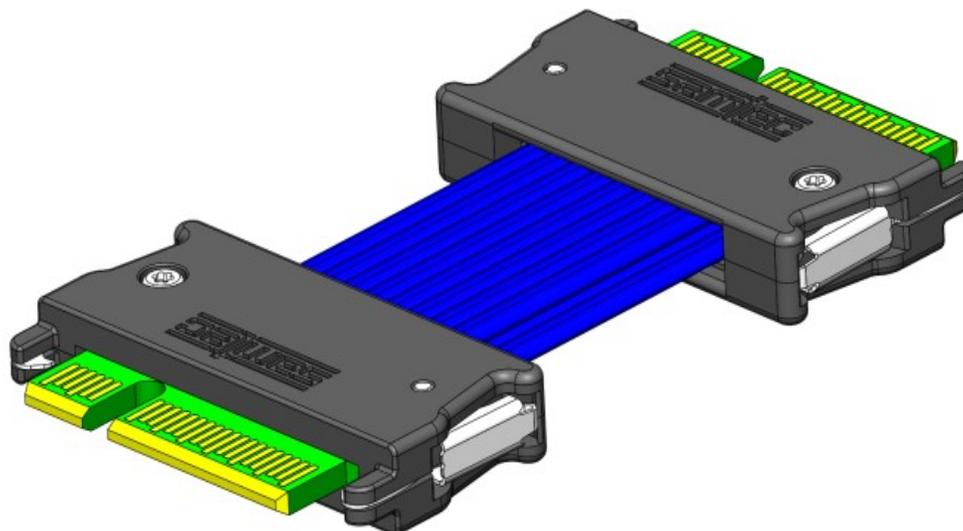
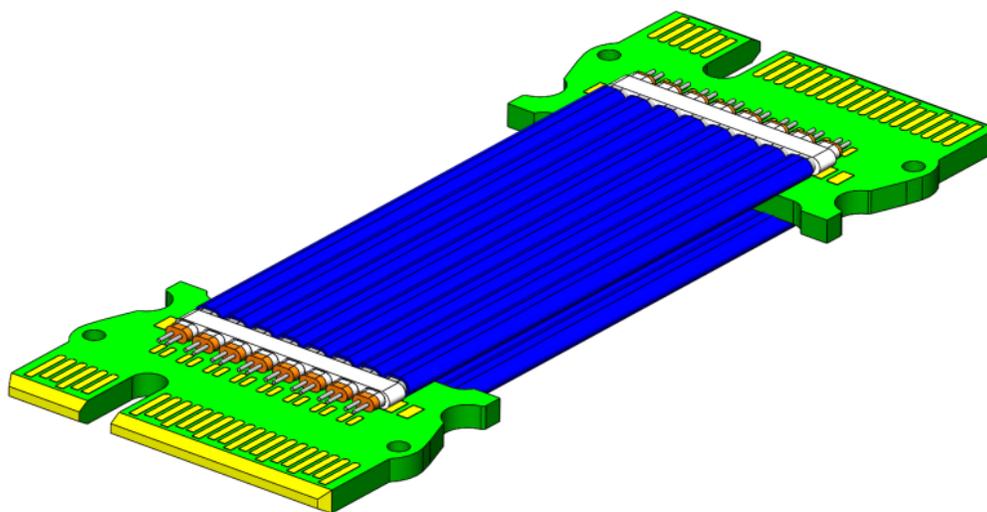


Series: ECDP 0,80 mm (0.0315") Edge Rate™ Edge Card Eye Speed® Twinax Cable Assembly

ECDP Series – L1/L2 End Options



ECDP Series – N1/N2 End Options



Other configurations available for:

Board-lock type latching feature

85 ohm impedance

See www.samtec.com for more information.

