

**Series:** QTH-DP/QSH-DP

**Description:** High Speed Board-to-Board, Differential, 0.5mm Pitch, 16mm (.630") Stack Height

## Connector Overview

Samtec's QTH-DP/QSH-DP Differential High Speed Ground Plane Header is designed for high-speed board-to-board applications where signal integrity is essential. The connectors have surface mount contacts as well as a surface-mount ground plane between the two rows of signals for improved electrical performance. QTH-DP/QSH-DP is a double row contacts system available with up to 160 I/Os in stack heights from 5mm (.197") through 30mm (1.180"). The data in this report is applicable only to a 16mm stack height.

## Connector System Speed Rating

QTH/QSH Differential High Speed Ground Plane Connector, Board-to-Board, 0.5mm (.0135") Pitch, 16mm (0.197") Stack Height

<u>Signaling</u>	<u>Speed Rating</u>
Differential:	<b>10 GHz/ 20Gbps</b>

The Speed Rating is based on the -3 dB insertion loss point of the connector system. The -3 dB point can be used to estimate usable system bandwidth in a typical, two-level signaling environment. To calculate the Speed Rating, the measured -3 dB point is rounded-up to the nearest half-GHz level. The up rounding corrects for a portion of the test board's trace loss, since a short length of trace loss included in the loss data in this report. The resulting loss value is then doubled to determine the approximate maximum data rate in Gigabits per second (Gbps).

For example, a connector with a -3 dB point of 7.8 GHz would have a Speed Rating of 8 GHz/ 16 Gbps. A connector with a -3 dB point of 7.2 GHz would have a Speed Rating of 7.5 GHz/ 15 Gbps.