

Product Name: ZX101RK Rackmount Samtec Breakout Adapter QSH QTH 030 - Page 1 of 2

Product Description: 30pins per row x 2 rows -- > 60 pins rackmount Samtec breakout adapter is designed for test and measurement applications. Onboard QTH-030 and QSH-030 Samtec connectors, mating with any QTH030 and QSH-030 connector series.

ZX101RK Samtec breakout adapter offers the following features:

- 1- Onboard QTH030 and QSH030 Samtec connectors where pin1 of QTH is connector to pin1 of QSH.
- 2- All traces are 50 Ohms impedance controlled.
- 3- Four layers PCB design, inner layers are GND planes.
- 4- Listed number adjacent to each header pin represents the associated Samtec QTH / QSH pin number, see Header Pin Assignment table.
- 5- Two accessible GND test points. The test points are connected to module's GND planes and direct interface to Samtec connectors' GND blades.
- 6- Fully compatible with Single Ended , -D, and Differential Pair, -DP, Samtec connectors – see Differential Signaling page 2.
- 7- Mates with any height and form factor QTH & QSH-030 connector series such as -D -DP, -RA, -EM configurations.
- 8- Flying lead wire assembly may be used for board to board interface, see ordering information

Electrical: Insertion loss > -2dB @3GHz
Trace impedance: 50 Ω
Current Rating: 2A per pin max.
Ground Plane: 25A max.
Operating Voltage rating: 48VDC max.
Power: 20W per pin max.
Operating Temperature: -55°C to +125°C
Samtec Connector:
Onboard Connector: QTH-030-xx 2rows x 30 pins/row
QSH-030-xx 2rows x 30 pins/row
Mates with: Any QTH-030 and QSH-030-xx formfactor
Pitch: 0.0197" (0.50mm) pin to pin pitch
Plating: 10μ" (0.25μm) Gold on contacts, Matte Tin on Tail
Contact Material: Phosphor Bronze
Insulator Material: Liquid Crystal Polymer
Header:
Pitch: 0.1" (2.54mm) pin to pin pitch
Pin: Square 0.025" (0.635mm)
Height: 0.24" (6mm)
Plating: Gold Flash

Application: Pre-Bringup, Bringup, testing, emulation, development, modular design evaluations, manufacturing loopback test

Mates with : Samtec QSH030 QTH030 QSH020(DP) QTH020(DP). Mates with ANY one bank of QSH060, QSH090, QSH120 QTH060, QTH090, QTH120 QSH020(DP) QSH040(DP) QSH060(DP) QSH080(DP) QTH020(DP) QTH040(DP) QTH060(DP) QTH080(DP) HFHM2 HQCD, HQDP Compatible with – differential Pair (DP)

Header pin assignments: Table below lists assigned Samtec connector's header pins

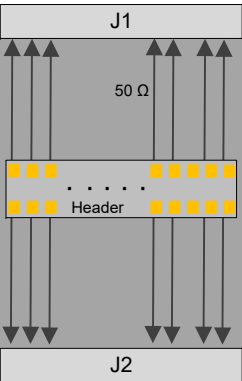
ZX101RK header pin assignments J1: QSH J2: QTH												
Bottom	Headers	J5	60	54	48	42	36	30	24	18	12	6
		J6	58	52	46	40	34	28	22	16	10	4
			56	50	44	38	32	26	20	14	8	2
Top	Headers	J3	59	53	47	41	35	29	23	17	11	5
		J4	57	51	45	39	33	27	21	15	9	3
			55	49	43	37	31	25	19	13	7	1

Header pin numbers refer to the SAMTEC QSH - QTH connectors pin numbers - Pin 1 of QSH is connected to Pin 1 of QTH

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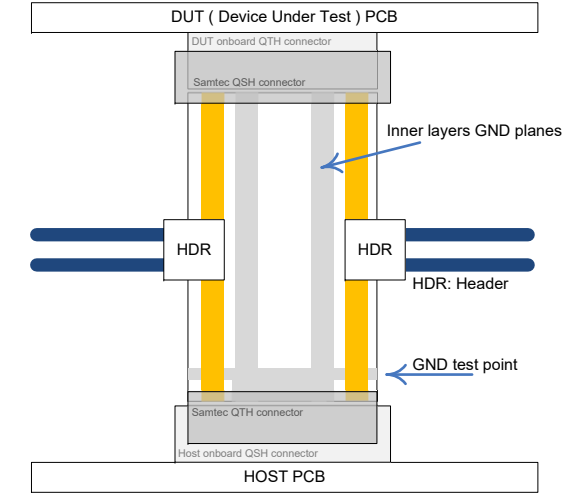
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Figure 1 – Circuit diagram



50 Ω : All traces are designed 50 Ω trace impedance control
J2 : Samtec QTH030 (QTH20 – DP) – Header – Plug
J1 : Samtec QSH030 (QSH20 – DP) – Socket - Receptacle

