Product Name: ZX146-QTE-QSE-040 Samtec Breakout Adapter 56.70mm) TE Mictor SB 0.8mm (0.032") centerline 80 Breakout Adapter 1.97" (50.00mm) 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 .23" (SB 0.80mm centerline (pitch) 80 positions Mictor-Strip connectors. It is **Fully compatible** with 24pins x2rows 56 pins differential pairs, -DP, signaling applications for both TE Mictor SB as well as Samtec QTE / QSE connectors. **ZX146-QTE-QSE-040** 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. Samtec QTE040 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). 2.01"(51.27mm) 7- Ease of interface with single channel and differential scope probes. 8- Fully compatible with Single Ended, -D, and Differential Pair, -DP, Samtec connector QSE QTE series as well as cable assemblies. Samtec QSE040 9- Mates with any height and form factor QSE-040 QTE-040 connectors series such as -D -DP, -RA, -EM configurations. 10- Flying lead wire assembly may be used for board to board interface - See ordering information, see ZX100ACC-SS ZX146-QTE-QSE-040 simplified cross **Electrical:** Insertion loss > -2dB @3GHz section diagram Trace impedance: 50 Ω D Operating Temperature: -55°C to +125°C Samtec Connector: GND test point 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 ZEBAX.com ZX146 Plating: Gold Flash Inner layers GND plane Header: GND test point Pitch: 0.1" (2.54mm) pin to pin pitch Pin: Square 0.025" (0.635mm) Samtec QTE040 Height: 0.24" (6mm) HOST PCF C Plating: Gold Flash Ground layers, Please note - The GND test point is connector to: - Top/Bottom GND fill Application: Bringup, testing, emulation, development, modular design evaluations 2- The inner layers ground planes3- Samtec connectors' GND blade. ZX146-QTE-QSE-040 package includes: Mates with: Samtec QTE-040-L-D QSE-040-L-D QTE-028-01-DP QSE-028-01-DP connectors ZX100ACC-SS EQCD EQSD EQDP EQRF cable assembly, any 2 banks of QTE-060/080 QSE-060/080 or -DP Flying leads wire assembly Part number TE Mictor SB 0.8mm (0.032") centerline 80 positions Plug and Receptacles. ZX146-QTE-QSE-040 Samtec Breakout Adapter module Please refer to page 2 cross matrix compatibility between Samtec, TE Mictor SB 0.8mm connectors. Compliance: ZX100ACC-SS Flying leads wire assembly ISO2001 certified RoHs - Lead Free ZX100ACC-SS site page for ordering the flying leads wire assembly **Signal assignments:** Table below exhibits the assigned Samtec pin numbers associated with the headers. EU RoHS2 UL E111594 document ZX146-QTE-QSE-040 pin configuration - J1: QTE040 J2: QSE040 ELV- Vehicle Directive (Directive 2000/EC) Note: ALL ZEBAX products are RoHS compliant and Lead Free unless otherwise indicated. European Union Directive (203/11/EC) Halogen Free per IEC-61249-2.21 : 2003 RoHs Directive 2011/65/EU ZEBAX TECHNOLOGIES WEEE Directive (2012/12/EU) SANTA CRUZ, CA U.S.A (831) 2 2 2 - 0717 Certificate of Compliance for Radioactive substances WWW.ZEBAX.COM Certificate of Compliance for Asbestos ASSEMBLY DRAWING Certificate of Compliance for Ozone Depleting Substances. ODS SPECIFIED DIMENSIONS Certificate REACH SVHC ARE INCHES (MM). ITEM: ZX146-QTE-QSE-040 Certificate of Compliance RoHS EN CoC Samtec breakout adapter QTE QSE 040 **DESCRIPTION:** ALL ZEBAX TECHNOLOGIES DESIGN SPECIFICATIONS, DRAWINGS, PUBLICATIONS, AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." ZEBAX MAKES NO WARRANTIES, EXPRESSED, TE Mictor SB 0.80mm 80 breakout adapter 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. CHECKED: 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. DRAWN: REVISSION: 1.0 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 system M. MARINA SLAVIK SHEET: 1 OF 2

Product Name: ZX146-QTE-QSE-040 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

ZX146-QTE-QSE-040 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.

and any 2 banks of QTE-060 QSE-060 (-042 Differential pair, -DP), QTE-080 QSE-080 (-056) 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

Table 1 lists 80 positions - 2 Rows x 40 Pins/Row TE Mictor SB 0.8mm (0.032") Pitch Connectors Part numbers ZX146-QTE-QSE-040 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

Table 1. TE MICLOI SB 0.6HIH (0.032) PILCH CONNECTORS PART							
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	Receptacle						
4-1658043-2 6-1658043-2 4-1658012-2 6-1658012-2 4-1658462-2 6-1658462-2	ricoopidolo						
1658044-2 2-1658044-2 1658013-2 2-1658013-2 1658463-2 2-1658463-2		5mm (0.197")					
4-1658044-2 6-1658044-2 4-1658013-2 6-1658013-2 4-1658463-2 6-1658463-2		311111 (0.197)					
1658045-2 2-1658045-2 1658014-2 2-1658014-2 1658464-2 2-1658464-2		8mm (0.315")					
4-1658045-2 6-1658045-2 4-1658014-2 6-1658014-2 4-1658464-2 6-1658464-2							
1658046-2 2-1658046-2 1658015-2 2-1658015-2 1658465-2 2-1658465-2]	11mm (0.433")					
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		14mm (0.551")					
4-1658437-2 6-1658437-2 4-1658438-2 6-1658438-2 4-1658439-2 6-1658439-2	Plug						
1658047-2 2-1658047-2 1658016-2 2-1658016-2 1658466-2 2-1658466-2		16mm (0.63")					
4-1658047-1 6-1658047-1 4-1658016-1 6-1658016-1 4-1658466-1 6-1658466-1]						
1658048-2 2-1658048-2 1658017-2 2-1658017-2 1658467-2 2-1658467-2		19mm (0.748")					
1658049-2 2-1658049-2 1658018-2 2-1658018-2 1658468-2 2-1658468-2		22mm (0.866")					
1658050-2 — 1658019-2 — 1658469-2 —	-	25mm (0.984")					
1658051-2 — 1658020-2 — 1658470-2	1	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	Description	wated Stack Height		
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")		

- 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 ZX146-QTE-QSE-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

ZEBAX TECHNOLOGIES SANTA CRUZ, CA U.S.A (831) 2 2 2 - 0717 WWW.ZEBAX.COM ASSEMBLY DRAWING SPECIFIED DIMENSIONS ARE INCHES (MM). ITEM: ZX146-QTE-QSE-040 Samtec breakout adapter QTE QSE 040 **DESCRIPTION:** TE Mictor SB 0.80mm 80 breakout adapter CHECKED:

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