Series: ECDP 0,80 mm (0.0315") Edge Rate™ Edge Card Eye Speed® Twinax Cable Assembly

1.0 SCOPE

1.1 This specification covers performance, testing and quality requirements for Samtec ECDP 0,80 mm (0.0315") Edge Rate™ Edge Card Eye Speed® Twinax Cable Assembly. This cable assembly is available in squeeze latch, no housing, and board lock applications. All information contained in this specification is for a 16 pair squeeze latch configuration unless otherwise noted.

2.0 DETAILED INFORMATION

2.1 Product prints, catalog pages, test reports and other specific, detailed information can be found at <http://www.samtec.com/?ECDP>.

3.0 TESTING

3.1 Current Rating: 2.3A per contact with 2 adjacent contacts powered

3.2 Voltage Rating: 150 VAC

3.3 Operating Temperature Range: -40°C to +85°C

3.4 Electrical:

| ITEM | TEST CONDITION | REQUIREMENT | STATUS |
|---------------------------|--|---|--------|
| Withstanding Voltage | EIA-364-20 (No Flashover, Sparkover, or Breakdown) | 450 VAC | Pass |
| Insulation Resistance | EIA-364-21 (5000 MΩ minimum) | 50,000 MΩ | Pass |
| Contact Resistance (LLCR) | EIA-364-23 | Δ 15 mΩ maximum (Samtec defined)/ No damage | Pass |

3.5 Mechanical:

| ITEM | TEST CONDITION | REQUIREMENT | STATUS |
|------------------|---|--|--------|
| Cable Flex | EIA-364-41D, Flat Cable to be tested 70°±5° each direction (140°±10° total) | 500 cycles minimum | Pass |
| Random Vibration | EIA-364-28 Condition V, Letter B 7.56 G 'RMS', 50 to 2000 Hz, 2 hours per axis, 3 axis total, PSD 0.04 | Visual Inspection: No Damage LLCR: Δ 15 mΩ maximum Event Detection: No interruption > 50 nanoseconds | Pass |
| Mechanical Shock | EIA-364-27 100 G, 6 milliseconds, sawtooth wave, 11.3 fps, 3 shocks/direction, 3 axis (18 total shocks) | Visual Inspection: No Damage LLCR: Δ 15 mΩ maximum Event Detection: No interruption > 50 nanoseconds | Pass |

Series: ECDP 0,80 mm (0.0315") Edge Rate™ Edge Card Eye Speed® Twinax Cable Assembly

3.6 Environmental:

| ITEM | TEST CONDITION | REQUIREMENT | STATUS |
|------------------------------|--|--|--------|
| Thermal Shock | EIA-364-32 Thermal Cycles: 100 (30 minute dwell) Hot Temp: 85°C Cold Temp: -55°C Hot/Cold Transition: Immediate | Visual Inspection: No Damage LLCR: Δ 15 m Ω DWV: 450 VAC IR: >15,000 M Ω | Pass |
| Thermal Aging (Temp Life) | EIA-364-17 Test Condition 4 @ 105°C Condition B for 250 hours | Visual Inspection: No Damage LLCR: Δ 15 m Ω DWV: 450 VAC IR: >15,000 M Ω | Pass |
| Cyclic Humidity | EIA-364-31 Test Temp: 25°C to 65°C Relative Humidity: 90 to 95% Test Duration: 240 hours | Visual Inspection: No Damage LLCR: Δ 15 m Ω DWV: 450 VAC IR: >15,000 M Ω | Pass |
| Gas Tight | EIA-364-36 Gas Exposure: Nitric Acid Vapor Duration: 60 min. Drying Temp.: 50°C +/- 3°C Measurements: Within 1 hour of Exposure | LLCR: Δ 15 m Ω | Pass |

Series: ECDP 0,80 mm (0.0315") Edge Rate™ Edge Card Eye Speed® Twinax Cable Assembly

