



(0,50 mm) .0197"

QSH SERIES

QSH-060-01-L-D-DP-A



# HIGH SPEED GROUND PLANE SOCKET

## SPECIFICATIONS

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

**Insulator Material:**

Liquid Crystal Polymer

**Contact Material:**

Phosphor Bronze

**Plating:**

Au or Sn over 50µ" (1,27 µm) Ni

**Current Rating:**

Contact: 1.0A per contact @ 30°C

**Temperature Rise**

Ground Plane: 7.8A per ground plane @ 30°C

**Temperature Rise**

**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)

## APPLICATION SPECIFIC OPTION

- 14 mm, 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
- Call Samtec.

\*Note: -C Plating passes 10 year MFG testing

Note: Some lengths, styles and options are non-standard, non-returnable.

**Board Mates:**  
QTH

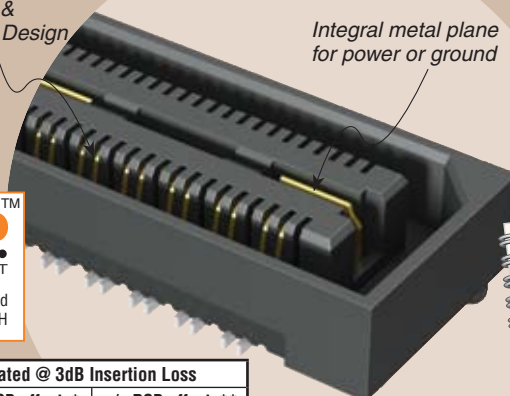
**Cable Mates:**  
HQCD, HQDP

(See Application Specific note)



Blade & Beam Design

Integral metal plane for power or ground



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 for questions on protocols

25+ Gbps

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?QSH](http://www.samtec.com?QSH) or contact [sig@samtec.com](mailto:sig@samtec.com)

**QSH** - **PINS PER ROW NO. OF PAIRS** - **01** - **PLATING OPTION** - **TYPE** - **A** - **OTHER OPTION**

**-030, -060, -090**  
(60 total pins per bank = -D)

**-020, -040, -060**  
(20 pairs per bank = -D-DP)

**-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

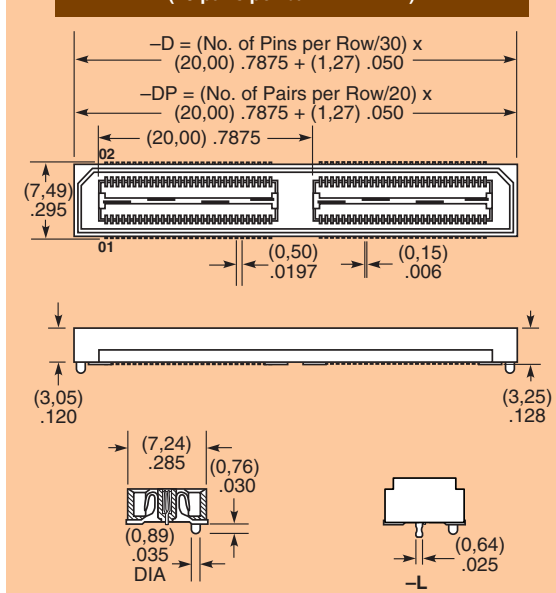
**-D**  
= Single-Ended

**-D-DP**  
= Differential Pair (-01 only)

**-K**  
= (8,25 mm) .325" DIA Polyimide Film Pick & Place Pad

**-TR**  
= Tape & Reel (-090 positions maximum)

**-L**  
= Latching Option (N/A on -060 (-D-DP), -080, -090 & -120 positions)



QTH LEAD STYLE	MATED HEIGHT WITH QSH*
-01	(5,00) .197
-02	(8,00) .315
-03	(11,00) .433
-04	(16,00) .630
-05	(19,00) .748
-07	(25,00) .984

\*Processing conditions will affect mated height.

**ALSO AVAILABLE**  
Board Spacing Standoffs. See SO Series.

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

[WWW.SAMTEC.COM](http://WWW.SAMTEC.COM)