

# 3M™ Round, Shielded/Jacketed, Flat Cable

.050" 28 AWG Stranded, Mass-Term, PVC/PVC

3659 Series

[查询"3659"供应商](#)



- Round construction permits easier routing
- 28 AWG wire on .050 inch pitch permits mass termination to broad line of IDC connectors
- Continuous split/bond repeat allows for mass termination on 2.4 inch centers (approximate)
- Primary cable is zippable for branching or discrete terminations
- Meets external wiring requirements of National Electrical Code, Article 725 (CL2)
- UL listed for USA and Canadian markets
- Dual shielding provides 35 db average shielding effectiveness
- \*RoHS compliant

Date Modified: May 24, 2004

TS-0083-17  
Sheet 1 of 2

## Physical

### Jacket


Material: Polyvinyl Chloride (PVC)

Color: Black

Primary Material: PVC

Color: Gray

### Marking

Standard: (UL) CL2 75C 28 AWG or AWM 20267 3M NU  AWM IIA/B 80C 300V FT1  
EU <50V

**Conductors:** 28 AWG 7 × 36 [ 7 × 0.127 ] Tinned Stranded Copper

**Shielding:** 001 [ 0.03 ] Thick Aluminum/Polyester Film Foil and 90% Coverage Tinned Copper Braid

## Electrical

**Voltage Rating:** USA: N.E.C. 725, CL2 or AWM; 300V      Canada: 300V      EU: <50V

**Insulation Resistance:**  $> 1 \times 10^{10} \Omega/10 \text{ ft. [ 3m ]}$

	Unbalanced	Balanced
<b>Characteristic Impedance:</b>	62 $\Omega$	106 $\Omega$
<b>Capacitance:</b>	27.7 pF/ft. [ 90.88 pF/m ]	15.2 pF/ft. [ 49.9 pF/m ]
<b>Inductance:</b>	.13 $\mu\text{H}/\text{ft. [ 0.43 } \mu\text{H/m ]}$	.20 $\mu\text{H}/\text{ft. [ 0.66 } \mu\text{H/m ]}$
<b>Propagation Delay:</b>	1.72 ns/ft. [ 5.64 ns/m ]	1.62 ns/ft. [ 5.32 ns/m ]
<b>Velocity of Propagation:</b>	59%	62%

Note: Unbalanced is measured between ground-signal-ground conductors with shield grounded. Balanced is measured between signal conductors within a pair, with the shield floating.

## Environmental

**Temperature Rating:** USA: CL2; 75°C Max or AWM; -20°C to +80°C      Canada: 80°C

**Flammability Rating:** USA: N.E.C. 725, CL2      Canada: FTI

\*RoHS = Directive 2002/95/EC,  
Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment

UL File No.: E118773, Power Limited Circuit Cable: CL2 (or AWM Style 20267)

**3M**

**Interconnect Solutions**

<http://www.3M.com/interconnects/>

3M is a trademark of 3M Company.

