



Product: [9R28040](#)

Rainbow Ribbon Cable .050" Pitch, 9R280XX Series, #28-40c, PVC Ins

Product Description

Rainbow Ribbon Cable .050" Pitch, 9R280XX Series, 40 Conductor, 28 AWG (7x36) Tinned Copper, PVC Insulated Conductors on PVC Substrate

Technical Specifications

Product Overview

Suitable Applications:	Internal interconnection, internal wiring of electronic equipment, color-coded for quick identification & circuit tracing, easy breakouts for circuit routing, designed for mass-termination with standard IDC connectors
------------------------	---

Physical Characteristics (Overall)

Conductor

AWG	Stranding	Material
28	7x36	TC - Tinned Copper

Conductor Count: 40

Insulation

Material	Nominal Wall Thickness
PVC - Polyvinyl Chloride	0.010 in

Color Chart

Number	Color
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Purple
8	Gray
9	White
10	Black
Over 10 conductors	Repeat as required

Construction and Dimensions

Conductor Spacing Center-Center:	.050 +/- .003 in
Conductor Spacing Center-Center Outside:	1.950 +/- .011 in
Substrate Thickness and Material:	.010 in, Clear PVC
OuterJacket1, Nominal Width:	2.000 +/- .011 in
OuterJacket1, Nom Thick Flat Section:	0.036 in

Electrical Characteristics

Conductor DCR

Nominal Conductor DCR

68.2 Ohm/1000ft

Capacitance

Element	Nom. Capacitance Conductor to Conductor
@ 1 kHz (GSG)	18 pF/ft
@ 1 MHz (GS)	10 pF/ft
@ 1 MHz (GSG)	15 pF/ft

Min Insulation Resistance: 10,000 MOhm

Inductance

Element	Nominal Inductance
@ 1 MHz (GS)	0.29 μ H/ft
@ 1 MHz (GSG)	0.2 μ H/ft

Impedance

Nominal Balanced Characteristic Impedance Description	Nominal Characteristic Impedance	Nominal Characteristic Impedance Description
(GS)	150 Ohm	(GS)
(GSG)	105 Ohm	(GSG)

High Frequency (Nominal/Typical)

Frequency [MHz]	Nom. Insertion Loss
10 MHz	2.8 dB/100ft
20 MHz	4.8 dB/100ft
30 MHz	6.5 dB/100ft
40 MHz	8.3 dB/100ft
50 MHz	9.8 dB/100ft
60 MHz	12 dB/100ft
70 MHz	13 dB/100ft
80 MHz	14 dB/100ft
90 MHz	15.8 dB/100ft
100 MHz	17 dB/100ft

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

Delay

Nominal Delay	Nominal Velocity of Propagation (VP) [%]
1.40 ns/ft	72%

Unbalanced Crosstalk

Element	Typical Unbalanced NEXT %	Typical Unbalanced FEXT %	Typical Cross Talk Pulse Rise Time (ns)
10 ft. sample length	4.8	7	3 ns
10 ft. sample length	3.5	4.7	5 ns
10 ft. sample length	3	3	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/Minor Axis:	0.5 in

Standards

UL AWM Style Compliance: AWM 20932

Applicable Environmental and Other Programs

EU Directive 2000/53/EC (ELV): Yes

EU Directive 2003/11/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:	Yes
EU CE Mark:	Yes
CA Prop 65 (CJ for Wire and Cable):	Yes
MII Order #39 (China RoHS):	Yes

Suitability

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

Flammability, LS0H, 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
9R28040 000100	None	Reel	100 ft	612825222019

History

Update and Revision:	Revision Number: 0.295 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.