



**Product:** [9V28026](#)

Flat Vari-Twist Cable .050" Pitch, 9V280XX Series, #28-26c, PVC Ins on PVC Substrate

## Product Description

Flat Vari-Twist Cable .050" Pitch, 9V280XX Series, 26 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 | 13           |

Conductor Count: 26

#### 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          |
| 6            | Blue/Tan           |
| 7            | Purple/Tan         |
| 8            | Gray/Tan           |
| 9            | White/Tan          |
| 10           | Black/Tan          |
| Over 10 pair | Repeat as required |

### Construction and Dimensions

|   |                    |
|---|--------------------|
| Conductor Spacing Center-Center Flat Section: | .050 +/- .005 in   |
| Conductor Spacing Center-Center Outside:      | 1.250 +/- .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:                  | 1.326 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  $\mu$ H/ft

### Impedance

| Nominal Balanced Characteristic Impedance $\Omega$ | Nominal Characteristic Impedance | Nominal Characteristic Impedance Description | Nominal Unbalanced Characteristic Impedance |
|--|----------------------------------|--|---|
| 115 Ohm  | 115 Ohm                          | Balanced                                     | 100 Ohm                                     |
|  | 110 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] Stop 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 20°C

### 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: 42 lbs/1000ft

|                              |         |
|------------------------------|---------|
| 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          |
|-----------------|-------|--------|--------------|
| 9V28026 000H100 | None  | 100 ft | 612825222149 |

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

## History

|                      |  |
|----------------------|--|
| Update and Revision: | Revision Number: 0.307 Revision Date: 12-15-2021 |
|----------------------|--|

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