

CABLE DRAWING: MWA-3004

DRAWING TITLE:
ASC2 to SBC(ASC2) I2C Control Cable

DRAWING NO.: MWACAB-0004	DRAWN BY: DRC	DATE: 2-Nov-10	REV: A
		SHEET: 1 of 3	

Cable Detail:

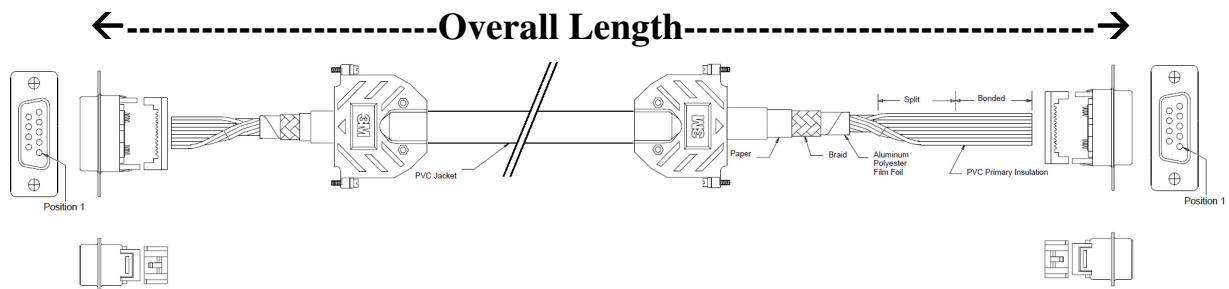
Connectors:	Description	Parts (Qty)
ASC1	DE9 Female IDC	See Note1 Below(1)
SBC	DE9 Female IDC	See Note1 Below(1)
Conductors:		
Cable	Ribbon Cable, Rnd/Flat, 9Way	See Note2 Below(25cm)
Misc:		
Backshell	For ASC2 & SBC ends	See Note3 Below(2)
Numbering	Attach Cable Numbers 0 & 1 (Supplier to specify)	See Note4 Below

Overall Length 230 +/-5mm

Notes:

1. DE9 Female IDC connector can be supplied from Farnell #469-415. Any equivalent will be OK refer to data sheets supplied with this drawing.
2. The ribbon cable can be supplied from Farnell #297-537. Any equivalent will be OK refer to data sheets supplied with this drawing. Extra length allows for the line-up of the round/flat region.
3. The connector backshells can be supplied from Farnell #167-2004. Any equivalent will be OK refer to data sheets supplied with this drawing
4. Cable numbering parts are left to the cable manufacture to decide, only the last two digits are required, for example "MWACAB-0004" is designated as "04" on the cable.

Typical Drawing:



REVISION

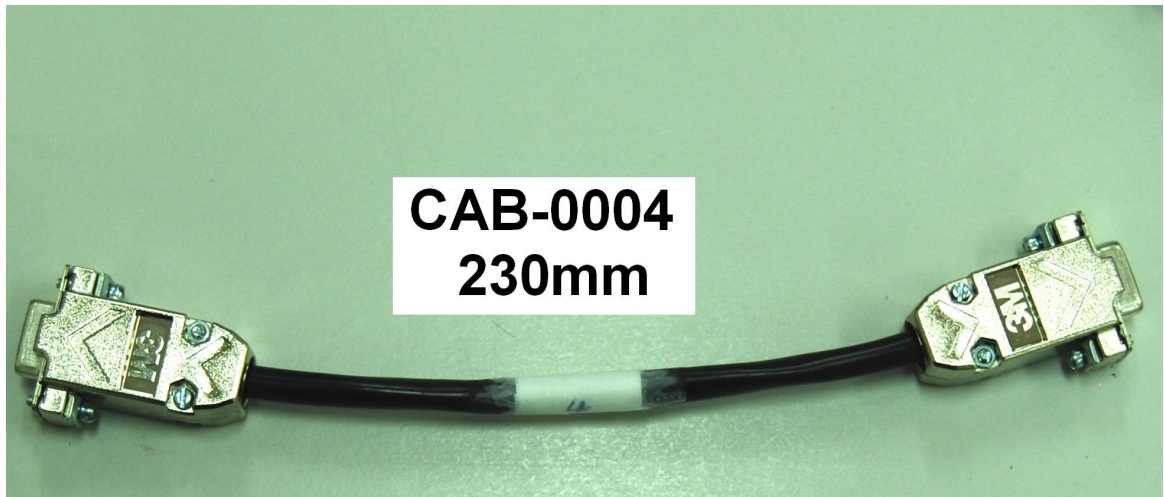
Date	Rev	Remarks
02/12/09	A	Draft
14/07/10	A	For Release
02/11/10	A	Salem Version

