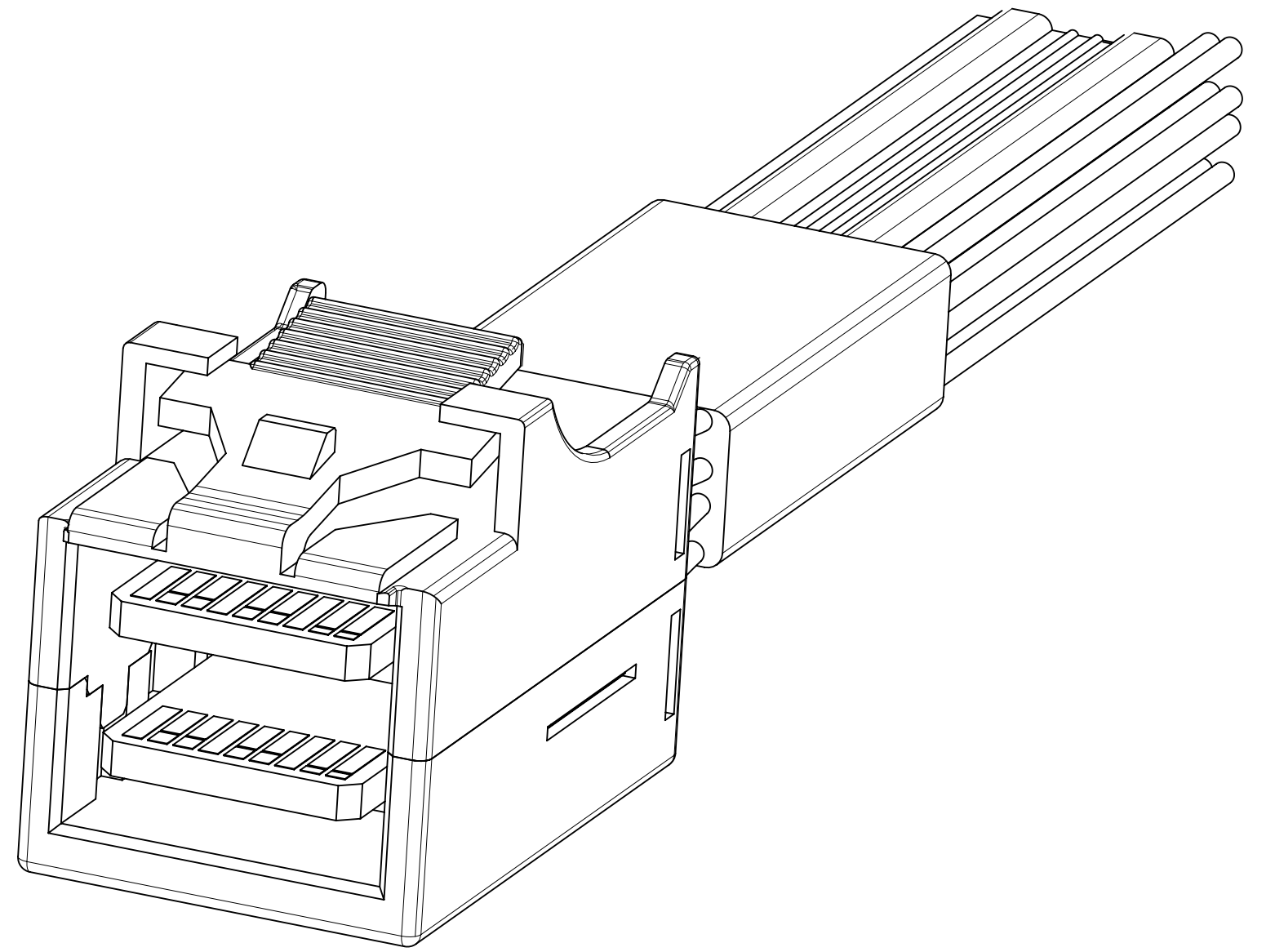
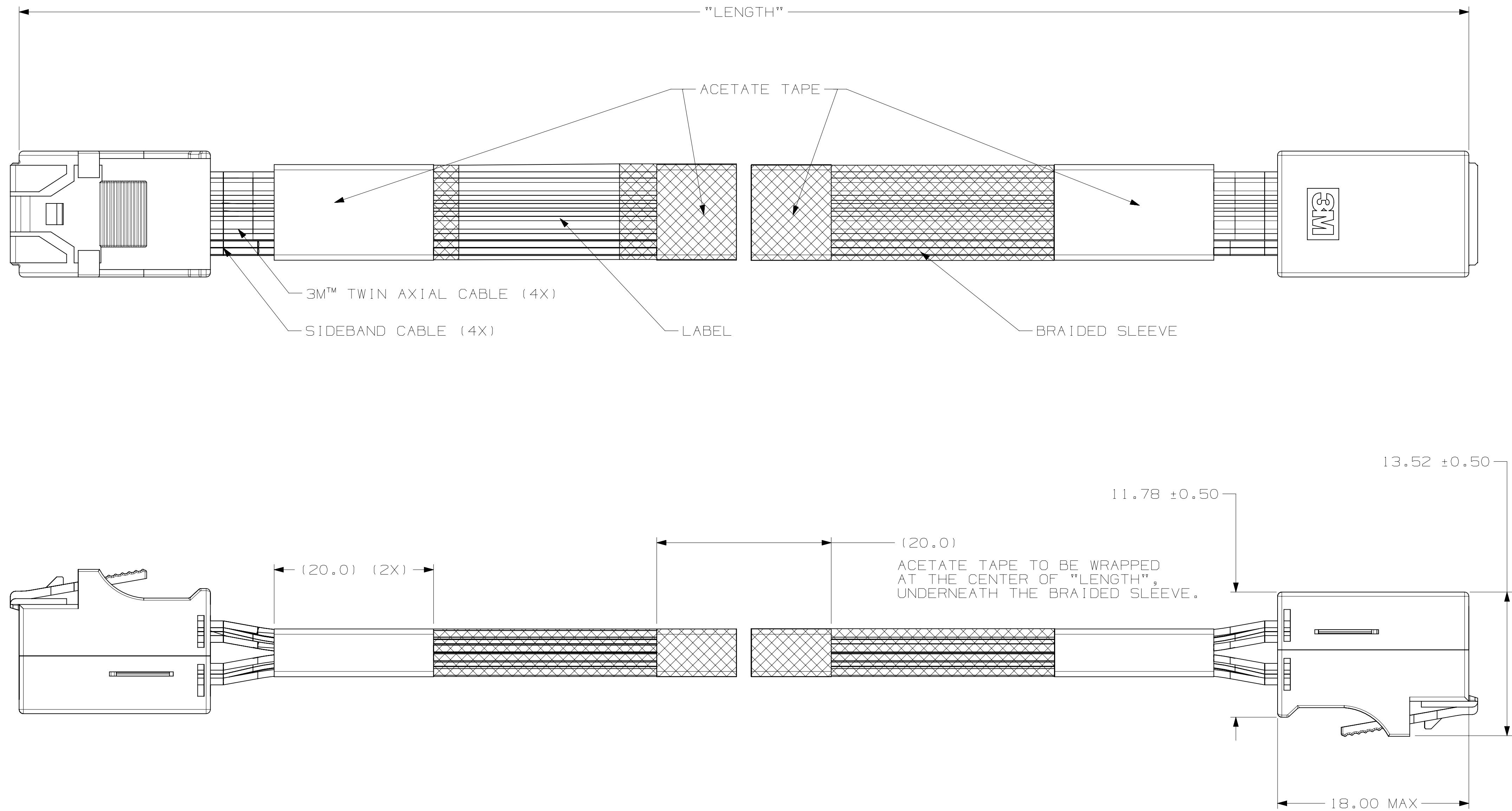


