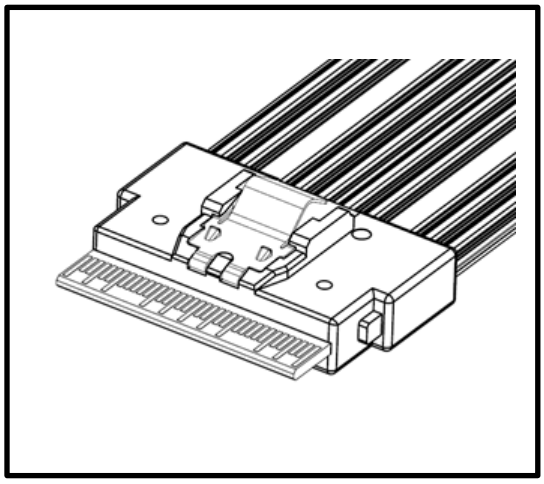
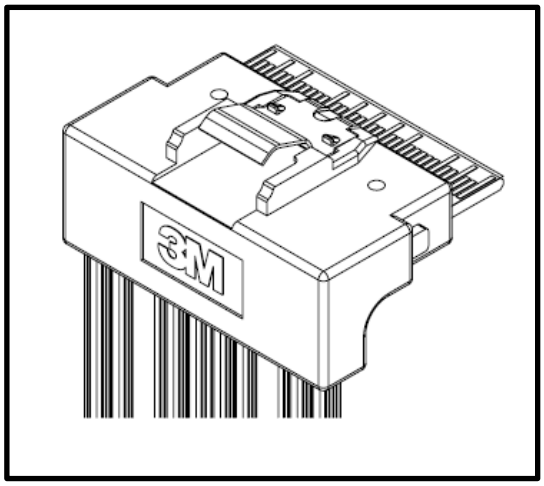
3M™ SlimLine 85ohm Cable Assembly





Scope

This document summarizes test methods, test conditions, and product performance requirements for 3M™ SlimLine 85ohm Cable Assembly.

Reference Documents

Note: Unless otherwise specified, latest edition of the reference documents applies. In the event of conflict between requirements of the references and 3M specification, 3M specification shall take precedence.
Commercial standards, specifications and report

EIA-364
SAS 3.0 & SAS 4.0
SFF-8654

3M™ SlimLine 85ohm Cable Assembly	
Literature Code	**Document Title**
78-5100-2666-9	Customer Drawing, 85ohm, 30AWG, 4x, 8ES4 Series SlimLine Cable Assembly.
78-5100-2665-7	Customer Drawing, 85ohm, 30AWG, 8x, 8ES8 Series SlimLine Cable Assembly.
78-5100-2675-6	Customer Drawing, 85ohm, 31AWG, 8x, 8ES8 Series SlimLine Cable Assembly.

Performance Testing

Unless otherwise specified, all tests shall be performed on some kind of sockets mated to some kind of headers using some cable at conditions per EIA-364. Unless otherwise specified, all values and limits are typical of those obtained by qualification testing of the subject product. All specifications are subject to revision and change without notice from 3M.

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Ratings

3M™ SlimLine 85ohm Cable Assembly	
Feature	**Value**
Current rating	0.5A per contact.
Voltage rating	30 V AC per contact
Operating temperature	0°C to +80°C
Non-operating Temperature	-20°C to +85°C
Humidity	80% RH Maximum

Materials

Halogen content: see applicable assembly drawing

Housing

Material : High Temperature Thermoplastic
Flammability : UL94V-0

Paddle card

Material : FR4
Mating pad under plate : 1.27 µm (50 µ″) Ni MIN
Mating pad finish : 0.76 µm (30 µ″) Au MIN

High Speed Ribbon Twin Axial Cable

See applicable 3M™ Twin Axial Ribbon Cable drawing for ribbon cable specification.

Regulatory Compliance

See the “RoHS compliance” section of www.3Mconnector.com for compliance information. See customer drawings for regulatory specifics on each connector.

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Electrical

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ SlimLine 85ohm Cable Assembly				
Description or Parameter	**Units**	**Values and Limits**	**Requirement or Conditions**	**Test Standard or Method**
Dielectric Withstanding Voltage	V DC	300	EIA-364-20, Method B Subject a voltage of 300 VDC for 1 minute at sea level between adjacent contacts of mated and unmated connector assemblies.	EIA-364-20B
Low level contact resistance (LLCR)	Milliohms	<20	Subject a voltage of 20 mV max open circuit at a current of 10 mA max on mated connector assemblies.	EIA-364-23A
Insulation Resistance	Mega ohms	>1000	Measured between adjacent and opposing contacts with 100 VDC applied for 1 minute.	EIA-364-21C

Mechanical

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

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Description or Parameter	**Units**	**Values and Limits**	**Requirement or Conditions**	**Test Standard or Method**
Mating force (without latch)	Newtons	21 max for 4x 31 max for 8x	Average for connector, based on 4x and 8x connector. No friction latch.	EIA-364-13
Unmating force (without latch)	Newtons	18 max for 4x 24 max for 8x	Average for connector, based on 4x and 8x connector. No friction latch.	EIA-364-13
Latched plug retention force	Newtons	50N Min	Average for connector, based on 4x and 8x connector.	EIA-364-98
Mechanical shock	Milliohms	≤20	Mated connectors shall exhibit no damage. 20 milliohm maximum ΔR contact resistance per mated interface throughout testing.	EIA-364-27
Durability (preconditioning)	No evidence of physical damage.	Nil	Perform 50 unplug/plug cycles.	EIA-364-09
Durability	No evidence of physical damage.	Nil	Perform 250 unplug/plug cycles.	EIA-364-09
Reseating	Milliohms	≤20	Perform 3 unplug/plug cycles.	EIA-364-09

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Environmental

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Description or Parameter	**Units**	**Values and Limits**	**Requirement or Conditions**	**Test Standard or Method**
Temperature Life (Thermal Aging)	Degrees C Hours	85 500	No physical abnormalities. 20 milliohm maximum ΔR contact resistance initial testing.	EIA-364-17B Method A
Thermal Shock	Degrees C Cycles	-55 & 85 10	No physical abnormalities. 20 milliohm maximum ΔR contact resistance throughout testing. Half hour each at extreme temp.	EIA-364-32A Condition I
Humidity-Temperature Cycling	Degrees C % RH Cycles	65 to 25 80 to 50% 24	1 cycle - 25°C, 80%RH to 65°C, 50RH to 25°C 80%. Ramp time – 0.5 hour Dwell time – 1.0 hour.	EIA-364-31B Condition B Method III 24 cycles.
Vibration	Milliohm	<20mΩ	3.10G RMS between 20 and 500 Hz at 15 minutes in each of 3 mutually perpendicular directions. No damage. No discontinuity longer than 1μsec allowed.	EIA-364-28 Condition VII D

Qualification Test Groups and Sequenced Tests

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3M™ SlimLine 85ohm Cable Assembly				
	Test Group			
	1	2	3	4
Test Description	Test Sequence			
Visual	1,7	1,9	1,7	1, 13
Low Level contact Resistance	3,5	3,5,8	2,4,6	2,6,10
Dielectric Withstanding Voltage				4,8,12
Insulation Resistance				3,7,11
Mating force	2	2		4
Unmating force	6			6
Vibration & Mechanical shock		6,7		
Durability (preconditioning)		4		
Durability	4			
Reseating			5	
Temperature Life			3	
Cyclic temperature and Humidity		8		9
Thermal Shock				5

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Regulatory: For regulatory information about this product, contact your 3M representative.

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