

Product Name: ZX146QSE-040 Samtec Breakout Adapter
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 QSE Q-Strip Blade & Beam Design connector. It is fully compatible with Tyco Electronics, TE, Mictor SB 0.8mm centerline (pitch) 80 positions Mictor-Strip connector. It is **Fully compatible** with 24pins x2rows 56 pins differential pairs, -DP , signaling applications for both TE Mictor SB as well as Samtec connectors.

ZX146QSE has onboard QSE connector, mating with host / target QTE or TE Mictor SB Plug connectors.

- 1- Each QSE-040 connector's signal is routed to onboard headers.
- 2- Listed number adjacent to each header pin represents the associated Samtec QSE pin number.
- 3- All traces are 50 Ohms impedance controlled.
- 4- Four layers PCB design, inner layers are GND planes.
- 5- Accessible GND test points, The test points are connected to module's GND planes and direct interface to the connector's GND blades.
- 6- Ease of interface with single channel and differential scope probes.
- 7- Fully compatible with Single Ended , -D, and Differential Pair, -DP, Samtec connector QTE series as well as cable assemblies.
- 8- Mates with any height and form factor QTE-040 connectors series such as -D -DP, -RA, -EM configurations.
- 9- 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: QSE-040-xx 2rows x 40 pins/row
 Mates with: Any 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 QTE-028-01-DP connectors
 EQCD EQSD EQDP EQRF cable assembly , any 2 banks of QTE-060/080 or -DP
 TE Mictor SB 0.8mm (0.032") centerline 80 positions Plug.
 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-QSE-040 pin configuration - J1: QSE040

		J5	6	12	18	24	30	36	42	48	54	60	66	72	78	
Bottom	Headers															
	J4	4	10	16	22	28	34	40	46	52	58	64	70	76	GND	
		2	8	14	20	26	32	38	44	50	56	62	68	74	80	
Top	Headers															
	J3	5	11	17	23	29	35	41	47	53	59	65	71	77		
	J2	3	9	15	21	27	33	39	45	51	57	63	69	75	GND	
		1	7	13	19	25	31	37	43	49	55	61	67	73	79	

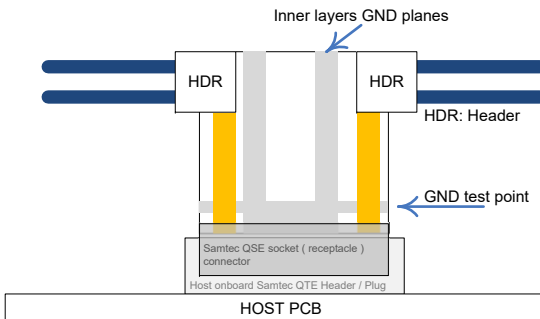
Header pin numbers refer to the SAMTEC QSE connector pin numbers

Notice

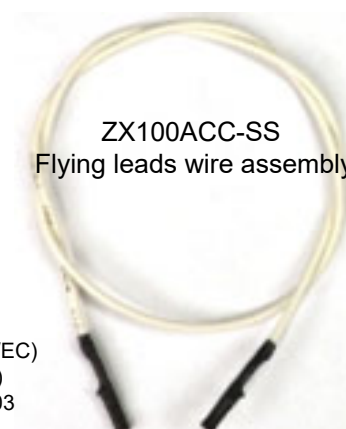
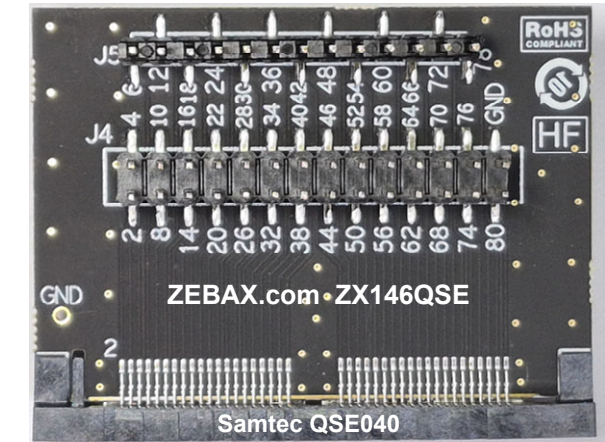
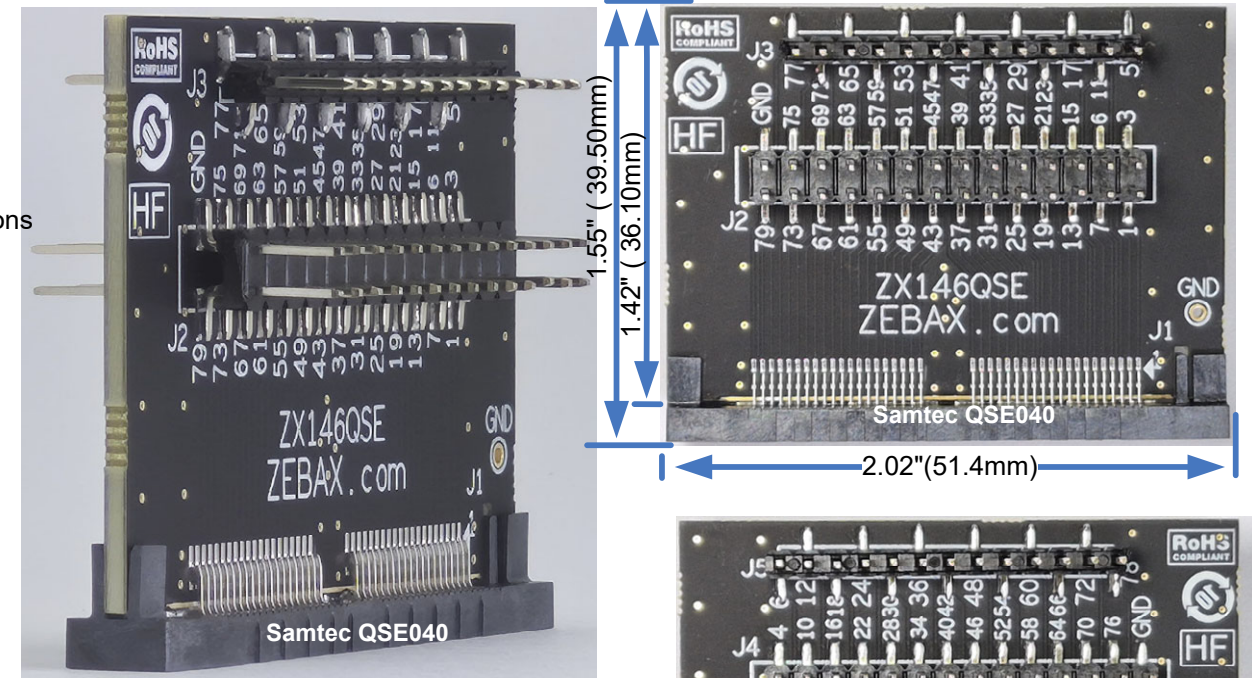
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ZX46QSE simplified cross section diagram



