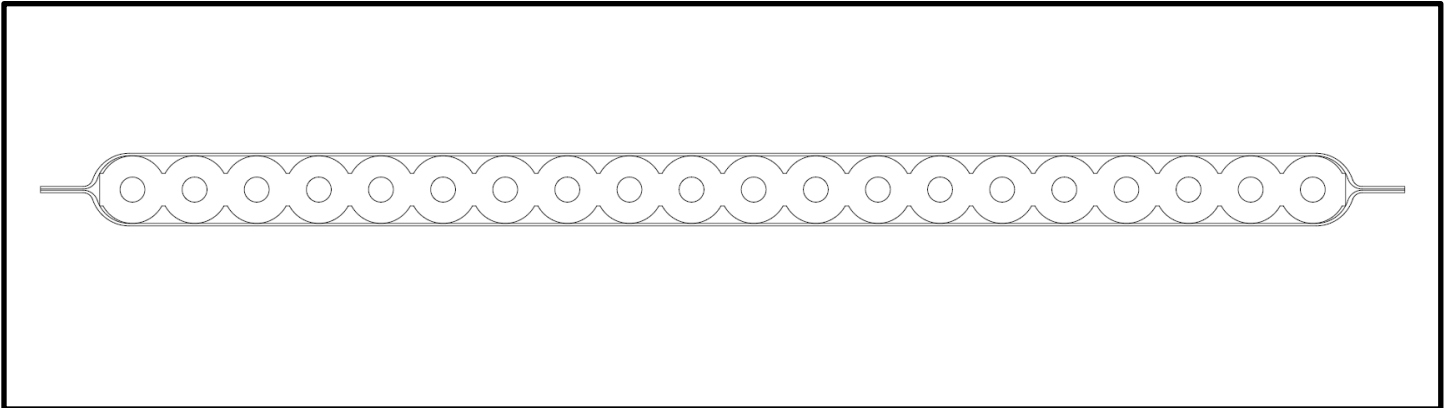


## 3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series



### Scope

This document summarizes test methods, test conditions, and product performance requirements for 3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series.

### 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.

3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series	
Literature Code / Document Number	Document Title
78-5100-2667-9	Customer Drawing, Round Conductor Flat, Controlled Impedance Cable, 7700 Series, .025" Cable
78-9102-5431-3	Cable Preparation Instructions for Round Conductor Flat, Controlled Impedance Cable, 7700 Series
EIA-364	Commercial standards, specifications and report

### Regulatory Compliance

Visit [www.3M.com/regs](http://www.3M.com/regs) for compliance information. See customer drawings for regulatory specifics on each connector.

### Performance Testing

Unless otherwise specified, all tests performed using 3M cable 7700/20 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.

The surface of the ribbon cable has a metallic appearance but is not conductive. There is a translucent polyester outer layer over an aluminum foil layer, which gives this appearance. The cable construction has a thin conductive layer at each edge, user should evaluate its use in their application and, if necessary, insulating tape may be applied to cover the aluminum layer, as user deems appropriate.

# 3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series

## Materials

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

3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series	
Feature	Material
Conductors	30 AWG Solid, Tin Plated Copper
Insulation	Polyolefin
Covering	Aluminum & Polyester

## Ratings

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

3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series	
Feature	Value
Flame test rating	FT2, Horizontal flame
Voltage rating	30 V AC
Operating temperature	80°C MAX
Storage temperature	-20°C to +80°C

## Electrical

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

3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series				
Description or Parameter	Units	Values / Limits	Requirement or Conditions	Test Standard or Method
Dielectric withstanding voltage	V DC	750	Subject a voltage of 750 VDC for 1 minute at sea level between adjacent wires, between wire and covering, and covering to exterior of cable including cable edges. Covering pulled back 0.125" from cable end.	EIA-364-20
Insulation resistance	Mega ohms	>1000	Measured between adjacent wires, between wire and covering, and covering to exterior of cable including cable edges with 500 VDC applied for 1 minute.	EIA-364-21

# 3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series

## Signal Integrity

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

3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series				
Description or Parameter	Units	Values / Limits	Requirement or Conditions	Test Standard or Method
Differential impedance	Ohms	95 ± 5	Rise time of 35ps. Measured on non-edge wires.	EIA-364-108
Differential insertion loss	dB	< 3 typ.	Measured one meter length samples. Smooth curve remains above limit at 2.5 GHz. Measured on non-edge wires.	EIA-364-101
Diff-to-common mode conversion	dB	< -15	Measured one meter length samples from 50 MHz to 6 GHz. Measured on non-edge wires.	
Intra pair skew	ps/m	< 15	Measured one meter length samples with TDR method. Rise time of 35ps. Measured on non-edge wires.	