CABLE DRAWING: MWA-3004

DRAWING TITLE:
ASC2 to SBC(ASC2) I2C Control Cable

DRAWING NO.: MWACAB-0004	DRAWN BY: DRC	DATE: 2-Nov-10	REV: A
		SHEET: 2 of 3	

Typical Photo:



Pinouts Table:

ASC-I2C Pins(9)		SBC-ASC1 Pins(9)
1	I2C_addr_sel	1
2	NC	2
3	I2C_sclk	3
4	NC	4
5	I2C_sdate	5
6	0V	6
7	0V	7
8	0V	8
9	3V3	9

REVISION

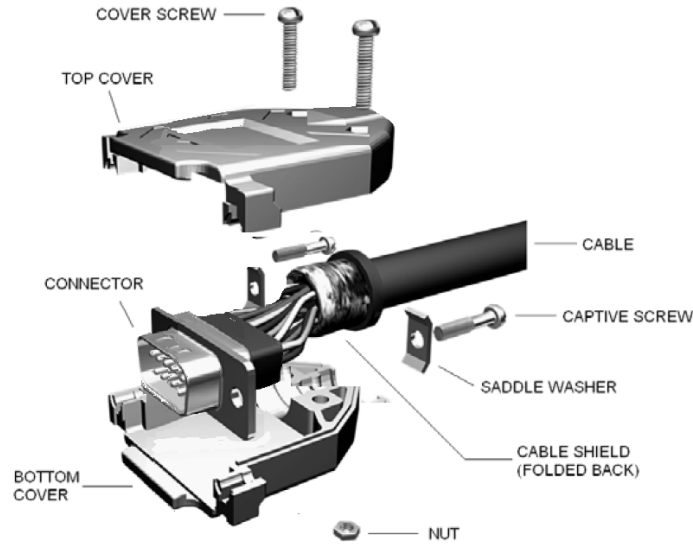
Date	Rev	Remarks
02/12/09	A	Draft
14/07/10	A	For Release
02/11/10	A	Salem Version

CABLE DRAWING: MWA-3004

DRAWING TITLE:
ASC2 to SBC(ASC2) I2C Control Cable

DRAWING NO.: MWACAB-0004	DRAWN BY: DRC	DATE: 2-Nov-10	REV: A
		SHEET: 3 of 3	

Assembly Details:



Connection Detail:

From: (ASC2) ASC Front Panel I2C Connector
 To: (SBC) SBC Front Panel ASC2 Connector

REVISION

Date	Rev	Remarks
02/12/09	A	Draft
14/07/10	A	For Release
02/11/10	A	Salem Version

D Sub

Socket Connector

8300 Series



- Available in either preassembled or two piece covers
- Available in either open or closed end cover
- Improved metal strain relief — hooks directly to metal shell
- Low profile
- Four mounting options

Date Modified: September 29, 1999

TS-0235-17
Sheet 1 of 3

57

Physical

Insulation

Material: Glass Filled Polyester (PBT)
Flammability: UL 94V-0
Color: Gray

Contact

Material: Copper Alloy
Plating
Underplate: 100 μ " (1.27 μ m) Nickel — QQ-N-290, Class 2
Wiping Area: 30 μ " (0.76 μ m) Gold — MIL-G-45204, Type II, Grade C