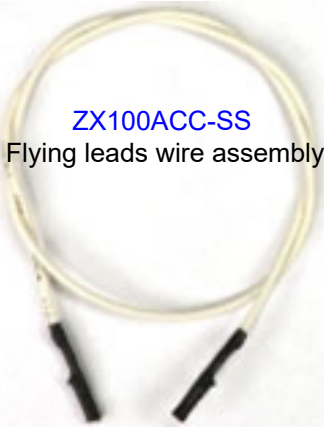
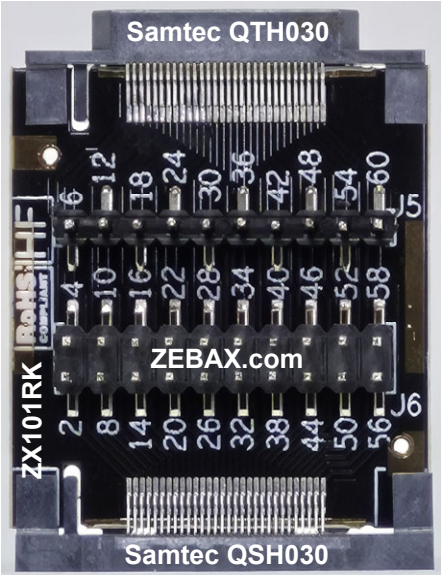
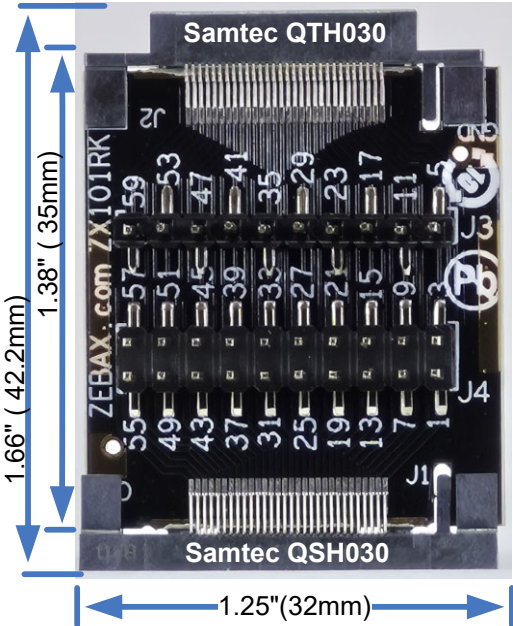
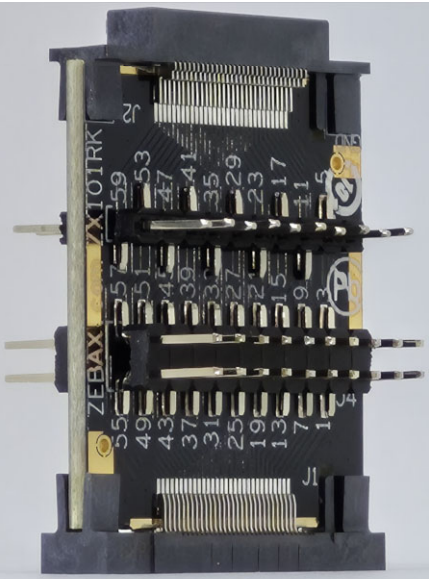
Figure 2 – Simplified cross section diagram



Note:
Signal layers, all traces are 50Ω trace impedance
Ground layers, Please note – The GND test point is connector to:
1- Top/Bottom GND fill
2- The inner layers ground planes
3- Samtec connectors' GND blade.

Compliance:

ISO2001 certified
RoHs - Lead Free
EU RoHS2
UL E111594 document
ELV- Vehicle Directive (Directive 2000/EC)
European Union Directive (203/11/EC)
Halogen Free per IEC-61249-2.21 : 2003
RoHs Directive 2011/65/EU
WEEE Directive (2012/12/EU)
Certificate of Compliance for Radioactive substances
Certificate of Compliance for Asbestos
Certificate of Compliance for Ozone Depleting Substances, ODS
Certificate REACH SVHC
Certificate of Compliance RoHS_EN_CoC



ZX101RK package includes:

Part number	Quantity	Description
ZX101RK	1	Samtec Breakout Adapter
ZX100ACC-SS	0	Flying leads wire assembly

ZX100ACC-SS site page for ordering the flying leads wire assembly

Note - ALL ZEBAX products are RoHS compliant and Lead Free unless otherwise indicated.

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SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT	ASSEMBLY DRAWING ITEM: ZX101RK
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DESCRIPTION: Rackmount Samtec breakout adapter QSH QTH 030

CHECKED: M. MARINA	DRAWN: MATTHEW	REVISION: 1.0 SHEET: 1 OF 2
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Differential Signaling: ZX101RK rackmount Samtec breakout adapter is designed for general test and measurement applications. It is designed to interface with single channel and differential scope probes. It is fully compatible with the Samtec Q-Strip QSH QTH Single Ended , -D option , and Differential Pair, -DP option , Samtec connector QSH QTH series as well as cable assemblies; HQCD , HQDP. For applications requiring QSH020 (-DP) or QTH020(-DP) , The ZX101RK provides an extra unused pin. It is advised to leave unused pins unconnected or connected to system Ground for improved noise immunity.

Breakout Access: The ZX101RK rackmount Samtec breakout adapter provides breakout access via onboard headers. ZX101RK header pin assignments table on page 1 lists the header's pin representing the associated Samtec QTH/QSH connector's pin number.

Ground Access : ZX101RK rackmount Samtec breakout adapter provides 2 test points which are connected to module's GND planes and have direct interface to Samtec connectors' GND blades.

There are several exposed copper on top and bottom layers of ZX101RK. These exposed coppers are connected to the modules GND planes similar to the GND test points.

In order to improve signal integrity , please connect one of the GND test points to your nearest system GND reference.

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	ITEM: ZX101RK	
DESCRIPTION: Rackmount Samtec breakout adapter QSH QTH 030		
CHECKED: M. MARINA	DRAWN: MATTHEW	REVISSION: 1.0
		SHEET: 2 OF 2

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