For technical, sales or ordering information call

**800-225-5373**

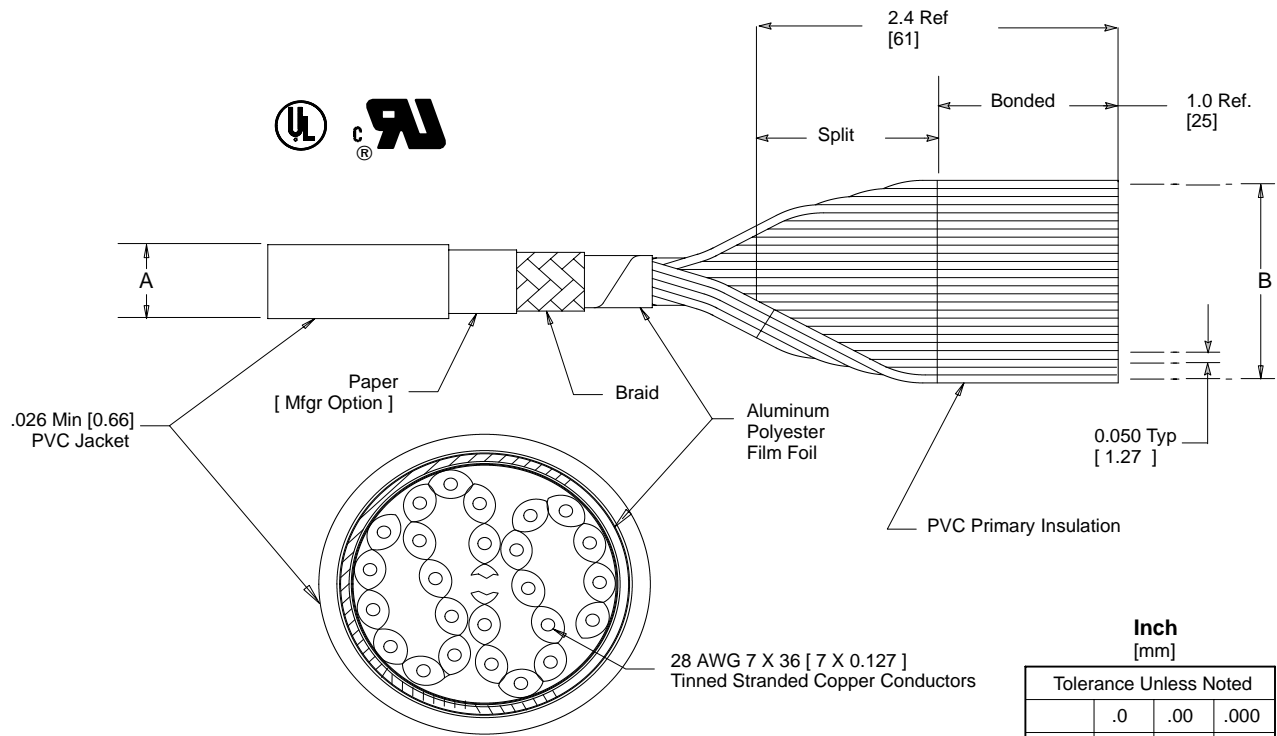
# 3M™ Round, Shielded/Jacket, Flat Cable

## .050" 28 AWG Stranded, Mass-Term, PVC/PVC

3659 Series

[查询"3659"供应商](#)

Number of Conductors	3M Part Number	Dimension A ± .03	Dimension B Ref (See Note 2)
09	3659/09	0.27 [ 6.9 ]	0.40 [ 10.2 ]
10	3659/10	0.27 [ 6.9 ]	0.45 [ 11.4 ]
14	3659/14	0.31 [ 7.9 ]	0.65 [ 16.5 ]
15	3659/15	0.31 [ 7.9 ]	0.70 [ 17.8 ]
16	3659/16	0.31 [ 7.9 ]	0.75 [ 19.1 ]
20	3659/20	0.34 [ 8.6 ]	0.95 [ 24.1 ]
24	3659/24	0.37 [ 9.4 ]	1.15 [ 29.2 ]
25	3659/25	0.37 [ 9.4 ]	1.20 [ 30.5 ]
26	3659/26	0.37 [ 9.4 ]	1.25 [ 31.8 ]
34	3659/34	0.41 [ 10.4 ]	1.65 [ 41.9 ]
36	3659/36	0.43 [ 10.9 ]	1.75 [ 44.5 ]
37	3659/37	0.43 [ 10.9 ]	1.80 [ 45.7 ]
40	3659/40	0.43 [ 10.9 ]	1.95 [ 49.5 ]
50	3659/50	0.48 [ 12.2 ]	2.45 [ 62.2 ]
60	3659/60	0.51 [ 13.0 ]	2.95 [ 74.9 ]
64	3659/64	0.54 [ 13.7 ]	3.15 [ 80.0 ]



**Notes:**

1. Red marking on one edge of primary cable designates wire #1.
2. Dimension B pertains to bonded area only.

Inch [mm]			
Tolerance Unless Noted			
	.0	.00	.000
Inch	±.1	±.05	±.010

[ ] Dimensions for Reference only

### Ordering Information

**3659/XX**

Number of Conductors (See Table)

Note: Available in standard length of 100 or 300 ft/roll, please specify when ordering.

TS-0083-17  
Sheet 2 of 2

### **Important Notice**

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

### **Warranty; Limited Remedy; Limited Liability.**

This product will be free from defects in material and manufacture for a period of 1 year from the date of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any loss or damage arising from this 3M product, whether direct, indirect, special, incidental or consequential regardless of the legal theory asserted.**



### **Electronic Solutions Division**

6801 River Place Blvd.  
Austin, TX 78726-9000  
[www.3M.com/esd](http://www.3M.com/esd)