Shell

Material: Steel
Plating: Tin

Strain Relief Material: Stainless Steel .016 (0.40) Thick

Wire Accommodation: 26 & 28 AWG Solid or Stranded

Marking: 3M Logo & Contact Position Numbers

Electrical

Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ at 500 VDC

Withstanding Voltage: 1000 Vrms at Sea Level

Environmental

Temperature Rating: -55° to $+105^\circ$

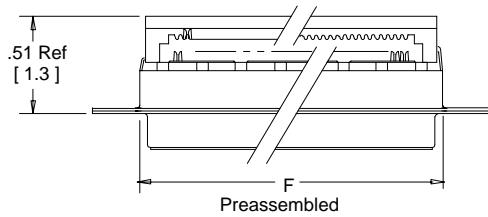
UL File No.: E68080

3M Interconnect Solutions Division

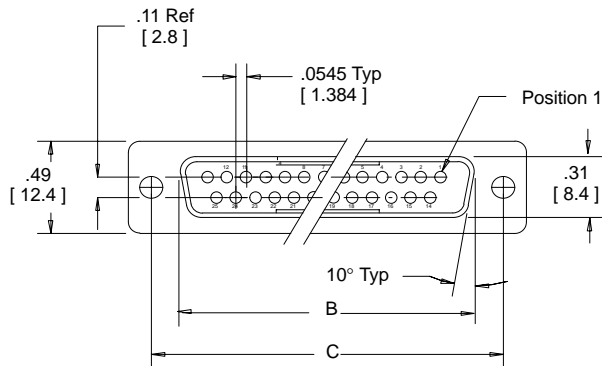
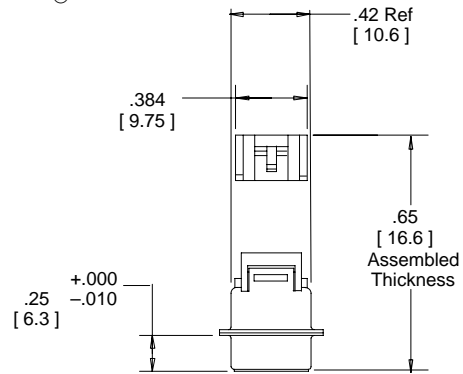
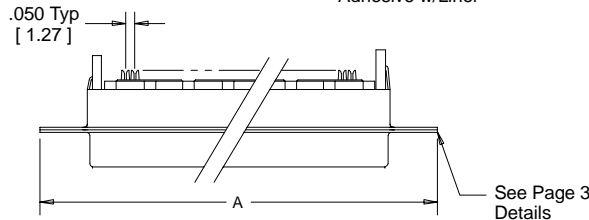
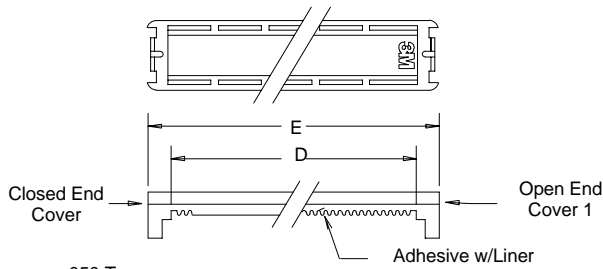
6801 River Place Blvd.
Austin, TX 78726-9000

For technical, sales or ordering information call
800-225-5373

Contact Quantity	Dimensions					
	A	B	C	D	E	F ± .008
09	1.23 [31.2]	.64 [16.3]	.98 [24.9]	.46 [11.7]	.67 [17.0]	.70 [17.7]
15	1.56 [39.6]	.97 [25.6]	1.31 [33.3]	.76 [19.3]	.99 [25.2]	1.03 [26.2]
25	2.10 [53.3]	1.51 [38.4]	1.85 [47.0]	1.27 [32.3]	1.54 [39.1]	1.57 [39.9]
37	2.74 [69.6]	2.16 [54.9]	2.50 [63.5]	1.87 [47.5]	2.19 [55.6]	2.22 [56.4]



Note: Preassembled closed cover on Pin 1 side of connector.



Inch
[mm]

Tolerance Unless Noted			
	.0	.00	.000
Inch	± .1	± .01	± .005

[] Dimensions for Reference only

Ordering Information

Connector 83XX-X00X

Contact Quantity

- Cover Style:
 6 = Open Cover
 7 = Closed Cover
 8 = Open Cover, w/o Adhesive, Preassembled
 9 = Closed Cover, w/o Adhesive, Preassembled

Mounting Style:

- 0 = ∅ .120 [3.05]
 3 = 4-40 UNC
 4 = M3

Strain Relief (Order Separately) 3448-8DXXA

- 09 = 9 Position
 15 = 15 Position
 25 = 25 Position
 37 = 37 Position

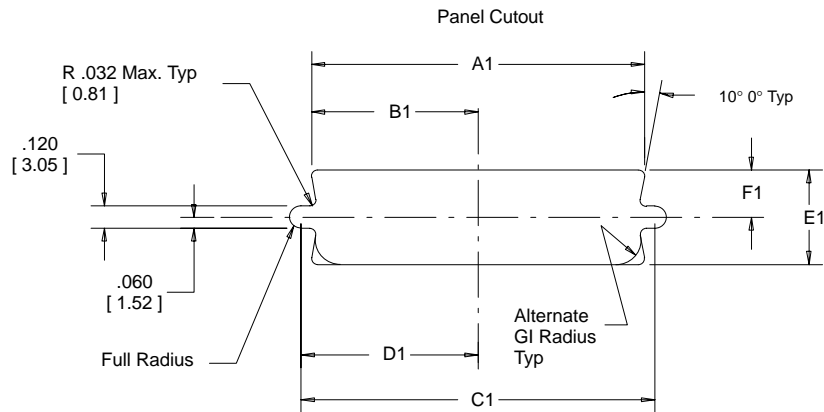
TS-0235-17
Sheet 2 of 3

D Sub Socket Connector

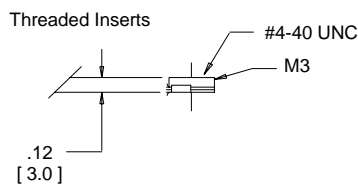
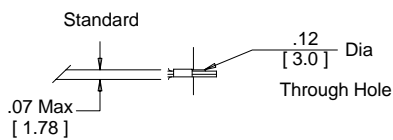
8300 Series

Mounting Method*	Contact Quantity	Dimensions						
		A1	B1	C1	D1	E1	F1	G1
Front	9	.87 [22.0]	.44 [11.2]	.98 [24.9]	.49 [12.5]	.51 [13.0]	.26 [6.6]	.12 [3.1]
	15	1.20 [30.5]	.60 [15.2]	1.31 [33.3]	.66 [16.8]			
	25	1.74 [44.2]	.87 [22.1]	1.85 [47.0]	.93 [23.6]			
	37	2.39 [60.7]	1.20 [30.5]	2.50 [63.5]	1.25 [31.8]			
Rear	9	0.81 [20.6]	.40 [10.2]	.98 [25.0]	.49 [12.5]	0.45 [11.4]	0.22 [5.8]	.12 [3.1]
	15	1.13 [28.7]	.57 [14.5]	1.31 [33.3]	.66 [16.8]			
	25	1.67 [42.4]	.84 [21.3]	1.85 [47.0]	.93 [23.6]			
	37	2.33 [59.2]	1.16 [29.5]	2.50 [63.5]	1.25 [31.8]			

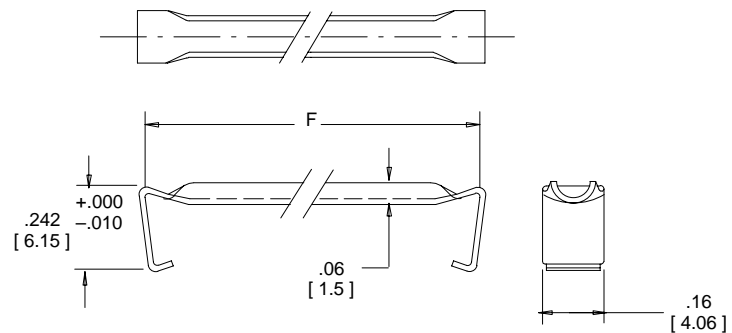
* Front Mount—The connector is mounted in front of the panel.
Rear Mount—The connector is mounted behind the panel.



