

Product Name: ZX146-LP Samtec Breakout Adapter, low profile
TE Mictor SB 0.8mm (0.032") centerline 80 Breakout Adapter

Product Description: 40pins x2 rows, 80 pins breakout adapter supporting both Samtec QTE / QSE and TE Mictor SB connector series. It has onboard Samtec's HI-SPEED Header / Socket QTE QSE Q-Strip Blade & Beam Design connectors. It is fully compatible with Tyco Electronics, TE, Mictor SB 0.80mm centerline (pitch) 80 positions Mictor-Strip connectors. It is **Fully compatible** with 24pins x2rows 56 pins differential pairs, -DP , signal applications for both TE Mictor SB as well as Samtec QTE / QSE connectors.

ZX146-LP has onboard QTE and QSE connectors, mating with host / target QTE and QSE or TE Mictor SB Plug and Receptacle connectors.

- 1- Passthrough design where pin 1 of the QTE plug (header) is connected to pin 1 of QSE socket (receptacle).
- 2- Each QTE-040 connector's signal is routed to onboard QSE-040 connector via onboard headers.
- 3- Listed number adjacent to each header pin represents the associated Samtec QTE-QSE pin number.
- 4- All traces are 50 Ohms impedance controlled.
- 5- Four layers PCB design, inner layers are GND planes.
- 6- Two accessible GND test points, The test points are connected to module's GND planes and direct interface to the connector GND blades (tabs).
- 7- Offering low profile design test & measurement applications.
- 8- Ease of interface with single channel and differential scope probes.
- 9- Fully compatible with Single Ended , -D, and Differential Pair, -DP, Samtec connector QSE QTE series as well as cable assemblies.
- 10- Mates with any height and form factor QSE-040 QTE-040 connectors series such as -D -DP, -RA, -EM configurations.
- 11- Flying lead wire assembly may be used for board to board interface – See ordering information, see ZX100ACC-SS

Electrical: Insertion loss > -2dB @3GHz
Trace impedance: 50 Ω
Operating Temperature: -55°C to +125°C
Samtec Connector:
Onboard Connector: QTE-040-xx 2rows x 40 pins/row
QSE-040-xx 2rows x 40 pins/row
Mates with: Any QSE-040-xx and QTE-040-xx formfactor
Pitch: 0.0197" (0.50mm) pin to pin pitch
Plating: Gold Flash
Header:
Pitch: 0.1" (2.54mm) pin to pin pitch
Pin: Square 0.025" (0.635mm)
Height: 0.24" (6mm)
Plating: Gold Flash

Application: Bringup, testing, emulation, development, modular design evaluations

Mates with : Samtec QTE-040-L-D QSE-040-L-D QTE-028-01-DP QSE-028-01-DP connectors
EQCD EQSD EQDP EQRF cable assembly , any **2 banks** of QTE-060/080 QSE-060/080 or -DP
TE Mictor SB 0.8mm (0.032") centerline 80 positions Plug and Receptacles.
Please refer to **page 2** cross matrix compatibility between Samtec , TE Mictor SB 0.8mm connectors.

Signal assignments: Table below exhibits the assigned Samtec pin numbers associated with the headers.

