



(0.50 mm) .0197"

QTH-060-07-F-D-A

QTH-030-01-L-D-A

QTH-090-01-C-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

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

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
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

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.

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)	<table><tr><th>QTH LEAD STYLE</th><th>A</th><th>HEIGHT WITH QSH*</th></tr><tr><td>-01</td><td>(4.27) .168</td><td>(5.00) .197</td></tr><tr><td>-02</td><td>(7.26) .286</td><td>(8.00) .315</td></tr><tr><td>-03</td><td>(10.27) .404</td><td>(11.00) .433</td></tr><tr><td>-04</td><td>(15.25) .600</td><td>(16.00) .630</td></tr><tr><td>-05</td><td>(18.26) .718</td><td>(19.00) .748</td></tr><tr><td>-07</td><td>(24.24) .954</td><td>(25.00) .984</td></tr><tr><td>-09</td><td>(13.26) .522</td><td>(14.00) .551</td></tr></table> *Processing conditions will affect mated height.	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
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→ -D = (No. of Pins per Row/30) x (20.00) .7875

→ -DP = (No. of Pairs per Row/20) x (20.00) .7875

(20.00) .7875

(7.11)
.280

01

02

(0.50)
.0197

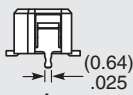
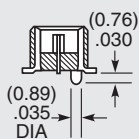
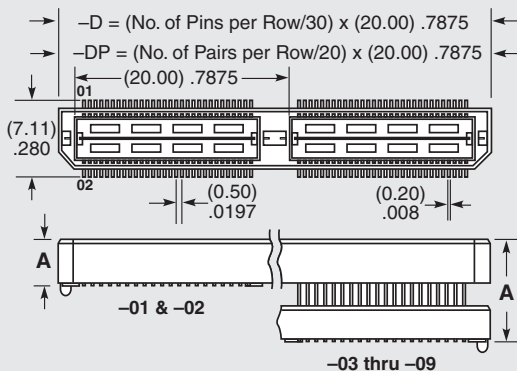
(0.20)
.008

A

A

-01 & -02

-03 thru -09



*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.