Mounting Styles



Strain Relief (Order Separately or with Connector)



TS-0235-17
Sheet 3 of 3

3M Interconnect Solutions Division

6801 River Place Blvd.
Austin, TX 78726-9000

For technical, sales or ordering information call
800-225-5373

3M™ D Sub EMI Junction Shell

Metalized Plastic



- Protection from EMI/ESD
- Easy assembly reduces time and labor for low cost
- Light weight and a compact design
- Strain Relief compensates for multiple cable diameters
- Jack screws provide positive retention
- RoHS* compliant

Date Modified: January 15, 2007

TS-2132-02
Sheet 1 of 3

Physical

Shell and Hardware

Shell Material: ABS

Shell Plating: Nickel Over Copper

Hardware: (2) Jackscrews #4-40 × .438"

(2) Saddle Washers #4

(2) Nuts #4-40

(2) Screws #4-40 × .450"

Material: Steel

Plating: Bright Zinc

Compression Insert:

Material: Thermo Plastic Elastomer

Flammability: UL 94HB

Durometer: 75 + / -5

Mounting Hardware: See Specification Sheet TS-0142

Environmental

Temperature Rating: 0°C to +75°C

"RoHS compliant" means that the product or part does not contain any of the following substances in excess of the following maximum concentration values in any homogeneous material, unless the substance is in an application that is exempt under RoHS: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's knowledge and belief based upon information provided by third party suppliers to 3M.

3M™ D Sub EMI Junction Shell

Metalized Plastic

Inch		[mm]	
Tolerance Unless Noted			
	.0	.00	.000
inch	±.1	±.01	±.005

[] Dimensions for Reference Only

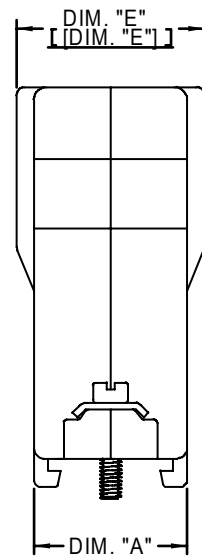
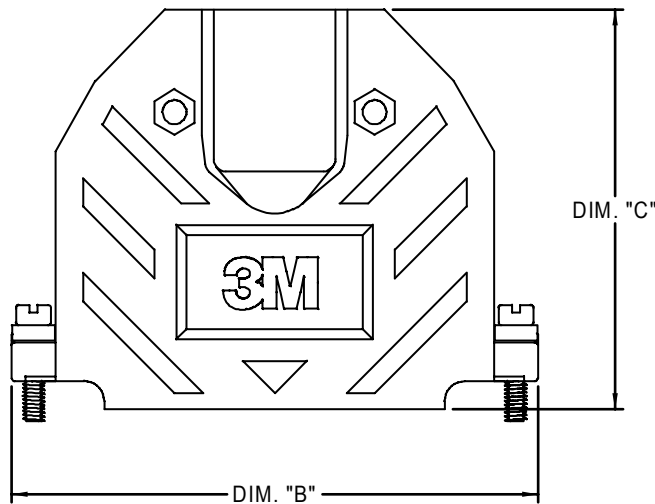
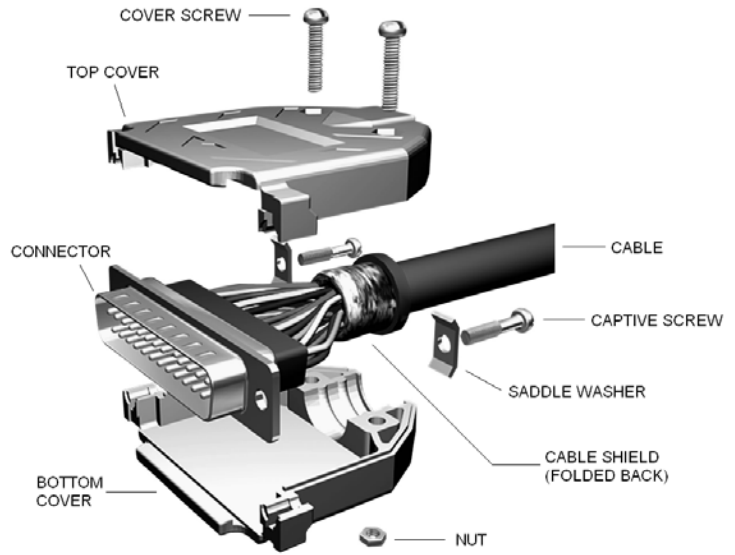
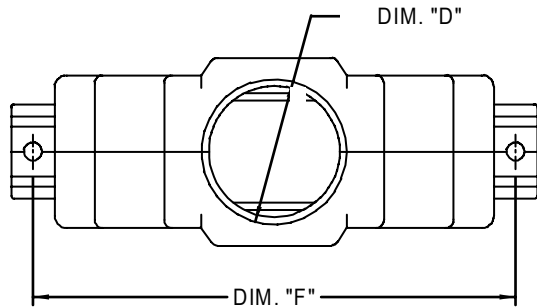


