



**Product:** [9L28309](#)

Shielded Flat Ribbon Cable .050" Pitch, 9L283XX Series, #28-9c, PVC Ins, O/A Foil Tape, PVC Jacket

### Product Description

Shielded Flat Ribbon Cable .050" Pitch, 9L283XX Series, 9 Conductor, 28 AWG (7x36) Tinned Copper, Gray PVC Insulation, Beldfoil® Tape, Black PVC Jacket

### Technical Specifications

#### Product Overview

Suitable Applications:	Internal interconnection, internal wiring of electronic equipment, reliable mass-termination to standard IDC connectors, noisy environments
------------------------	---

#### Physical Characteristics (Overall)

##### Conductor

AWG	Stranding	Material
28	7x36	TC - Tinned Copper

Conductor Count:	9
------------------	---

##### Insulation

Material	Nominal Wall Thickness
PVC - Polyvinyl Chloride	0.010 in

##### Color Chart

Color

Gray

Table Notes:	First Conductor has Red Stripe
--------------	--------------------------------

##### Outer Shield

Type	Material	Material Trade Name	Coverage [%]	Drainwire Material	Drainwire AWG	Drainwire Construction n x D
Tape	Bi-Laminate (Alum+Poly)	Beldfoil®	100%	TC - Tinned Copper	28	7x36

##### Outer Jacket

Material	Nominal Wall Thickness
PVC - Polyvinyl Chloride	0.038 in

#### Construction and Dimensions

Conductor Spacing Center-Center:	.050 +/- .002 in
Conductor Spacing Center-Center Outside:	.400 +/- .008 in
OuterJacket1, Nominal Width:	.520 in
OuterJacket1, Nom Thick Flat Section:	0.115 in

#### Electrical Characteristics

##### Conductor DCR

Nominal Conductor DCR
68.2 Ohm/1000ft

##### Capacitance

Element	Nom. Capacitance Conductor to Conductor
@ 1 kHz (GSG) with shield grounded	70 pF/ft
@ 1 MHz (GSG) with shield grounded	50 pF/ft

Min Insulation Resistance:	10,000 MOhm
----------------------------	-------------

#### Inductance

Element	Nominal Inductance
@ 1 MHz (GSG) with shield grounded	0.11 µH/ft

#### Impedance

Nominal Characteristic Impedance	Nominal Characteristic Impedance Description
45 Ohm	(GSG) with shield grounded

#### High Frequency (Nominal/Typical)

Frequency [MHz]	Nom. Insertion Loss
10 MHz	6 dB/100ft
20 MHz	9.5 dB/100ft
30 MHz	12.5 dB/100ft
40 MHz	14.9 dB/100ft
50 MHz	17.2 dB/100ft
60 MHz	19 dB/100ft
70 MHz	21.5 dB/100ft
80 MHz	23 dB/100ft
90 MHz	24.5 dB/100ft
100 MHz	26 dB/100ft

Table Notes:	GSG=Ground-Signal-Ground Mode
--------------	-------------------------------

#### Delay

Nominal Delay	Nominal Velocity of Propagation (VP) [%]
1.7 ns/ft	60%

#### Unbalanced Crosstalk

Element	Typical Unbalanced NEXT %	Typical Unbalanced FEXT %	Typical Cross Talk Pulse Rise Time (ns)
10 ft. sample length with ground connected to shield	1.5	2	3 ns
10 ft. sample length with ground connected to shield	0.9	1.5	5 ns
10 ft. sample length with ground connected to shield	0.7	1.2	7 ns

#### Current

Max. Recommended Current [A]
1 Amp per Conductor at 20°C

#### Voltage

Dielectric Withstand Voltage	UL Voltage Rating
2000 V	300 V

#### Temperature Range

Operating Temperature Range:	-20°C to +105°C
------------------------------	-----------------

#### Mechanical Characteristics

Bulk Cable Weight:	44 lbs/1000ft
Min. Bend Radius During Installation:	3.0 in
Min. Bend Radius/Minor Axis:	1.25 in

#### Standards

UL AWM Style Compliance:	AWM 20081
CSA AWM Compliance:	II A

#### Applicable Environmental and Other Programs

EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2003/96/EC (BFR):	Yes
EU Directive 2011/65/EU (RoHS 2):	Yes
EU Directive 2012/19/EU (WEEE):	Yes

EU Directive 2015/863/EU (RoHS 2 amendment):	Yes
EU Directive Compliance:	EU Directive 2003/11/EC (BFR)
EU CE Mark:	Yes
CA Prop 65 (CJ for Wire and Cable):	Yes
MII Order #39 (China RoHS):	Yes

## Suitability

Suitability - Indoor:	Yes
-----------------------	-----

## Flammability, LSOH, Toxicity Testing

UL Flammability:	VW-1
UL voltage rating:	300 V

## Plenum/Non-Plenum

Plenum (Y/N):	No
---------------	----

## Related Part Numbers

### Variants

Item #	Color	Put-Up Type	Length	UPC
9L28309 010100	Black	Reel	100 ft	612825221722

Footnote:	E - MAY CONTAIN MORE THAN 1 PIECE. MINIMUM LENGTH OF ANY ONE PIECE IS 25'.
-----------	--

## History

Update and Revision:	Revision Number: 0.412 Revision Date: 05-05-2023
----------------------	--

© 2023 Belden, Inc

All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described here in are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "ASIS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with all applicable environmental programs as listed in the data sheet. The information provided is correct to the best of Belden's knowledge, information and belief at the date of its publication. This information is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. The Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.