Note:
 Signal layers
 Ground layers, Please note – The GND test point is connector to:
 1- Top/Bottom GND fill
 2- The inner layers ground planes
 3- Samtec QTE connector GND blade.



ZX146QSE-040 package includes:

Part number	Quantity	Description
ZX146QSE-040	1	Samtec Breakout Adapter module
ZX100ACC-SS	0	Flying leads wire assembly

[ZX100ACC-SS site page](#) for ordering the flying leads wire assembly

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SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT

ASSEMBLY DRAWING
 ITEM: ZX146QSE-040

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

CHECKED: M. MARINA

DRAWN: SLAVIK

REVISION: 1.0
 SHEET: 1 OF 2

Product Name: ZX146QSE-040 Samtec Breakout Adapter
TE Mictor SB 0.8mm (0.032") centerline 80 Breakout Adapter

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

ZX146QSE-040 mates with all -DP (differential pair) QTE connector series, QTE-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. The unused pin could be connected to Ground or left unconnected.

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
ZX146QSE-040 mates with all listed Plugs 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 SB 0.8mm (0.032")	Description	Mated Stack Height
1658043-2 2-1658043-2 1658012-2 2-1658012-2 1658462-2 2-1658462-2	Receptacle	
1658044-2 2-1658044-2 1658013-2 2-1658013-2 1658463-2 2-1658463-2	Plug	5mm (0.197")
4-1658044-2 6-1658044-2 4-1658013-2 6-1658013-2 4-1658463-2 6-1658463-2		8mm (0.315")
1658045-2 2-1658045-2 1658014-2 2-1658014-2 1658464-2 2-1658464-2		11mm (0.433")
4-1658045-2 6-1658045-2 4-1658014-2 6-1658014-2 4-1658464-2 6-1658464-2		14mm (0.551")
1658046-2 2-1658046-2 1658015-2 2-1658015-2 1658465-2 2-1658465-2		16mm (0.63")
4-1658046-2 6-1658046-2 4-1658015-2 6-1658015-2 4-1658465-2 6-1658465-2		19mm (0.748")
1658437-2 2-1658437-2 1658438-2 2-1658438-2 1658439-2 2-1658439-2		22mm (0.866")
4-1658437-2 6-1658437-2 4-1658438-2 6-1658438-2 4-1658439-2 6-1658439-2		25mm (0.984")
1658047-2 2-1658047-2 1658016-2 2-1658016-2 1658466-2 2-1658466-2		30mm (1.181")
4-1658047-2 6-1658047-2 4-1658016-2 6-1658016-2 4-1658466-2 6-1658466-2		
1658048-2 2-1658048-2 1658017-2 2-1658017-2 1658467-2 2-1658467-2		
4-1658048-2 6-1658048-2 4-1658017-2 6-1658017-2 4-1658467-2 6-1658467-2		
1658049-2 2-1658049-2 1658018-2 2-1658018-2 1658468-2 2-1658468-2		
1658050-2 — 1658019-2 — 1658469-2 —		
1658051-2 — 1658020-2 — 1658470-2		

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 SB 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 SB 0.8mm (0.032") pitch Receptacle connector.
- 3- **Any** listed TE Mictor SB 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 ZX146QSE-040 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.

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SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT	ASSEMBLY DRAWING	
	ITEM: ZX146QSE-040	
DESCRIPTION:	Samtec breakout adapter QSE 040 TE Mictor SB 0.80mm 80 breakout adapter	
CHECKED: M. MARINA	DRAWN: SLAVIK	REVISION: 1.0 SHEET: 2 OF 2

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