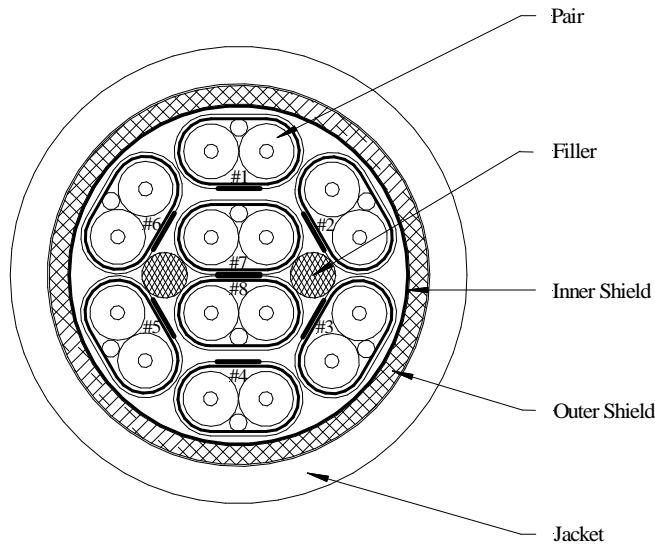
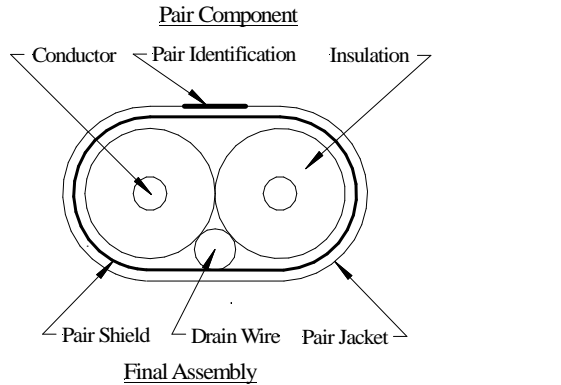


8 PAIR 30 AWG 25G TURBOTWIN™ CABLE

PROPRIETARY DESIGN

THIS CONFIDENTIAL DOCUMENT HAS BEEN RELEASED WITH THE UNDERSTANDING THAT IT SHALL NOT BE SENT TO ANYONE OTHER THAN THE ORIGINAL INTENDED RECIPIENT WITHOUT PRIOR AUTHORIZATION FROM TE CONNECTIVITY / MADISON CABLE



CONSTRUCTION

Pair Component

Conductor: 30 AWG Solid Silver Plated Copper, 0.010 Inch [0.25 mm] Diameter
Insulation: 0.0115 Inches [0.29 mm] of Polyolefin, 0.033 Inch [0.84 mm] Diameter, Color – Natural
Pair: 2 Singles Laid Flat and Parallel
Drain Wire: 30 AWG Solid Silver Plated Copper, 0.010 Inch [0.25 mm] Diameter
Pair Shield: Metallic Tape
Pair Jacket: Polyester Tape
Pair Minor Diameter: 0.042 Inches [1.07 mm] Nominal
Pair Major Diameter: 0.073 Inches [1.85 mm] Nominal
Pair Identification: To be printed on entire length of pair in 1/2 Inch [13 mm] intervals, see Table 1

Final Assembly

Core: 8 Pairs (#1-8) Cabled Together with Optional Fillers
Inner Shield: Aluminum/Polyester Tape, Aluminum Side Facing Out, 25% Overlap
Outer Shield: 38 AWG Tin Plated Copper Braid, 85% Coverage
Jacket: 0.020 Inches [0.51 mm] of PVC, Color – Black
Diameter: 0.242 Inches [6.15 mm] Nominal
Print Legend (White Ink): “MADISON CABLE (UL) TYPE CL2 75°C 30 AWG C(UL) TYPE CM 75°C TurboTwin™ 25G 104-2218 SUBSTANCE COMPLIANT 2011/65/EU {Date Code}”¹

¹ Date Code is a 4-digit code with the first two digits identifying the calendar week and the last two identifying the calendar year of manufacturing. Example – 0206 for cable manufactured in the second week of January 2006.