Table 1 - Junction Shell

3M Part Number	Dimensions						Cable O.D. Range	
	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"	Dim. "F"	Min	Max*
3357-6209-1C	.640 [16.26]	1.217 [30.91]	1.692 [42.98]	.400 [10.16]	N/A	.984 [24.99]	0.19 [4.8]	0.35 [8.9]
3357-6215-1C		1.540 [39.12]	1.650 [41.91]	.400 [10.06]	N/A	1.312 [33.32]	0.19 [4.8]	0.35 [8.9]
3357-6225-1C		2.090 [53.08]	1.800 [45.72]	.522 [13.26]	.710 [18.03]	1.857 [47.17]	0.19 [4.8]	0.46 [11.7]
3357-6237-1C		2.734 [69.44]	1.975 [50.17]	.726 [18.44]	.906 [23.01]	2.500 [63.50]	0.30 [7.6]	0.68 [17.27]
3357-6250-1C		.770 [19.56]	2.645 [67.18]	2.000 [50.80]	.726 [18.44]	.940 [23.88]	2.406 [61.11]	0.30 [7.6]

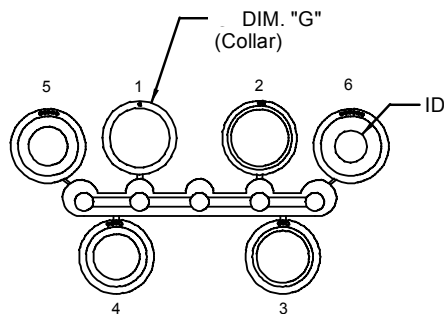
Note: *These numbers will vary depending upon the compressibility of the wire.

Backshell Dimension Table
Table 1

TS-2132-02
Sheet 2 of 3

3M™ D Sub EMI Junction Shell

Metalized Plastic



**Elastomeric Backshell Inserts
Figure 1**

Table 2 - Compression Inserts

Insert For	Dimensions												G
	1		2		3		4		5		6		
	OD	ID	OD	ID	OD	ID	OD	ID	OD	ID	OD	ID	
3357-6209	0.475 [12.07]	0.320 [8.13]	0.360 [9.14]	0.315 [8.00]	0.360 [9.14]	0.285 [7.24]	0.360 [9.14]	0.255 [6.48]	0.360 [9.14]	0.210 [5.33]	N/A	N/A	0.475 [12.07]
3357-6215	0.600 [15.24]	0.450 [11.43]	0.450 [11.43]	0.410 [10.41]	0.450 [11.43]	0.370 [9.40]	0.450 [11.43]	0.300 [7.62]	0.450 [11.43]	0.230 [5.84]	N/A	N/A	0.600 [15.24]
3357-6225	0.655 [16.64]	0.650 [16.51]	0.700 [17.78]	0.620 [15.75]	0.810 [20.57]	0.570 [14.48]	0.655 [16.64]	0.500 [12.70]	0.655 [16.64]	0.425 [10.80]	0.655 [16.64]	0.350 [8.89]	0.810 [20.57]
3357-6237	0.810 [20.57]	0.650 [16.51]	0.700 [17.78]	0.620 [15.75]	0.655 [16.64]	0.570 [14.48]	0.655 [16.64]	0.500 [12.70]	0.655 [16.64]	0.425 [10.80]	0.655 [16.64]	0.350 [8.89]	0.810 [20.57]

**Cable Insert Dimension Table
Table 2**

Ordering Information

3357-62XX-1C

Backshell Size
09 = 9 Pin
15 = 15 Pin
25 = 25 Pin
37 = 37 Pin
50 = 50 Pin

TS-2132-02
Sheet 3 of 3

.050" Round, Shielded/Jacketed, Flat Cable

28 AWG Stranded, Mass-Term, PVC/PVC

3659 Series



- 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

Date Modified: July 29, 1999

TS-0083-14
Sheet 1 of 2

34

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
Characteristic Impedance	62 Ω	106 Ω
Capacitance	27.7 pF/ft. [90.88 pF/m]	15.2 pF/ft. [49.9 pF/m]
Inductance	.13 $\mu\text{H}/\text{ft. [0.43 } \mu\text{H/m]}$.20 $\mu\text{H}/\text{ft. [0.66 } \mu\text{H/m]}$
Propagation Delay	1.72 ns/ft. [5.64 ns/m]	1.62 ns/ft. [5.32 ns/m]
Velocity of Propagation	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

