



QTH-060-07-F-D-A

QTH-030-01-L-D-A

QTH-090-01-C-D-A

**QTH SERIES**

**(0.50 mm) .0197"**

# HIGH SPEED GROUND PLANE HEADER

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?QTH](http://www.samtec.com?QTH)

- Insulator Material:** Liquid Crystal Polymer
- Terminal Material:** Phosphor Bronze
- Plating:** Au or Sn over 50µ" (1.27 µm) Ni
- Current Rating:** Contact: 2 A per pin (1 pin powered per row) Ground Plane: 25 A per ground plane (1 ground plane powered)
- Operating Temp Range:** -55°C to +125°C
- Voltage Rating:** 125 VAC (5 mm Stack Height)
- Max Cycles:** 100
- RoHS Compliant:** Yes

- Processing:** Lead-Free Solderable: Yes
- SMT Lead Coplanarity:** (0.10 mm) .004" max (030-060) (0.15 mm) .006" max (090)
- Board Stacking:** For applications requiring more than two connectors per board contact [ipg@samtec.com](mailto:ipg@samtec.com)

## RECOGNITIONS

For complete scope of recognitions see [www.samtec.com/quality](http://www.samtec.com/quality)



## ALSO AVAILABLE (MOQ Required)

- 15 mm, 22 mm and 30 mm stack height (Caution: Some automatic placement/inspection machines may have component height restrictions. Please consult machinery specifications.)
- 30µ" (0.76 µm) Gold (Specify -H plating for Data Rate cable mating applications.)
- Edge Mount & Guide Posts
- 80 (-DP), 120, 150 positions per row
- Retention Option
- Contact Samtec.

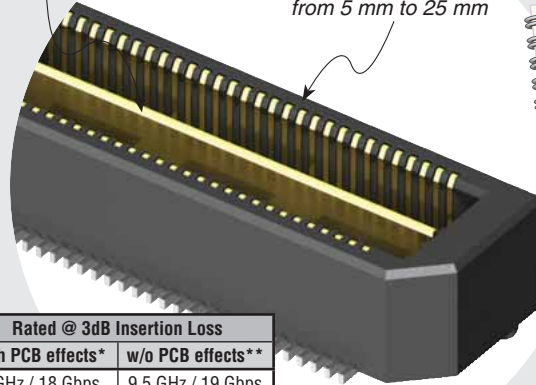
**Board Mates:** QSH

**Cable Mates:** HQCD, HQDP  
(See Also Available note)



Integral metal plane for power or ground

Standard Stack Heights from 5 mm to 25 mm



**Protocols Supported**

- 100 GbE
- Hypertransport™
- XAUI
- PCI Express®
- SATA
- InfiniBand™

Download app notes at [www.samtec.com/appnote](http://www.samtec.com/appnote)  
Contact SIG @ [samtec.com](http://samtec.com) for questions on protocols

QTH/QSH 5 mm Stack Height	Type	Rated @ 3dB Insertion Loss	
		with PCB effects*	w/o PCB effects**
Single-Ended Signaling	-D	9 GHz / 18 Gbps	9.5 GHz / 19 Gbps
Differential Pair Signaling	-D	8 GHz / 16 Gbps	10.5 GHz / 21 Gbps
Differential Pair Signaling	-DP	9.5 GHz / 19 Gbps	16.5 GHz / 33 Gbps

\*Performance data includes effects of a non-optimized PCB.  
\*\*Test board losses de-embedded from performance data.  
Performance data for other stack heights and complete test data available at [www.samtec.com?QTH](http://www.samtec.com?QTH) or contact [sig@samtec.com](mailto:sig@samtec.com)



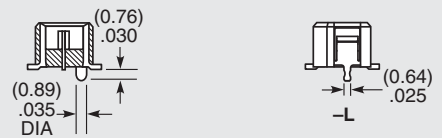
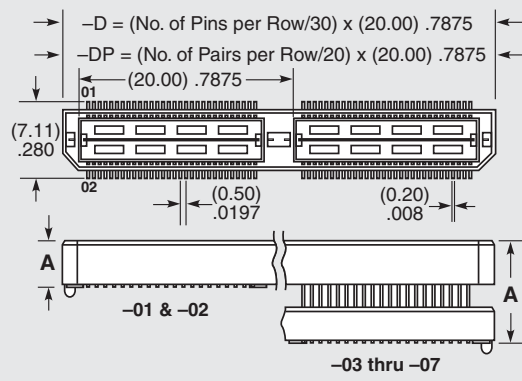
**28+**  
Gbps

QTH	PINS PER ROW NO. OF PAIRS	LEAD STYLE	PLATING OPTION	TYPE	A	OTHER OPTION
	-030, -060, -090 (60 total pins per bank = -D)	Specify LEAD STYLE from chart	-F = Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails	-D = Single-Ended	-D-DP = Differential Pair (-01 only)	-K = (7.00 mm) .275" DIA Polyimide film Pick & Place Pad (N/A with -05 & -07 lead style)
	-020, -040, -060 (20 pairs per bank = -D-DP)					
			-L = 10µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails			-TR = Tape & Reel (-090 positions maximum)
			-C* = Electro-Polished Selective 50µ" (1.27 µm) min Au over 150µ" (3.81 µm) Ni on Signal Pins in contact area, 10µ" (0.25 µm) min Au over 50µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50µ" (1.27 µm) min Ni on all solder tails			-L = Latching Option (-01 lead style only) (N/A on -060 (-D-DP) & -090)

QTH LEAD STYLE	A	HEIGHT WITH QSH*
-01	(4.27) .168	(5.00) .197
-02	(7.26) .286	(8.00) .315
-03	(10.27) .404	(11.00) .433
-04	(15.25) .600	(16.00) .630
-05	(18.26) .718	(19.00) .748
-07	(24.24) .954	(25.00) .984
-09	(13.26) .522	(14.00) .551

\*Processing conditions will affect mated height.



\*Note: -C Plating passes 10 year MFG testing  
Note: Some lengths, styles and options are non-standard, non-returnable.

**OTHER SOLUTIONS**

- Board Spacing Standoffs. See SO Series.