## Mechanical

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

3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series				
Description or Parameter	Units	Values / Limits	Requirement or Conditions	Test Standard or Method
Critical dimension measurements	Inches	See related customer drawing	Measure dimensions specified by related customer drawing.	
Peel force	Lbf/conductor	0.0204 ± 0.0075	Prepare sample by removing both edge conductors.	Measured by 180° peel direction, no faster than 2” peeled per minute.

## Environmental

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

Environmental test samples prepared using 1 meter samples in both flat and H-folded configurations. H-fold includes three 180° folds plus two 45° folds. Recommended bend radius of folds >0.075”

3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series				
Description or Parameter	Units	Values/ Limits	Requirement or Conditions	Test Standard or Method
Temperature life (thermal aging)	Degrees C Hours	85 1008	No physical abnormalities. Meets SI requirements.	EIA-364-17 Method A, Condition 3D
Thermal shock	Degrees C Cycles	-55 & 85 5	No physical abnormalities. Meets SI requirements.	EIA-364-32 Table 2, Condition I
Humidity-temperature cycling	Degrees C % RH Cycles Degrees C	25 to 65 80 to 100% 24 -10, cold shock	No physical abnormalities. Meets SI requirements.	EIA-364-31 Condition B, Method III, Figure 1

# 3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series

## Figures

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

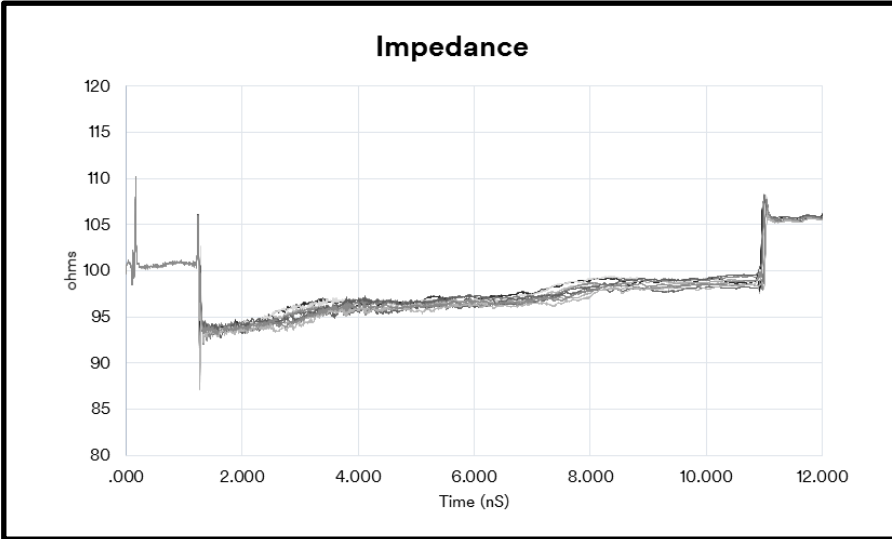


Figure 1: Representative impedance profile

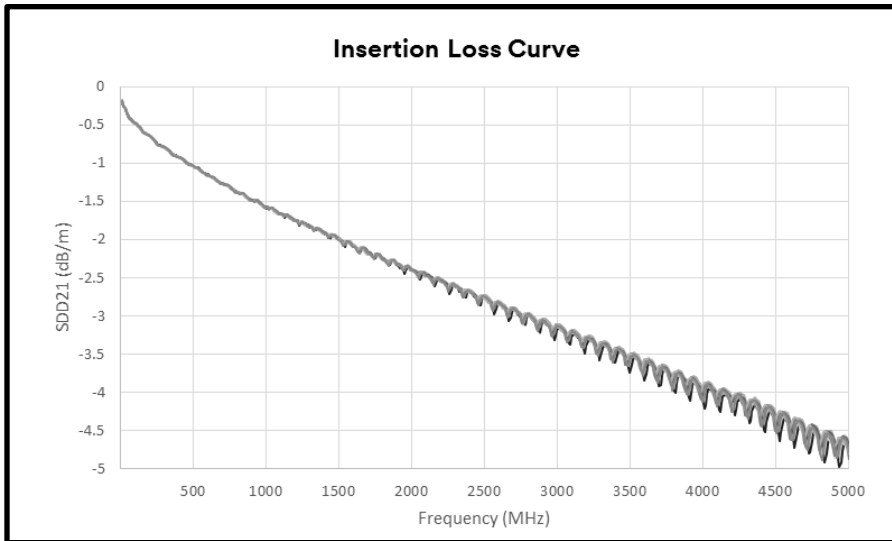


Figure 2: Representative insertion loss curve

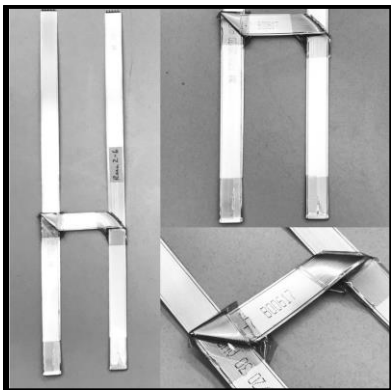


Figure 3: Representative H-fold setup

# 3M™ Round Conductor Flat, Controlled Impedance Cable, 7700 Series

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

