

(0.50 mm) .0197" PITCH • QTH/QSH SERIES

**QTH**  
Board Mates:  
QSH

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QTH

**QTH/QSH**  
Cable Mates:  
HQCD, HQDP

**Standoffs:**  
SO

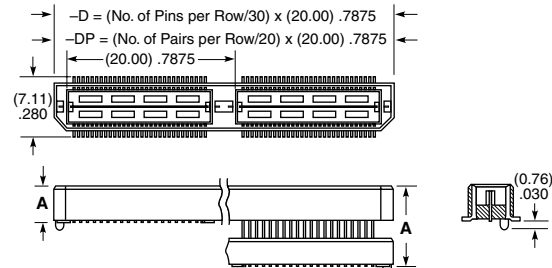
## SPECIFICATIONS

**Insulator Material:**  
Liquid Crystal Polymer  
**Contact Material:**  
Phosphor Bronze  
**Plating:**  
Au or Sn over  
50  $\mu$ " (1.27  $\mu$ m) Ni  
**Operating Temp Range:**  
-55 °C to +125 °C  
**Current Rating:**  
Contact:  
2 A per pin (2 pins powered)  
Ground Plane:  
25 A per ground plane  
(1 ground plane powered)  
**Voltage Rating:**  
175 VAC/247 VDC  
**Max Cycles:**  
100

| QTH | PINS PER ROW<br>NO. OF PAIRS                            | LEAD<br>STYLE                             | PLATING<br>OPTION                                                                                                                              | TYPE                                          | A | OTHER<br>OPTIONS                                                                                                           | "X"R                                                                                                                                                                        |
|-----|---------------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | -030, -060,<br>-090<br>(60 total pins per<br>bank = -D) | Specify<br>LEAD<br>STYLE<br>from<br>chart | -F<br>= Gold flash<br>on contact,<br>Matte Tin on tail                                                                                         | -D<br>= Single-<br>Ended                      |   | -K<br>= (7.00 mm)<br>.275" DIA<br>Polyimide film<br>Pick &<br>Place Pad<br>(Not available<br>with -05 & -07<br>lead style) | Leave blank for<br>Tray Packaging                                                                                                                                           |
|     | -020, -040,<br>-060<br>(20 pairs per bank<br>= -D-DP)   |                                           | -L<br>= 10 $\mu$ " (0.25 $\mu$ m)<br>Gold on contact,<br>Matte Tin on tail                                                                     | -D-DP<br>= Differential<br>Pair<br>(-01 only) |   | -L<br>= Latching<br>Option<br>(-01 lead<br>style only)<br>(Not available<br>on -060 (-D-DP)<br>& -090)                     | -TR<br>= Tape & Reel<br>(Not available<br>with -05 & -07<br>lead style)                                                                                                     |
|     |                                                         |                                           | -C<br>= 50 $\mu$ " (1.27 $\mu$ m)<br>Electro-Polished<br>Selective Gold<br>on contact,<br>Matte Tin on tail<br>(passes 10 year<br>MFG testing) |                                               |   |                                                                                                                            | -FR<br>= Full Reel<br>Tape & Reel<br>(must order max.<br>quantity per reel;<br>contact Samtec<br>for quantity<br>breaks)<br>(Not available<br>with -05 & -07<br>lead style) |

| QTH<br>LEAD<br>STYLE | A            | HEIGHT<br>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. See SO Series for board  
space tolerances.



-01 & -02 -03 THRU -09

## PROCESSING

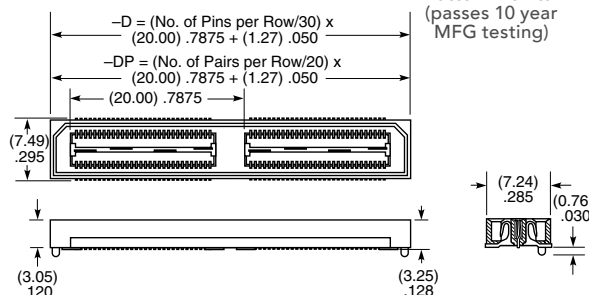
**Lead-Free Solderable:**  
Yes  
**SMT Lead Coplanarity:**  
(0.10 mm) .004" max  
(030-060)  
(0.15 mm) .006" max (090)\*  
\*(.004" stencil solution may  
be available; contact  
ipg@samtec.com)  
**Board Stacking:**  
For applications requiring  
more than two connectors  
contact ipg@samtec.com

## STANDARDS

**PISMO™ 1:**  
Visit [samtec.com/standards](http://samtec.com/standards)  
for more information.



| QSH | PINS PER ROW<br>NO. OF PAIRS                            | 01 | PLATING<br>OPTION                                                                                                                              | TYPE                            | A | OTHER<br>OPTIONS                                                           | "X"R                                                                                                                     |
|-----|---------------------------------------------------------|----|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|     | -030, -060,<br>-090<br>(60 total pins per<br>bank = -D) |    | -F<br>= Gold flash<br>on contact, Matte<br>Tin on tail                                                                                         | -D<br>= Single-<br>Ended        |   | -K<br>= (8.25 mm)<br>.325" DIA<br>Polyimide film<br>Pick & Place Pad       | Leave blank for<br>Tray Packaging                                                                                        |
|     | -020, -040,<br>-060<br>(20 pairs per bank<br>= -D-DP)   |    | -L<br>= 10 $\mu$ " (0.25 $\mu$ m)<br>Gold on contact,<br>Matte Tin on tail                                                                     | -D-DP<br>= Differential<br>Pair |   | -L<br>= Latching<br>Option<br>(Not available on<br>-060 (-D-DP)<br>& -090) | -TR<br>= Tape & Reel<br>(N/A -05 to -07<br>lead style)                                                                   |
|     |                                                         |    | -C<br>= 50 $\mu$ " (1.27 $\mu$ m)<br>Electro-Polished<br>Selective Gold<br>on contact,<br>Matte Tin on tail<br>(passes 10 year<br>MFG testing) |                                 |   |                                                                            | -FR<br>= Full Reel<br>Tape & Reel<br>(must order max.<br>quantity per reel;<br>contact Samtec<br>for quantity<br>breaks) |



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

View complete specifications at: [samtec.com/QSH](http://samtec.com/QSH)

[samtec.com/QSeries](http://samtec.com/QSeries)

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