ZX146-LP pin configuration - J1: QTE040 J2: QSE040

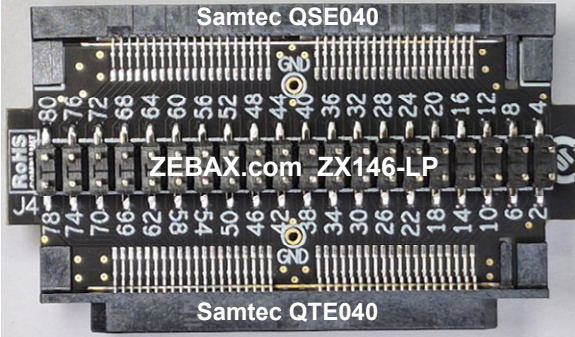
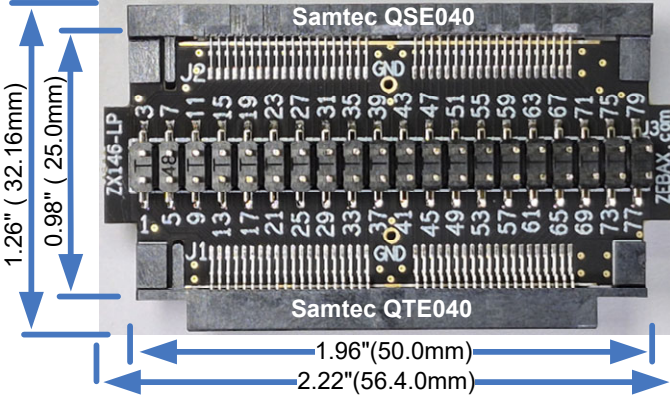
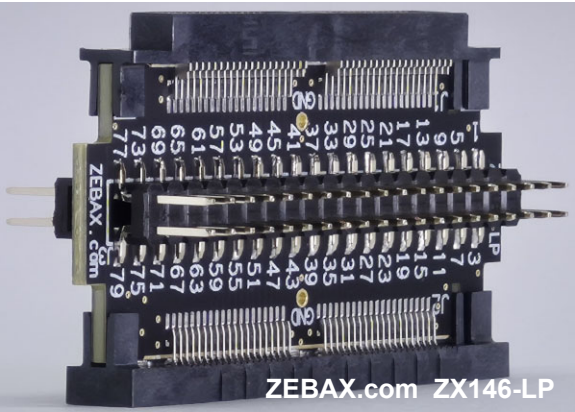
Bottom	Headers	J4	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80
			2	6	10	14	18	22	26	30	34	38	42	46	50	54	58	62	66	70	74	78
Top	Headers	J3	3	7	11	15	19	23	27	31	35	39	43	47	51	55	59	63	67	71	75	79
			1	5	9	13	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77

Header pin numbers refer to the SAMTEC QSE -QTE connectors pin numbers

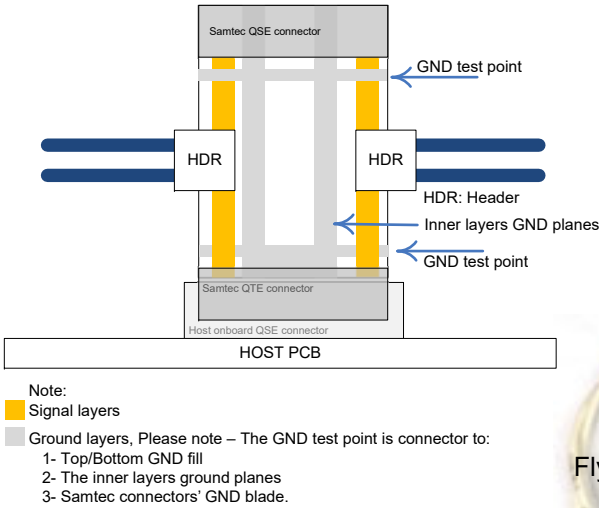
Notice

ALL ZEBAX TECHNOLOGIES DESIGN SPECIFICATIONS, DRAWINGS, PUBLICATIONS, AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." ZEBAX MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE MATERIALS, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF NO INFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE.

Information furnished is believed to be accurate and reliable. However, Zebax Technologies assumes no responsibility for the consequences of use of such information or for any infringement of patents or other rights of third parties that may result from its use. Specifications mentioned in this publication are subject to change without notice. This publication replaces all other information previously supplied. Zebax Technologies products are not authorized as in life support devices or systems.



ZX146-LP simplified cross section diagram



ZX100ACC-SS
Flying leads wire assembly

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

ZX146-LP package includes:

Part number	Quantity	Description
ZX146-LP	1	Samtec Breakout Adapter module, low profile
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.