TABLE 1

Pair #	Pair Identification
1	- 1 - 1 - 1 - 1
2	- - 2 - - 2 - - 2 - - 2
3	- - - 3 - - - 3 - - - 3 - - - 3
4	- 4 - 4 - 4 - 4
5	- - 5 - - 5 - - 5 - - 5
6	- - - 6 - - - 6 - - - 6 - - - 6
7	- 7 - 7 - 7 - 7
8	- - 8 - - 8 - - 8 - - 8

ELECTRICAL CHARACTERISTICS²

Production Performance Testing:

Differential Impedance: 100 ± 5 Ohms @ TDR
Attenuation (SDD21)³: 15 db/3m Maximum @ 12.89 GHz
Return Loss (SDD11): ≤ -19.5 + 2√f for 0.01 GHz ≤ f ≤ 4.1 GHz
 ≤ -13.6 + 14 log (f/5.5) for 4.1 GHz < f ≤ 19 GHz

SCD21-SDD21:

≤ -12 for 0.01 GHz ≤ f ≤ 12.89 GHz
 ≤ -29 + (29/22)*f for 12.89 GHz < f ≤ 15.7 GHz
 ≤ -8.3 for 15.7 GHz < f ≤ 19 GHz

Differential to Common Mode Return Loss (SCD11):

≤ -22 + (20/25.78)*f for 0.01 GHz ≤ f ≤ 12.89 GHz
 ≤ -15 + (6/25.78)*f for 12.89 GHz < f ≤ 19 GHz

Pair-to-Pair IL Variation: 0.5 dB @ 12.89 GHz Nominal (abs(Max IL – Min IL)) among all pairs

Qualification Testing:

Mutual Capacitance⁴: 12 pF/ft [39 pF/m] Nominal
Insertion Loss Deviation: ILD_{min} = -0.8
 ILD_{max} = +0.8

NEXT: -50 dB Maximum from 0.01 GHz to 19 GHz

FEXT: -50 dB Maximum from 0.01 GHz to 19 GHz

Conductor DC Resistance⁴: 0.10 Ohms/ft [330 Ohms/km] Nominal @ 20°C

² All SI measurements made @ 20°C

³ Tested/Functional to 25 GHz over a 3 meter length

⁴ Values are for informational purposes only



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REVISION HISTORY

Rev #	Date	By	Description
1	03/20/18	JT	Initial Release
2	04/02/18	JT	Revised Cross-Sectional Drawing
3	04/16/18	JT	Revised Insulation, Pair and Cable ODS
4	08/08/18	JT	Revised Electrical and Mech. Characteristics

Spec Number:	104-2218	Prepared By:	J. Twomey	Page
Part Number:	16PB2LF018	Reviewed By:	N. Zhang	1 of 2
Customer:				
Customer #:				

Users should evaluate the suitability of this product for their application. Contact factory for latest revision of specification. TE Connectivity reserves the right to make changes in materials or processing, which do not affect compliance with any specification, without notification to the Buyer.

8 PAIR 30 AWG 25G TURBOTWIN™ CABLE

PHYSICAL CHARACTERISTICS

Temperature Rating:

Operating: -10°C to +60°C

Transport/Installation: -25°C to +80°C

BULK CABLE RELIABILITY REQUIREMENTS

Product Validation Test: Per QS-500A (Exhibit)

INDUSTRY STANDARDS

IEEE 802.3bj: Physical Layer Specifications and Management Parameters for 100 Gb/s Operation Over Backplanes and Copper Cables

InfiniBand™ Architecture (Extended Data Rate): 1X = 25 Gb/s
4X = 100 Gb/s

SAFETY CERTIFICATION

UL Listing: Type CL2 as specified in Article 725 of the National Electrical Code

C(UL) Listing: Type CM as specified in Article 800 of the National Electrical Code

RoHS II Material Compliance: In accordance with EU Directive 2011/65/EU for the Restriction of Hazardous Substances



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