Product: 9V28010

Flat Vari-Twist Cable .050" Pitch, 9V280XX Series, #28-10c, PVC Ins on PVC Substrate

Product Description

Flat Vari-Twist Cable .050" Pitch, 9V280XX Series, 10 Conductors, 28 AWG (7x36) Tinned Copper, PVC Insulated Conductors on PVC Substrate

Technical Specifications

Product Overview

Suitable Applications:	Internal interconnection, internal wiring of electronic equipment, reduced crosstalk in balanced mode, can be mass-terminatable in flat sections with standard IDC connectors

Physical Characteristics (Overall)

Conductor

AWG	Stranding	Material	No. of Pairs
28	7x36	TC - Tinned Copper	5

Conductor Count:	10

Insulation

Material	Nominal Wall Thickness
PVC - Polyvinyl Chloride	0.010 in

Color Chart

Number	Color
1	Brown/Tan
2	Red/Tan
3	Orange/Tan
4	Yellow/Tan
5	Green/Tan

Construction and Dimensions

Conductor Spacing Center-Center Flat Section:	.050 +/- .005 in
Conductor Spacing Center-Center Outside:	.450 +/- .015 in
Substrate Thickness and Material:	.010 in, Clear PVC
Twisted Pair Spacing Center-Center:	0.100 in
Overall Flat Section Length:	2.0 +.50 - 0 in
Overall Twisted Length:	18 in
OuterJacket1, Nominal Width:	0.526 in
OuterJacket1, Nom Thick Flat Section:	0.042 in
OuterJacket1, Nom Thick Twisted Section:	0.084 in

Electrical Characteristics

Conductor DCR

Nominal Conductor DCR
68.2 Ohm/1000ft

Capacitance

Element	Nom. Capacitance Conductor to Conductor
@ 1 kHz	20 pF/ft
@ 1 MHz	16 pF/ft

Min Insulation Resistance:	10,000 MOhm

Inductance

Element	Nominal Inductance
@ 1 MHz	0.24 µH/ft

Impedance

Nominal Balanced Characteristic Impedance []	Nominal Characteristic Impedance	Nominal Characteristic Impedance Description	Nominal Unbalanced Characteristic Impedance
115 Ohm	115 Ohm	Balanced	100 Ohm
	100 Ohm	Unbalanced	

High Frequency (Nominal/Typical)

Frequency [MHz]	Nom. Insertion Loss
10 MHz	3.5 dB/100ft
20 MHz	5.5 dB/100ft
30 MHz	7.2 dB/100ft
40 MHz	8.8 dB/100ft
50 MHz	10.2 dB/100ft
60 MHz	12 dB/100ft
70 MHz	13 dB/100ft
80 MHz	14.2 dB/100ft
90 MHz	15 dB/100ft
100 MHz	16 dB/100ft

Table Notes:	18" of twisted pairs and 2" of flat section. The transition area is included in the twisted length to assure a full 2 inches of flat termination area.

Delay

Nominal Delay	Nominal Velocity of Propagation (VP) [%]
1.6 ns/ft	64%

Balanced Crosstalk

Description	Start Frequency [MHz]	Start Frequency [MHz]	dB Suppression
10 ft. sample length	10 MHz	100 MHz	35 dB

Unbalanced Crosstalk

Element	Typical Unbalanced NEXT %	Typical Unbalanced FEXT %	Typical Cross Talk Pulse Rise Time (ns)
10 ft. sample length all grounds connected together.	5.8	5.2	3 ns
10 ft. sample length all grounds connected together.	4	3.2	5 ns
10 ft. sample length all grounds connected together.	2.5	2.8	7 ns

Current

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

Voltage

Dielectric Withstand Voltage	UL Voltage Rating
2000 V	300 V

Temperature Range

Operating Temp Range:	-20°C to +105°C

Mechanical Characteristics

Bulk Cable Weight:	25 lbs/1000ft
Min. Bend Radius During Installation:	4.5 in
Min. Bend Radius/Minor Axis:	1.25 in

Standards

UL AWM Style Compliance:	2693, 2697

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
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

Part Number

Variants

Item #	Color	Length	UPC
9V28010 000H100	None	100 ft	612825222118

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

History

Update and Revision:	Revision Number: 0.280 Revision Date: 09-10-2021