4.0 MATED SYSTEM

4.1 For application details, please visit <http://www.samtec.com/?ECDP>.

4.2 Application Recommendations

4.2.1 Samtec recommends the following end options for the below requirements:

4.2.1.1 L1/L2 End Options: Environment requiring both latching and protection for cable terminations.

4.2.1.2 B1/B2 End Options: Environment requiring latching and no housings.

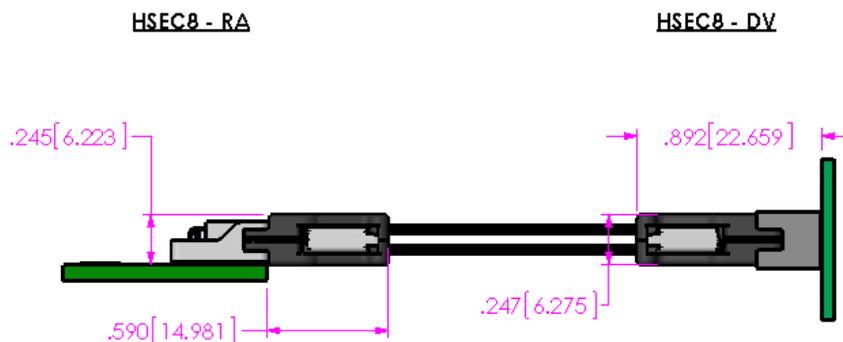
4.2.1.3 N1/N2 End Options: Environment where latching and housings are not required.

4.3 Signal Mapping

| TABLE 5 | |
|-------------|--|
| No OF PAIRS | POSITIONS |
| -04 | 1 3 5 7 9 11 13 15 17 |
| | G S S G KEY G S S G G |
| | G S S G (SEE NOTE 8) G S S G G |
| | 2 4 6 8 10 12 14 16 18 |
| -08 | 1 3 5 7 9 11 13 15 17 19 21 23 25 |
| | G S S G S S KEY G S S G S S G |
| | G S S G S S (SEE NOTE 8) G S S G S S G |
| | 2 4 6 8 10 12 14 16 18 20 22 24 26 |
| -16 | 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 |
| | G S S G S S S KEY G S S G S S G S S G S S G S S G S S G |
| | G S S G S S S (SEE NOTE 8) G S S G S S G S S G S S G S S G S S G |
| | 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 |
| -32 | 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 |
| | G S S G S S S G S S G S S G S S G S S G S S G S S KEY G S S G S S G S S G S S G S S G S S G |
| | G S S G S S S G S S G S S G S S G S S G S S G S S G S S (SEE NOTE 8) G S S G S S G S S G S S G S S G S S G |
| | 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 |

4.3.1 Custom signal mapping available as non-standard. Contact HDR@samtec.com for more details.

4.4 Mated View



Series: **ECDP** 0,80 mm (0.0315") Edge Rate™ Edge Card Eye Speed® Twinax Cable Assembly

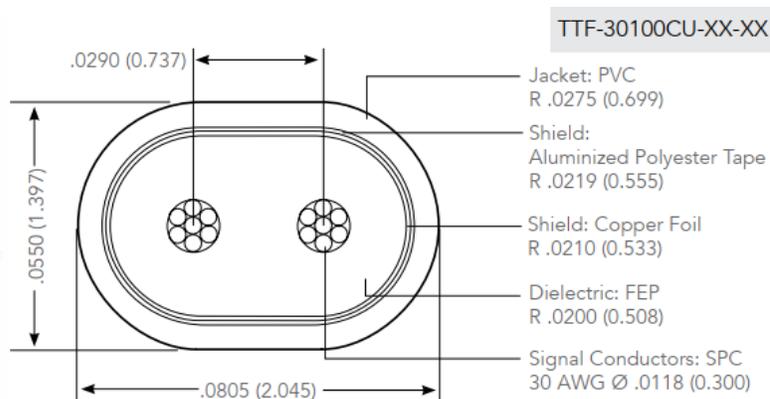
5.0 HIGH SPEED PERFORMANCE

5.1 Based on a 7 dB insertion loss

5.2 **System Impedance:** 100 ohm differential pair

| Assembly | | Frequency @ 7dB IL |
|-------------------------|------------|--------------------|
| ECDP-08-09.80-L1-L1-3-3 | Long Path | 12.0 GHz |
| | Short Path | 12.0 GHz |
| ECDP-08-39.37-L1-L1-3-3 | Long Path | 7.5 GHz |
| | Short Path | 7.5 GHz |

