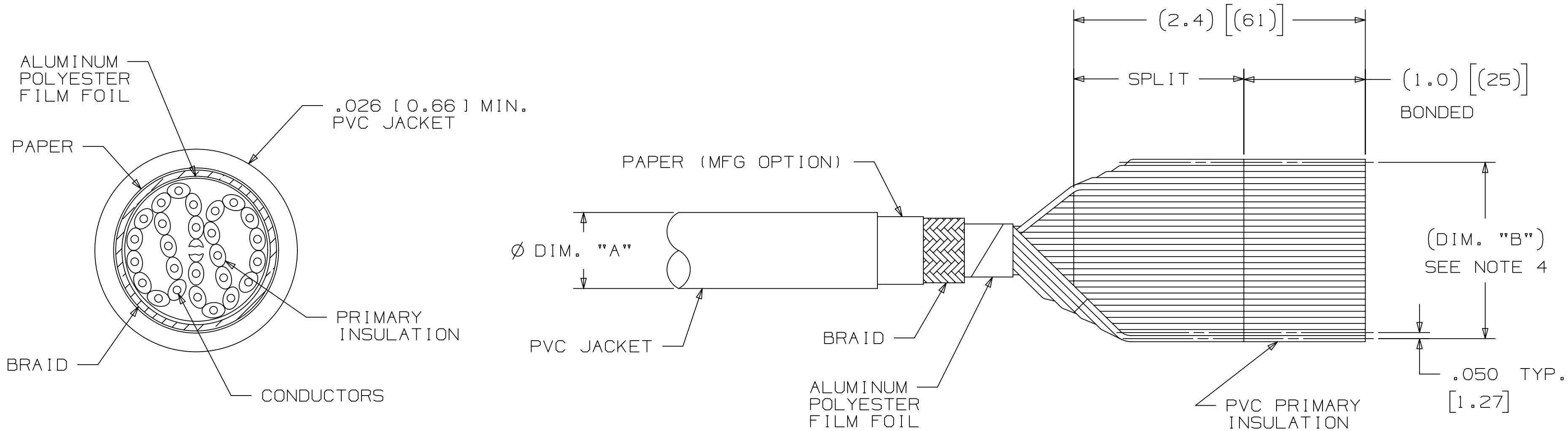


3M™ ROUND SHIELDED/JACKETED, FLAT CABLE, 3659 SERIES
.050" 28 AWG STRANDED, MASS TERMINATABLE, PVC/PVC



ORDERING INFORMATION

3659/XX XX XX

NUMBER OF CONDUCTORS
(SEE TABLE 1)

BLANK = STANDARD
SF = SPLICE FREE

BLANK = STANDARD
SO = CONTINUOUSLY BONDED WIRE (NO SPLIT)

NOTE:
AVAILABLE IN STANDARD LENGTHS OF 100 FT OR 300 FT ROLLS,
PLEASE SPECIFY WHEN ORDERING.
CONTACT 3M FOR AVAILABILITY OF ADDITIONAL CONDUCTOR COUNTS
AND/OR CUSTOM ROLL LENGTHS.

2 PHYSICAL :

JACKET MATERIAL: POLYVINYL CHLORIDE (PVC)
COLOR: BLACK
PRIMARY MATERIAL: PVC
COLOR: GRAY

MARKING:
STANDARD: SEE "PRINTING ILLUSTRATION" BELOW
CONDUCTORS: 28 AWG, 7 X 36 AWG [7 X Ø .127] TINNED STRANDED COPPER
SHIELDING: .001 [.03] THICK ALUMINUM/POLYESTER FILM FOIL AND 90%
COVERAGE TINNED COPPER BRAID.

2 ELECTRICAL :

VOLTAGE RATING: USA: N.E.C. 725, CL2 OR AWM; 300V CANADIAN 300V, EU: <50V
INSULATION RESISTANCE: (PRIMARY CABLE) >1 X 10¹⁰Ω/10ft. [3m]

CHARACTERISTIC	UNBALANCED	BALANCED
IMPEDANCE:	62Ω	106Ω
CAPACITANCE:	27.7 pF/ft [90.88 pF/m]	15.2 pF/ft [49.9 pF/m]
INDUCTANCE:	0.11μH/ft [0.35μH/m]	0.17μH/ft [0.57μH/m]
PROPAGATION DELAY:	1.72 ns/ft [5.64 ns/m]	1.62 ns/ft [5.31 ns/m]
VELOCITY OF PROPAGATION:	59%	62%

NOTE: UNBALANCED IS MEASURED BETWEEN GROUND-SIGNAL-GROUND CONDUCTORS
WITH SHIELD GROUNDING.
BALANCED IS MEASURED BETWEEN SIGNAL CONDUCTORS WITHIN A PAIR.
WITH THE SHIELD FLOATING.

