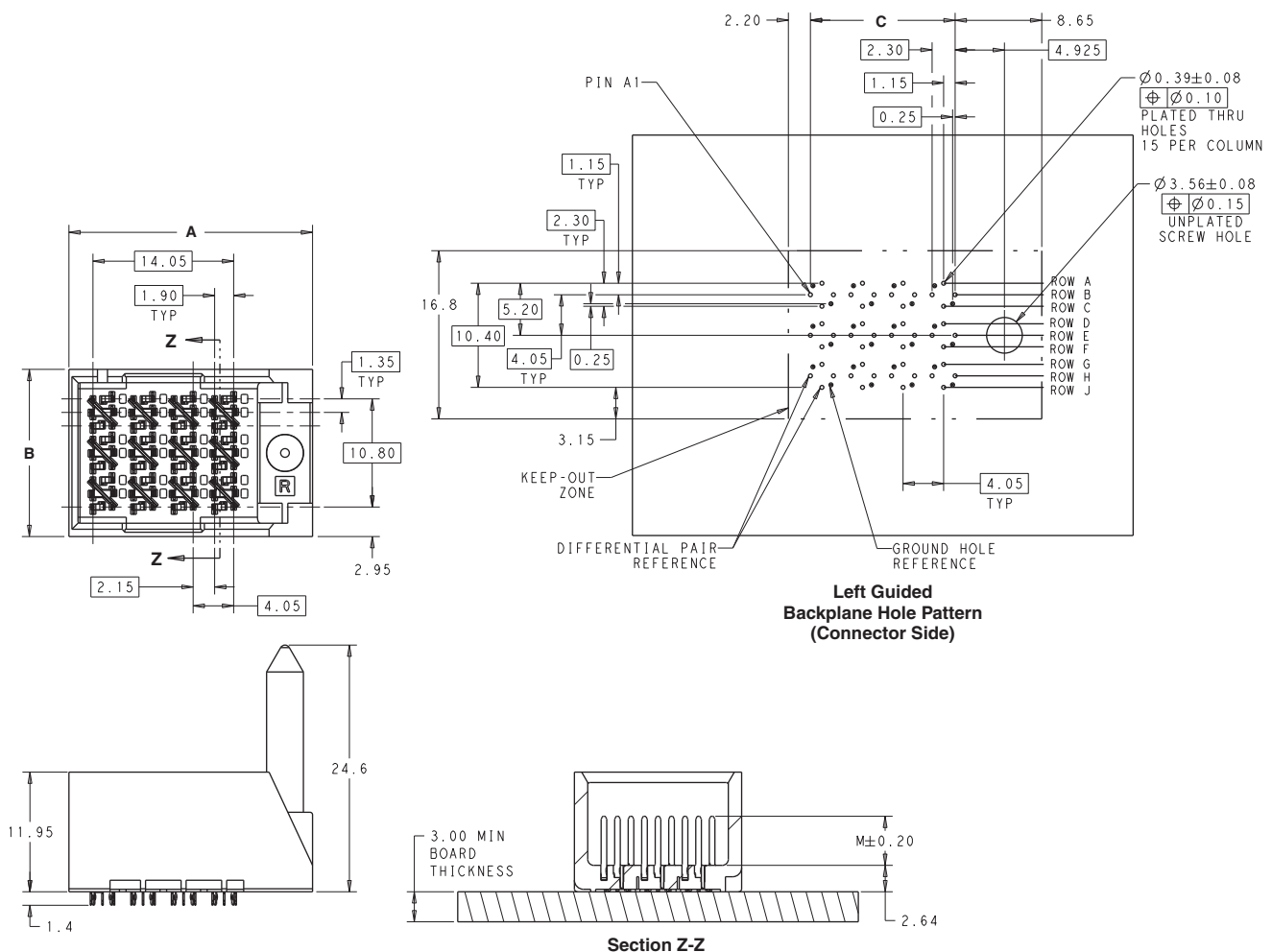
3 Pair Orthogonal Header Assemblies



Column	Guide	Wall End	Part Number	Dimension			Application Tooling	Mates With
				A	B	C		
6	Left	Right	2132562-1	20.3	16.7	10.4	2018770-1	2132422-1
		Open	2132561-1	18.9	16.7	10.4	2018770-1	2132422-1
	Right	Left	2132564-1	20.3	16.7	10.4	2018770-1	2132423-1
		Open	2132563-1	18.9	16.7	10.4	2018770-1	2132423-1
	Unguided	Left	2132566-1	13.4	16.7	10.4	2018770-1	2132424-1
		Right	2132568-1	13.4	16.7	10.4	2018770-1	2132424-1
8	Left	Dual	2132567-1	14.8	16.7	10.4	2018770-1	2132424-1
		Open	2132565-1	12	16.7	10.4	2018770-1	2132424-1
	Right	Right	2132578-1	24.3	16.7	14.45	2018770-2	2132425-1
		Open	2132577-1	22.9	16.7	14.45	2018770-2	2132425-1
	Right	Left	2132580-1	24.3	16.7	14.45	2018770-2	2132426-1
		Open	2132579-1	22.9	16.7	14.45	2018770-2	2132426-1
	Unguided	Left	2132582-1	17.45	16.7	14.45	2018770-2	2132427-1
		Right	2132584-1	17.45	16.7	14.45	2018770-2	2132427-1
		Dual	2132583-1	18.85	16.7	14.45	2018770-2	2132427-1
		Open	2132581-1	16.05	16.7	14.45	2018770-2	2132427-1

Note: 8 column part number 2132580-1 is pictured below.

All the numbers provided are for 0.39mm PCB plated thru hole use. Part numbers are available for 0.46mm PCB plated thru holes by contacting the respective country product information center listed on the bottom of each page.



Visit the IMPACT connector webpage at: www.te.com/products/Impact

Part Number Index

Note: This index lists all cataloged parts by base no. only. Complete part nos. (with prefixes and/or suffixes) are shown on the page(s) indicated.