6.0 CABLE DATA



PERFORMANCE DATA

| | |
|----------------------|---|
| Capacitance: | 13 pF/ft (nominal) |
| Skew: | 10 ps/m max within pairs |
| Propagation Delay: | 1.46 ns/foot |
| Flex Cycles: | 8,000 cycles, 4-wide ribbon* |
| Current Rating: | Single conductor = 3.3 Amps** 16 conductors = 1.3 Amps** |
| Shield DCR: | 86 Ω/1000 ft |
| CC DCR: | 101 Ω/1000 ft |
| Min. Bend Radius: | .125" |
| Availability: | Single, 2-16 ribbon, tape bonded |
| Temperature Rating: | -25 °C to 105 °C, UL VW-1 Tested *** |
| DWV Working Voltage: | 188 V† |

| Insertion Loss | 0.25 m | 1 m |
|----------------|---------|--------|
| -3 dB | 18 GHz | 5 GHz |
| -7 dB | >20 GHz | 17 GHz |

* Test Conditions – 8 oz. weight, dia 7/8" mandrel, +/-90 bend X2
 ** Rating – 30 °C Temperature Rise, 20% de-rated. Testing performed on 8-position ribbon.
 *** Test Conditions – Heat Shock/Cold Soak per UL1581, wire wrap 1/4" mandrel, visual inspection
 †Test Conditions – IR/DWV/Thermal Shock/Humidity per EIA-364-20, 21, 31 and 32

* Test Conditions – 8 oz. weight, dia 7/8" mandrel, +/-90 bend X2
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 †Test Conditions – IR/DWV/Thermal Shock/Humidity per EIA-364-20, 21, 31 and 32

Series: ECDP 0,80 mm (0.0315") Edge Rate™ Edge Card Eye Speed® Twinax Cable Assembly

7.0 ADDITIONAL RESOURCES

- 7.1 For additional mechanical testing or product information, contact our Customer Engineering Support Group at CES@samtec.com
- 7.2 For additional information on high speed performance testing, contact our Signal Integrity Group at SIG@samtec.com
- 7.3 For additional application information, contact our High Speed Cable Group at HDR@samtec.com
- 7.4 For RoHS, REACH or other environmental compliance information, contact our Product Environmental Compliance Group at PEC@samtec.com

USE OF PRODUCT SPECIFICATION SHEET

This Product Specification Sheet (“PSS”) is a brief summary of information related to the Product identified. As a summary, it should only be used for the limited purpose of considering the purchase/use of Product. For specific, detailed information, including but not limited to testing and Product footprint, refer to Section 2.0 of this document and the links there provided to test reports and prints. This PSS is the property of Samtec, Inc. (“Samtec”) and contains proprietary information of Samtec, our various licensors, or both. Samtec does not grant express or implied rights or license under any patent, copyright, trademark or other proprietary rights and the use of the PSS for building, reverse engineering or replication is strictly prohibited. By using the PSS, the user agrees to not infringe, directly or indirectly, upon any intellectual property rights of Samtec and acknowledges that Samtec, our various licensors, or both own all intellectual property therein. The PSS is presented “AS IS”. While Samtec makes every effort to present excellent information, the PSS is only provided as a guideline and does not, therefore, warrant it is without error or defect or that the PSS contains all necessary and/or relevant information about the Product. The user agrees that all access and use of the PSS is at its own risk. **NO WARRANTIES EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY KIND WHATSOEVER ARE PROVIDED.**