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

3M Interconnect Solutions Division

6801 River Place Blvd.
Austin, TX 78726-9000

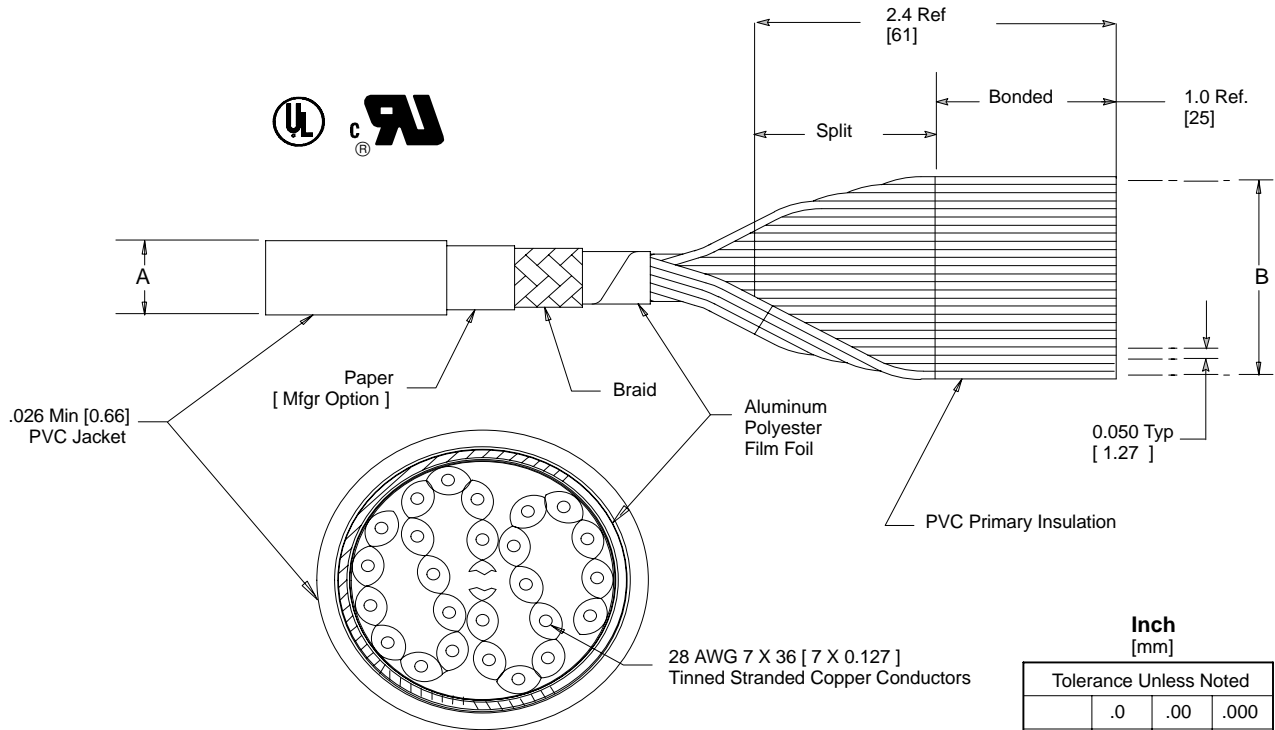
For technical, sales or ordering information call
800-225-5373

.050" Round, Shielded/Jacket, Flat Cable

28 AWG Stranded, Mass-Term, PVC/PVC

3659 Series

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]



Inch [mm]

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

[] Dimensions for Reference only

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

Ordering Information

3659X/XX

Jacket Color Options
 Blank = "Standard" Black Jacket
 C = "Special" Cream Jacket
 G = "Special" Gray Jacket
 L = "Special" Light Olive Jacket

Number of Conductors
 (See Table)

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

TS-0083-14
 Sheet 2 of 2

3M Interconnect Solutions Division

6801 River Place Blvd.
 Austin, TX 78726-9000

For technical, sales or ordering information call
800-225-5373