Part No.	Page	Part No.	Page	Part No.	Page
2007703	11, 17	2007855	15	2132427	23, 27
2007704	11, 17	2007856	13	2132461	22, 26
2007705	4, 11, 17	2007857	9, 15	2132462	22, 26
2007709	11, 17	2007860	13	2132463	22, 26
2007710	11, 17	2007861	9, 15	2132464	22, 26
2007711	11, 17	2007863	15	2132465	22, 26
2007715	10, 16	2007866	13	2132466	22, 26
2007716	10, 16	2007868	15	2132467	22, 26
2007717	4, 10, 16	2007869	15	2132468	22, 26
2007721	10, 16	2007870	9, 15	2132469	22, 26
2007722	10, 16	2007871	15	2132561	23, 27
2007723	10, 16	2007873	8, 14	2132562	27
2007739	8, 14	2007875	14	2132563	23, 27
2007740	8, 14	2007877	8, 14	2132564	27
2007741	4, 8, 14	2007879	14	2132565	27
2007745	8, 14	2007882	4	2132566	27
2007746	8, 14	2007884	14	2132567	23, 27
2007747	8, 14	2007885	14	2132568	27
2007777	11, 17	2007886	8, 14	2132577	23, 27
2007779	17	2007887	14	2132578	27
2007781	11, 17	2007889	8, 14	2132579	23, 27
2007783	17	2007891	14	2132580	27
2007786	4	2007893	8, 14	2132581	27
2007788	17	2007895	14	2132582	27
2007789	11, 17	2007900	14	2132583	23, 27
2007790	17	2007901	14	2132584	27
2007791	17	2007902	8, 14	2132593	22, 26
2007793	11, 17	2007903	14	2132594	26
2007795	17	2057403	12, 18, 19	2132595	22, 26
2007797	11, 17	2057404	12, 18, 19	2132596	26
2007799	17	2057405	4, 12, 18, 19	2132597	22, 26
2007804	17	2057409	12, 18, 19	2132598	26
2007805	11, 17	2057410	12, 18, 19	2132599	22, 26
2007806	17	2057411	12, 18, 19	2132600	26
2007807	17	2057419	12, 18	2132609	22, 26
2007809	10, 16	2057421	18	2132610	26
2007811	16	2057423	12, 18	2132611	22, 26
2007813	10, 16	2057425	18	2132612	26
2007815	16	2057428	4	2132613	26
2007818	4	2057430	18	2132614	26
2007820	16	2057431	18	2132615	22, 26
2007821	16	2057432	12, 18	2132616	26
2007822	10, 16	2057433	18	2132625	26
2007823	16	2057737	12, 18	2132626	26
2007825	10, 16	2057739	18	2132627	26
2007827	16	2057741	12, 18	2132628	26
2007829	10, 16	2057743	18	2132629	26
2007831	16	2057748	18	2132630	26
2007836	16	2057749	18	2132631	22, 26
2007837	16	2057750	12, 18	2132632	26
2007838	10, 16	2057751	18	2132690	21, 25
2007839	16	2110104	9, 15	2132691	21, 25
2007840	13	2110105	9, 15	2132692	21, 25
2007841	9, 15	2110106	4, 9, 15	2132693	21, 25
2007843	15	2110122	9, 15	2132694	21, 25
2007844	13	2110123	9, 15	2132695	21, 25
2007845	9, 15	2110124	9, 15	2132696	21, 25
2007847	15	2132422	23, 27	2132697	21, 25
2007850	4, 13	2132423	23, 27	2132698	21, 25
2007852	15	2132424	23, 27	2132718	20, 24
2007853	15	2132425	23, 27	2132719	20, 24
2007854	9, 15	2132426	23, 27	2132720	20, 24

Part Number Index (Continued)

Part No.	Page	Part No.	Page	Part No.	Page
2132721	20, 24	2143268	24	2143560	25
2132722	20, 24	2143269	24	2143561	25
2132723	20, 24	2143270	24	2143562	21, 25
2143012	19	2143271	20, 24	2143569	21, 25
2143013	19	2143272	24	2143570	25
2143014	19	2143309	19	2143571	21, 25
2143015	19	2143310	19	2143572	25
2143016	19	2143311	19	2143573	25
2143017	19	2143312	19	2143574	21, 25
2143018	19	2143313	19	2143621	25
2143019	19	2143314	19	2143622	25
2143249	20, 24	2143315	19	2143625	25
2143250	24	2143316	19	2143626	25
2143251	20, 24	2143545	21, 25	2143629	25
2143252	24	2143546	25	2143630	25
2143253	24	2143547	21, 25	2149392	13
2143254	24	2143548	25	2149393	13
2143255	20, 24	2143549	25	2149394	13
2143256	24	2143550	21, 25	2149911	13
2143265	20, 24	2143557	21, 25	2149912	13
2143266	24	2143558	25	2149913	13
2143267	20, 24	2143559	21, 25		

Tooling Part Number Index

Part No.	Page	Part No.	Page	Part No.	Page
2018377	17	2018527	14	2018538	12
2018378	17	2018528	14	2018539	12
2018380	11	2018530	10	2018770	23, 27
2018381	11	2018531	10	2018771	22, 26
2018446	15	2018532	9	2018772	21, 25
2018448	9	2018534	8	2018773	20, 24
2018513	16	2018535	8	2018774	13
2018524	16	2018536	18	2018779	19
2018525	15	2018537	18		

te.com

© 2011 Tyco Electronics Corporation, a TE Connectivity Ltd. Company. All Rights Reserved.

7-1773458-1 LUG PDF 04/2011

TE Connectivity, TE connectivity (logo) and TE (logo) are trademarks. Other logos, product and/or company names might be trademarks of their respective owners.



Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9