2 ENVIRONMENTAL :

TEMPERATURE RATING: USA; CL2; 75°C OR AWM; -20°C TO +80°C
CANADA; -20°C TO +80°C

FLAMMABILITY RATING: USA; N.E.C. 725, CL2
CANADA; FT1

"PRINTING ILLUSTRATION"

UL® CL2 75°C 28 AWG OR AWM 20267 3M NU UL® AWM II A/B 80°C 300V FT1 EU <50V

3M ELECTRONICS MATERIALS SOLUTIONS DIVISION
INTERCONNECT SOLUTIONS
<http://www.3m.com/interconnect>

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UL FILE NUMBER:
E118773, CL2 (VOLUME 1, SECTION 1)
E42769, STYLE 20267

- * ROUND CONSTRUCTION PERMITS MORE EASY ROUTING.
- * 28 AWG WIRE ON .050 INCH CENTERS 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 TERMINATION.
- * MEETS EXTERNAL WIRING REQUIREMENTS OF NATIONAL ELECTRICAL CODE: ARTICAL 725 (CL2).
- * DUAL SHIELDING PROVIDES 35 db AVERAGE SHIELDING EFFECTIVENESS.

- NOTES
1. REGULATORY INFORMATION:
VISIT [3M.com/regs](http://3m.com/regs)
 2. IN THE EVENT OF CONFLICT BETWEEN THIS DATA AND THAT CONTAINED IN THE PRODUCT SPECIFICATION, THE PRODUCT SPECIFICATION TAKES PRECEDENT.
 3. RED MARKING ON ONE EDGE OF PRIMARY CABLE DESIGNATES WIRE #1.
 4. DIMENSION "B" PERTAINS TO BONDED AREA ONLY.

TABLE 1			
NO. OF CONDUCTORS	3M PART NUMBER	DIM. "A"	DIM. "B" REFERENCE
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]

CONTACT 3M FOR AVAILABLE OF ADDITIONAL
CONDUCTOR COUNTS.

DIMENSIONS: INCHES [MM]
[MM] IS FOR REF. ONLY

DESIGN REFERENCE		NEXT ASSEMBLY	
ACROSS CODES			
DIVISION		DIVISION CODE	DEPP
DO NOT SCALE DRAWING	SCALE	TOLERANCES EXCEPT AS NOTED	
THIRD ANGLE PROJECTION		INCHES	0 ± .1 .00 ± .05 .000 ± .010 .0000 ± .0005
INTERPRET PER ASME Y14.5 - 2018		MILLIMETERS	0 ± .0 ± .00 ± .000 ±
MAX. SURFACE ROUGHNESS		ALL SURFACES	0.00 ± 0.00 ± 0.00 ±
MARKED ONLY		ANGLES	±
REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT CHKD
DRFT	CASTIGLIONE	DATE JUN 28, 2023	DATE
CHKD		DATE	DATE
		APPROV. F. RODRIGUEZ	
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		TITLE	
		RD SHIELDED/JACKETED, FLAT CABLE, 3659 SERIES	
CAGE NUMBER	SIZE	DRAWING NO.	REV.
D	78-5100-0083-5	D	D
MODEL	3659	LISTS	YES NO SHT 1 OF 2

3M™ ROUND SHIELDED/JACKETED, FLAT CABLE, 3659 SERIES
.050" 28 AWG STRANDED, MASS TERMINATABLE, PVC/PVC

Regulatory: For regulatory information about this product, visit 3M.com/regs or contact your 3M representative.

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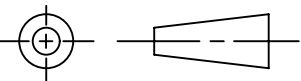
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Austin, TX 78753-5380
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	D	122370	APR 16,2025 REVISE DIM A	JNC	FJR
	C	64249	JUN 28,2023 REVISE NOTES AND REDRAW	JNC	FJR
	B	23307	APR 24,2009 REVISE NOTES	RED	ARM
	A	23052	APR 07,2009 REVISE ORDERING INFO	RED	ARM
	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
ACCESS CODES		DATE JUN 28,2023		MFG DATE	
		CHGD DATE		APPVL F.R. RODRIGUEZ DATE JUN 28,2023	
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DO NOT SCALE DRAWING		TOLERANCES EXCEPT AS NOTED		 RD SHIELDED/JACKETED, FLAT CABLE, 3659 SERIES	
		INCHES .0 ± .1 .00 ± .05 .000 ± .010 .0000 ± .0005			
THIRD ANGLE PROJECTION INTERPRET PER ASME Y14.5 - 2018		MILLIMETERS 0 ± .0 ± .00 ± .000 ±			
MAX SURFACE ROUGHNESS ALL SURFACES ✓ MARKED ONLY		MILLIMETERS ANGLES ±			
		CAGE NUMBER	SIZE D	DRAWING NO. D78-5100-0083-5	REV. D
		MODEL 3659	DET. _____ BY _____ Q YES X NO SHT 2 OF 4		

78-5100-0083-5	D
DRAWING NUMBER	REVISION

A