Technical Information: The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

Warranty, Limited Remedy, and Disclaimer: Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M Product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.



3M Electronics Materials Solutions Division  
Interconnect Solutions  
6801 River Place Blvd.  
Austin, TX 78726-9000  
[www.3M.com/Interconnect](http://www.3M.com/Interconnect)

3M is a trademark of 3M Company.  
Please recycle.  
©3M 2017. All rights reserved.  
78-5102-0254-8, Rev A

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Ribbon Cables / IDC Cables](#) category:*

*Click to view products by [3M](#) manufacturer:*

Other Similar products are found below :

[FSK-12A](#) [AWG28-10G](#) [EHJ3C](#) [EHJ4C](#) [FSP-25A](#) [cab-LVDV-DAT-34-15](#) [49635-C62-S2](#) [1-3636-600-5204](#) [92315-1408](#) [426171120-3](#) [2-1589735-3](#) [JSM015PP2DCC23N](#) [92301-0283](#) [ACL-eSSI-2](#) [92301-0718](#) [MMSDT-06-20-S-05.5-D-K-LDX](#) [IDD-04-G](#) [NM-2J2-051-PS1-JJAB](#) [1700/26SF \(100FT\)](#) [1700/34SF \(100FT\)](#) [3801/09 \(100FT\)](#) [S30109](#) [96053-0000-00-0](#) [NM-2J2-065-SS1-JJ00-272](#) [7940098862](#) [IDMD-13-D-07.87](#) [166466](#) [HQCD-030-40.00-TTL-SBL-1-N](#) [HDR-201768-01-PCIEC](#) [DS1052-082B2NA201501](#) [DS1052-102B2NA201501](#) [DS1052-122B2MA201501](#) [DS1052-122B2NA201501](#) [DS1052-262B2NA201501](#) [DS1052-302B2MA201501](#) [DS1052-302B2MA203001](#) [DS1052-302B2MA206001](#) [DS1052-302B2NA201501](#) [DS1052-302B2NA203001](#) [DS1052-302B2NA206001](#) [DS1052-342B2MA201501](#) [DS1052-342B2MA203001](#) [DS1052-342B2NA201501](#) [DS1052-342B2NA203001](#) [DS1052-342B2NA206001](#) [DS1052-402B2MA201501](#) [DS1052-402B2MA203001](#) [DS1052-402B2MA206001](#) [DS1052-402B2NA201501](#) [DS1052-402B2NA203001](#)