ZEBAX TECHNOLOGIES
SANTA CRUZ, CA U.S.A (831) 2 2 2 – 0717
WWW.ZEBAX.COM

SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT	ASSEMBLY DRAWING	
	ITEM: ZX146-LP	

DESCRIPTION: Samtec breakout adapter QTE QSE 040
TE Mictor SB 0.80mm 80 breakout adapter

CHECKED: M. MARINA	DRAWN: SLAVIK	REVISION: 1.0
		SHEET: 1 OF 2

Product Name: ZX146-LP Samtec Breakout Adapter
TE Mictor SB 0.8mm (0.032") centerline 80 Breakout Adapter

Mates with : Samtec QTE-040-L-D QSE-040-L-D QTE-028-01-DP QSE-028-01-DP connectors
EQCD EQSD EQDP EQRF cable assembly , any 2 banks of QTE-060 QSE-060 or -DP
Samtec QTE-040-L-D QSE-040-L-D QTE-028-01-DP QSE-028-01-DP connectors
and any 2 banks of QTE-060 QSE-060 (-042 Differential pair, -DP), QTE-080 QSE-080 (-056) connectors.

ZX146-LP mates with all -DP (differential pair) QTE QSE connector series, QTE-028 QSE-028 connectors. If interfacing with -DP connector series, please ignore every other signal as the -DP connector only provides access to differential pair signals where the 3rd signal is not present on the -DP connector series.

TE Mictor SB 0.8mm (0.032") centerline 80 positions (2 rows, 40 positions / row) Plug and Receptacles.

Table 1 lists 80 positions - 2 Rows x 40 Pins/Row TE Mictor SB 0.8mm (0.032") Pitch Connectors Part numbers
ZX146-LP mates with all listed Plug and Receptacles of TE Mictor SB 0.80mm (0.032") centerline 80 position connectors.

Table 2 lists cross matrix compatibility between Samtec and TE Mictor SB 0.8mm (0.032") 80 positions connector.

Table 1: TE Mictor SB 0.8mm (0.032") Pitch Connectors Part numbers

80 positions - 2 Rows x 40 Pins/Row TE Mictor SB 0.8mm (0.032") Pitch Connectors Part numbers		
TE Mictor SD 0.8mm (0.032")	Description	Mated Stack Height
1658043-2 2-1658043-2 1658012-2 2-1658012-2 1658462-2 2-1658462-2 4-1658043-2 6-1658043-2 4-1658012-2 6-1658012-2 4-1658462-2 6-1658462-2	Receptacle	
1658044-2 2-1658044-2 1658013-2 2-1658013-2 1658463-2 2-1658463-2 4-1658044-2 6-1658044-2 4-1658013-2 6-1658013-2 4-1658463-2 6-1658463-2 1658045-2 2-1658045-2 1658014-2 2-1658014-2 1658464-2 2-1658464-2 4-1658045-2 6-1658045-2 4-1658014-2 6-1658014-2 4-1658464-2 6-1658464-2	Plug	5mm (0.197")
1658046-2 2-1658046-2 1658015-2 2-1658015-2 1658465-2 2-1658465-2 4-1658046-2 6-1658046-2 4-1658015-2 6-1658015-2 4-1658465-2 6-1658465-2 1658437-2 2-1658437-2 1658438-2 2-1658438-2 1658439-2 2-1658439-2 4-1658437-2 6-1658437-2 4-1658438-2 6-1658438-2 4-1658439-2 6-1658439-2 1658047-2 2-1658047-2 1658016-2 2-1658016-2 1658466-2 2-1658466-2 4-1658047-1 6-1658047-1 4-1658016-1 6-1658016-1 4-1658466-1 6-1658466-1		8mm (0.315")
1658048-2 2-1658048-2 1658017-2 2-1658017-2 1658467-2 2-1658467-2 1658049-2 2-1658049-2 1658018-2 2-1658018-2 1658468-2 2-1658468-2		11mm (0.433")
		14mm (0.551")
		16mm (0.63")
		19mm (0.748")
		22mm (0.866")
		25mm (0.984")
		30mm (1.181")

All above listed TE Mictor SB 0.80mm (0.032") centerline (pitch) are compatible with Samtec QStrip QTE QSE connectors

Table 2: Cross matrix compatibility between Samtec and TE Mictor SB 0.8mm (0.032") 80 positions connector.

