



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

Flat Gray Ribbon Cable 9L283 Series, #28-09c, .050" Pitch

## Product Description

The shielded jacketed 9L283XX series provides shielding from external electrical interference and allows for greater flexibility, ease of termination, while providing exterior protection from the environment.

## Technical Specifications

### Physical Characteristics (Overall)

#### Conductor

AWG	Material	Construction n x D	No. of Conductors
28	TC - Tinned Copper	Stranded	9

Conductor Count:	9
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#### Insulation

Material	Nominal Wall Thickness
PVC - Polyvinyl Chloride	0.01 in

#### Color Chart

Number	Color
1	Gray

#### Outer Shield Material

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

#### Outer Jacket Material

Material	Nominal Wall Thickness
PVC - Polyvinyl Chloride	0.038 in
	0.115 in

### Construction and Dimensions

Cond Spacing Center-Center:	.050 in
Cond Spacing Center-Center Outside:	.40 in
OuterJacket1, Nominal Width:	.520 in

### Electrical Characteristics

#### Conductor DCR

Max. DCR Unbalance	Nominal Conductor DCR
3 %	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

#### 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

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 MHz	2 MHz	3 ns
10 ft. sample length with ground connected to shield	0.9 MHz	1.5 MHz	5 ns
10 ft. sample length with ground connected to shield	0.7 MHz	1.2 MHz	7 ns

High Freq

Element	Frequency [MHz]
(GSG) with shield grounded	10 MHz
(GSG) with shield grounded	20 MHz
(GSG) with shield grounded	30 MHz
(GSG) with shield grounded	40 MHz
(GSG) with shield grounded	50 MHz
(GSG) with shield grounded	60 MHz
(GSG) with shield grounded	70 MHz
(GSG) with shield grounded	80 MHz
(GSG) with shield grounded	90 MHz
(GSG) with shield grounded	100 MHz

Current

Max. Recommended Current [A]
per conductor @ 20°C: 1 A

Voltage

UL Voltage Rating
300 V RMS

Temperature Range

Operating Temp Range:	-20°C To +105°C
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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 Rating:	UL AWM Style 2651, 20081
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UL AWM Style:	2651, 20081
CSA Rating:	105°C, 300 V RMS, FT1
CSA AWM Specification:	II A 105°C 300V

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 II):	Yes
EU Directive 2012/19/EU (WEEE):	Yes
EU Directive 2015/863/EU:	Yes
EU Directive Compliance:	EU Directive 2003/11/EC (BFR)
EU CE Mark:	Yes
EU RoHS Compliance Date (yyyy-mm-dd):	2005-10-01
MII Order #39 (China RoHS):	Yes

Suitability

Suitability - Indoor:	Yes
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Flammability, LS0H, Toxicity Testing

UL Flammability:	VW-1
CSA Flammability:	FT1
UL voltage rating:	300 V RMS

Plenum/Non-Plenum

Plenum (Y/N):	No
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Part Number

Variants

Item #	Color	Putup 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'.
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Product Notes

Notes:	GSG=Ground-Signal-Ground Mode
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History

Update and Revision:	Revision Number: 0.314 Revision Date: 04-28-2020
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