## Part Information:



Part Number: 159-2801-020

Description: Round and flat, aluminum and braid shield, .050 pitch, 28 awg, 20 conductors
Family: Round and Flat

## Outline Drawing



## Introduction

Round ' $n$ ' Flat cable combines the handling and shielding features of round cable and the mass termination capabilities of flat cable into a single construction. This product is designed for routing in tight spaces where a round shape is more practical and where a foil braid shield is necessary to help meet FCC requirements for EMI/RFI suppression.

The inner cable is extruded Spectra-Zip with alternating sections that are flat and slit. Each flat section is $3 / 4$ " in length with conductors on controlled spacing of $.050 " \pm .003$ " making it ideally suited for IDC mass termination methods. The alternating flat and slit sections also offer an advantage over standard round cable for hand termination. The flat sections keep the conductors aligned for
conductor positioning while the slit zip feature provides easy breakout of individual conductors

One edge of the flat cable is marked for conductor referencing. Two layers of shielding, aluminum- polyester foil and tinned copper braid are used to protect signals from EMI interference.

## Benefits

- Round cable that mass terminates
- High flexibility
- Helps meet FCC requirements
- UL, CL2
- CSA Certified


## Specifications

| Physical |  |
| :--- | :--- |
| Conductors | 28 AWG, $7 / 36$ Tinned Copper |
| Color code | Gray with Red Edge |
| Insulation | PVC, .010Ó WALL Thickness: .035" $\pm .003 "$ |
| Pitch | $.050 " \pm .00 "$ |
| Shielding | Aluminum/Polyester Foil, with Minimum $85 \%$ <br> Coverage Tinned Copper Braid |
| Jacket | Black PVC, .030" nom Wall |
| Liner | Paper Liner Between Jacket and Braid |
| Temperature <br> Rating | $-20^{\circ} \mathrm{C}$ to $+105^{\circ} \mathrm{C}\left(-4^{\circ} \mathrm{F}\right.$ to $\left.221^{\circ} \mathrm{F}\right)$ |
| UL style | Inner Cable: 2651 |
| Composite | UL Listed Power Limited Circuit Cable CL2 <br> CSA AWM I/II A 105ûC 300V, FT-1 |


| Electrical |  |
| :--- | :--- |
| Voltage | 300 volts |
| *Impedance | 75 ohms |
| *Capacitance | $24 \mathrm{pf} / \mathrm{ft}$ at $1 \mathrm{MHz}(78.7 \mathrm{pf} / \mathrm{m})$ |
| *Inductance | $15 \mu \mathrm{H} / \mathrm{ft}$ at $1 \mathrm{MHz}(.49 \mu \mathrm{H} / \mathrm{m})$ |
| Propagation Delay | $1.60 \mathrm{~ns} / \mathrm{ft}(5.25 \mathrm{~ns} / \mathrm{m})$ |

*Above values measure in the ground-signal-ground mode with the shield also grounded.
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Reference diameters for - 1XX and - 2XX are .030" to .040'
smaller than above. Standard put-up is 100 feet on cardboard reels. Consult factory for larger put-ups.

Ordering Information

|  |  | Width ' A ' |  | Span 'B' |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part Number | No. Cond. | Inches | (mm) | Inches | (mm) | Ref. Dia. Inches |
| $\begin{gathered} 843- \\ 159- \\ 2801- \\ 009 \end{gathered}$ | 9 | . 450 | $(11,43)$ | . $400+.007$ | $(10,16+0,18)$ | . 270 |
| $\begin{gathered} 843- \\ 159- \\ 2801- \\ 010 \end{gathered}$ | 10 | . 500 | $(12,70)$ | .450+. 007 | $(11,43+0,18)$ | . 270 |
| $\begin{gathered} 843- \\ 159- \\ 2801- \\ 015 \end{gathered}$ | 15 | . 750 | $(19,05)$ | .700+. 011 | $(17,78+0,28)$ | . 300 |
| $\begin{gathered} 843- \\ 159- \\ 2801- \\ 016 \end{gathered}$ | 16 | . 800 | $(20,32)$ | .750+. 011 | $(19,05+0,28)$ | . 310 |
| $\begin{gathered} 843- \\ 159- \\ 2801- \\ 020 \end{gathered}$ | 20 | 1.000 | $(25,40)$ | . 950+. 011 | $(24,13+0,28)$ | . 330 |
| $\begin{gathered} 843- \\ 159- \\ 2801- \\ 024 \end{gathered}$ | 24 | 1.200 | $(30,48)$ | $1.150+.011$ | $(29,21+0,28)$ | . 350 |
| $\begin{gathered} 843- \\ 159- \\ 2801- \\ 025 \end{gathered}$ | 25 | 1.250 | $(31,75)$ | 1.200+. 011 | $(30,48+0,28)$ | . 360 |
| $\begin{gathered} 843- \\ 159- \\ 2801- \\ 026 \end{gathered}$ | 26 | 1.300 | $(33,02)$ | 1.250+. 011 | $(31,75+0,28)$ | . 360 |
| $\begin{gathered} 843- \\ 159- \\ 2801- \\ 034 \end{gathered}$ | 34 | 1.700 | $(43,18)$ | 1.650+. 011 | $(41,91+0,28)$ | . 400 |
| $\begin{gathered} 843- \\ 159- \\ 2801- \\ 036 \end{gathered}$ | 36 | 1.800 | $(45,72)$ | $1.750+.015$ | $(44,45+0,38)$ | . 410 |
| $\begin{aligned} & 843- \\ & 159- \end{aligned}$ | 37 | 1.850 | $(47,00)$ | $1.800+.015$ | $(45,72+0,38)$ | . 410 |


| $2801-$ <br> 037 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $843-$ <br> $159-$ <br> $2801-$ <br> 040 | 40 | 2.000 | $(50,80)$ | $1.950+.015$ | $(49,53+0,38)$ | .430 |
| $843-$ <br> $159-$ <br> $2801-$ <br> 050 | 50 | 2.500 | $(63,50)$ | $2.450+.015$ | $(62,23+0,38)$ | .480 |
| $843-$ <br> $159-$ <br> $2801-$ <br> 060 | 60 | 3.000 | $(76,20)$ | $2.950+.015$ | $(74,93+0,38)$ | .520 |
| $843-$ <br> $159-$ <br> $2801-$ <br> 064 | 64 |  |  |  |  |  |