ZX146 Samtec Qstrip QTE QSE cross matrix compatability with TE Mictor SB 0.8mm (0.032") Pitch Connectors							
TE Mictor SD 0.8mm (0.032")			Samtec QStrip QTE QSE			Description	Mated Stack Height
Gold Flashing	10 μ" Gold Plating	30 μ" Gold Plating	Gold Flashing	10 μ" Gold Plating	30 μ" Gold Plating		
1658043-2	1658012-2	1658462-2	QSE-040-01-F-D-A	QSE-040-01-L-D-A	QSE-040-01-C-D-A	Receptacle	
1658044-2	1658013-2	1658463-2	QTE-040-01-F-D-A	QTE-040-01-L-D-A	QTE-040-01-C-D-A	Plug	5mm (0.197")
1658045-2	1658014-2	1658464-2	QTE-040-02-F-D-A	QTE-040-02-L-D-A	QTE-040-02-C-D-A		8mm (0.315")
1658046-2	1658015-2	1658465-2	QTE-040-03-F-D-A	QTE-040-03-L-D-A	QTE-040-03-C-D-A		11mm (0.433")
1658437-2	1658438-2	1658439-2	QTE-040-09-F-D-A	QTE-040-09-L-D-A	QTE-040-09-C-D-A		14mm (0.551")
1658047-2	1658016-2	1658466-2	QTE-040-04-F-D-A	QTE-040-04-L-D-A	QTE-040-04-C-D-A		16mm (0.63")
1658048-2	1658017-2	1658467-2	QTE-040-05-F-D-A	QTE-040-05-L-D-A	QTE-040-05-C-D-A		19mm (0.748")
1658049-2	1658018-2	1658468-2					22mm (0.866")
1658050-2	1658019-2	1658469-2	QTE-040-07-F-D-A	QTE-040-07-L-D-A	QTE-040-07-C-D-A		25mm (0.984")
1658051-2	1658020-2	1658470-2					30mm (1.181")

Note:
1- Stack Height : Receptacle with the listed Plug
2- **Any** listed Samtec QTE Plug is compatible with **Any** TE Mictor SD 0.8mm (0.032") pitch Receptacle connector.
3- **Any** Listed TE Mictor SD 0.8mm (0.032") pitch Plug is compatible with **Any** Samtec QStrip QSE connector.

Ground : Samtec QTE & QSE as well as TE Mictor SB 0.8mm centerline connector series include enter line Ground blade.
The Ground blade on the ZX146QTE-LP is connected to two internal PCB ground reference layers as well as top / bottom ground fills.
Please refer to page 1 “simplified cross section diagram” for details.

For proper signal measurements, please connect the GND test point to host / target ground reference point.

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

ZEBAX TECHNOLOGIES
SANTA CRUZ, CA U.S.A (831) 2 2 2 – 0717
WWW.ZEBAX.COM

SPECIFIED DIMENSIONS
ARE INCHES (MM).
ROHS COMPLIANT

ASSEMBLY DRAWING
ITEM: ZX146-LP

DESCRIPTION: Samtec breakout adapter QTE QSE 040
TE Mictor SB 0.80mm 80 breakout adapter

CHECKED:
M. MARINA

DRAWN:
SLAVIK

REVISION: 1.0
SHEET: 2 OF 2

Notice

ALL ZEBAX TECHNOLOGIES DESIGN SPECIFICATIONS, DRAWINGS, PUBLICATIONS, AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." ZEBAX MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE MATERIALS, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF NO INFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE.

Information furnished is believed to be accurate and reliable. However, Zebax Technologies assumes no responsibility for the consequences of use of such information or for any infringement of patents or other rights of third parties that may result from its use. Specifications mentioned in this publication are subject to change without notice. This publication replaces all other information previously supplied. Zebax Technologies products are not authorized as in life support devices or systems.