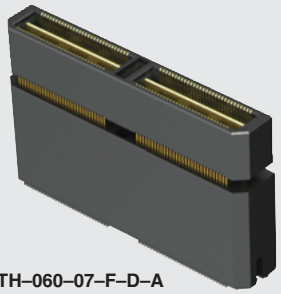
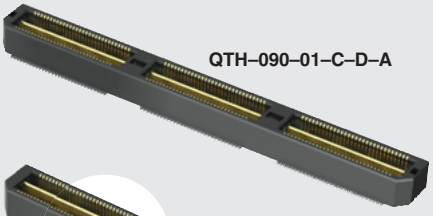
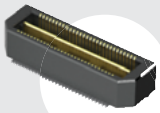
samtec

QSTRIP®

(0.50 mm) .0197"


QTH–060–07–F–D–A


QTH–090–01–C–D–A


QTH–030–01–L–D–A

QTH SERIES

# HIGH SPEED GROUND PLANE HEADER

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see 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

## RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

## ALSO AVAILABLE (MOQ Required)

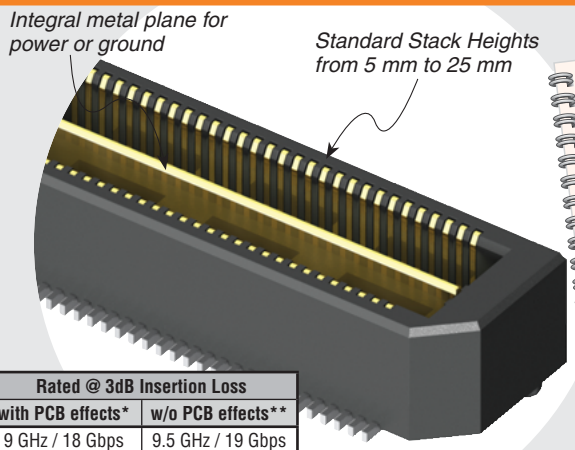
- 15 mm, 22 mm and 30 mm stack height (Caution: Some automatic placement/inspection machines may have component height restrictions. Please consult machinery specifications.)
- 30µ" (0.76 µm) Gold (Specify -H plating for Data Rate cable mating applications.)
- Edge Mount & Guide Posts
- 80 (-DP), 120,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

Contact Samtec.

**Board Mates:**
QSH

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

E.L.P.™
EXTENDED LIFE PRODUCT
10 year Mixed Flowing Gas with 50µ" Gold
Call Samtec for maximum mated cycles




**Protocols Supported**
100 GbE
Hypertransport™
XAUI
PCI Express®
SATA
InfiniBand™
Download app notes at www.samtec.com/appnote
Contact SIG @ 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 or contact sig@samtec.com

FinalInch® CERTIFIED | 28+ Gbps

QTH – PINS PER ROW NO. OF PAIRS – LEAD STYLE – PLATING OPTION – TYPE – A – OTHER OPTION

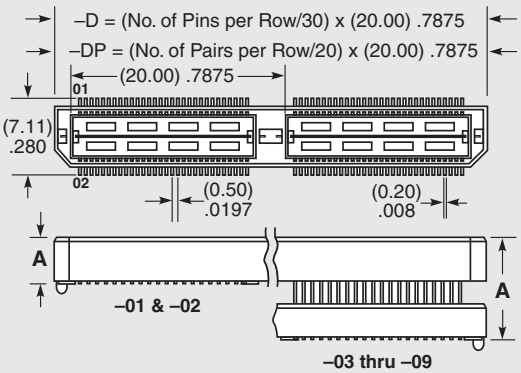
**–030, –060, –090**
(60 total pins per bank = –D)
**–020, –040, –060**
(20 pairs per bank = –D–DP)

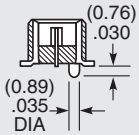
Specify LEAD STYLE from chart

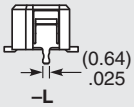
**–F**
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails
**–L**
= 10µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails
**–C***
= Electro-Polished Selective 50µ" (1.27 µm) min Au over 150µ" (3.81 µm) Ni on Signal Pins in contact area, 10µ" (0.25 µm) min Au over 50µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50µ" (1.27 µm) min Ni on all solder tails

**–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)
**–TR**
= Tape & Reel (–090 positions maximum)
**–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.



Due to technical progress, all designs, specifications and components are subject to change without notice.