3M™ HIGH ROUTABILITY INTERNAL MINISAS HD CABLE ASSEMBLIES, 8U SERIES



DESIGN REFERENCE		NEXT ASSEMBLY		REV	ECO	ISSUE DATE AND DESCRIPTION		DRFT	CHKD
DISTRIBUTION CODES				DRP	KOK HOE LEE	DATE	MAR 30, 2015	MFG	DATE
DIVISION		DIVISION CODE		CHKD	YUNLONG QIAO	DATE	MAR 30, 2015	APPRV	SAUJIT BANDHU
DO NOT SCALE DRAWING		SCALE 1/4		TOLERANCES EXCEPT AS NOTED		INCHES			
THIRD ANGLE PROJECTION		INTERPRET PER ASME Y14.5 - 1994		MILLIMETERS		0 ±.1			
MAX SURFACE ROUGHNESS 125/		ALL SURFACES MARKED ONLY		ANGLES ±1°		0 ±.5 .00 ±.05 .000 ±.005			
TITLE		INTERNAL MINISAS HD CABLE ASSEMBLY (SHORTENED CONNECTOR)		CAGE NUMBER		DRAWING NO.		REV.	
MODEL		DET		YES		NO		SHT 1 OF 2	

3M™ HIGH ROUTABILITY INTERNAL MINISAS HD CABLE ASSEMBLIES, 8U SERIES

3M PART NUMBERING SCHEME

8US4 - XXX 29 - 00 - X.XX

"LENGTH" IN METERS

"LENGTH" TOLERANCE

±10MM FOR "LENGTH" 0.5 METER MAX
±15MM FOR "LENGTH" MORE THAN 0.5 METER

TABLE 1: DESCRIPTION FOR "XXX"

XXX	PINOUT	BRAIDED SLEEVE
AA1	STD MINISAS HD 4i WITH SIDEBANDS (SEE TABLE 2)	YES
AA2	STD MINISAS HD 4i WITH SIDEBANDS (SEE TABLE 2)	NO
CB1	MINISAS HD 4i WITHOUT SIDEBANDS (SEE TABLE 3)	YES
CB2	MINISAS HD 4i WITHOUT SIDEBANDS (SEE TABLE 3)	NO

NOTES

- MATERIALS:

HOUSING: THERMOPLASTIC

INNERMOULD: THERMOPLASTIC

3M™ TWIN AXIAL CABLE:
CONDUCTORS: SOLID COPPER, Ag-PLATED SIGNALS
INSULATOR: POLYOLEFIN
SHIELDING: ALUMINIUM LAYER

SIDEBAND CABLE:
CONDUCTORS: SOLID COPPER
INSULATOR: THERMOPLASTIC ELASTOMER

PCB: LOW DIELECTRIC CONSTANT MATERIAL
FOR HIGH SPEED APPLICATION

BRAIDED SLEEVE: THERMOPLASTIC
- ROHS COMPLIANT. SEE REGULATORY INFORMATION
APPENDIX IN "ROHS COMPLIANCE" SECTION AT
WWW.3M.COM/INTERCONNECT (E1 & C1 APPLY)
- UNLESS OTHERWISE NOTED, REFERENCES TO INDUSTRY
SPECIFICATIONS ARE INTENDED TO INDICATE
SUBSTANTIAL COMPLIANCE TO THE MATERIAL ELEMENTS
OF THE SPECIFICATION. SUCH REFERENCES SHOULD NOT
BE CONSTRUED AS A GUARANTEE OF COMPLIANCE TO
ALL REQUIREMENTS IN A GIVEN SPECIFICATION.
- PRODUCT SPECIFICATION*: 78-5102-0200-1

WIRING DIAGRAMS

WIRING DIAGRAM 1				
P1			P2	
POSITION	SYMBOL		SYMBOL	POSITION
D9	GROUND	—	GROUND	B9
D8	Tx2-	→→	Rx2-	B8
D7	Tx2+	→→	Rx2+	B7
D6	GROUND	—	GROUND	B6
D5	Tx0-	→→	Rx0-	B5
D4	Tx0+	→→	Rx0+	B4
D3	GROUND	—	GROUND	B3
D2	SIDEBAND 6	↔	SIDEBAND 5	D1
D1	SIDEBAND 5	↔	SIDEBAND 6	D2
C1	SIDEBAND 4	↔	SIDEBAND 2	C2
C2	SIDEBAND 2	↔	SIDEBAND 4	C1
C3	GROUND	—	GROUND	A3
C4	Tx1+	→→	Rx1+	A4
C5	Tx1-	→→	Rx1-	A5
C6	GROUND	—	GROUND	A6
C7	Tx3+	→→	Rx3+	A7
C8	Tx3-	→→	Rx3-	A8
C9	GROUND	—	GROUND	A9
B9	GROUND	—	GROUND	D9
B8	Rx2-	←←	Tx2-	D8
B7	Rx2+	←←	Tx2+	D7
B6	GROUND	—	GROUND	D6
B5	Rx0-	←←	Tx0-	D5
B4	Rx0+	←←	Tx0+	D4
B3	GROUND	—	GROUND	D3
B2	SIDEBAND 1	↔	SIDEBAND 3	B1
B1	SIDEBAND 3	↔	SIDEBAND 1	B2
A1	SIDEBAND 7	↔	SIDEBAND 0	A2
A2	SIDEBAND 0	↔	SIDEBAND 7	A1
A3	GROUND	—	GROUND	C3
A4	Rx1+	←←	Tx1+	C4
A5	Rx1-	←←	Tx1-	C5
A6	GROUND	—	GROUND	C6
A7	Rx3+	←←	Tx3+	C7
A8	Rx3-	←←	Tx3-	C8
A9	GROUND	—	GROUND	C9

TABLE 2: WITH SIDEBANDS

WIRING DIAGRAM 2				
P1			P2	
POSITION	SYMBOL		SYMBOL	POSITION
D9	GROUND	—	GROUND	B9
D8	Tx2-	→→	Rx2-	B8
D7	Tx2+	→→	Rx2+	B7
D6	GROUND	—	GROUND	B6
D5	Tx0-	→→	Rx0-	B5
D4	Tx0+	→→	Rx0+	B4
D3	GROUND	—	GROUND	B3
C3	GROUND	—	GROUND	A3
C4	Tx1+	→→	Rx1+	A4
C5	Tx1-	→→	Rx1-	A5
C6	GROUND	—	GROUND	A6
C7	Tx3+	→→	Rx3+	A7
C8	Tx3-	→→	Rx3-	A8
C9	GROUND	—	GROUND	A9
B9	GROUND	—	GROUND	D9
B8	Rx2-	←←	Tx2-	D8
B7	Rx2+	←←	Tx2+	D7
B6	GROUND	—	GROUND	D6
B5	Rx0-	←←	Tx0-	D5
B4	Rx0+	←←	Tx0+	D4
B3	GROUND	—	GROUND	D3
A3	GROUND	—	GROUND	C3
A4	Rx1+	←←	Tx1+	C4
A5	Rx1-	←←	Tx1-	C5
A6	GROUND	—	GROUND	C6
A7	Rx3+	←←	Tx3+	C7
A8	Rx3-	←←	Tx3-	C8
A9	GROUND	—	GROUND	C9

→→

←←

→→

←←

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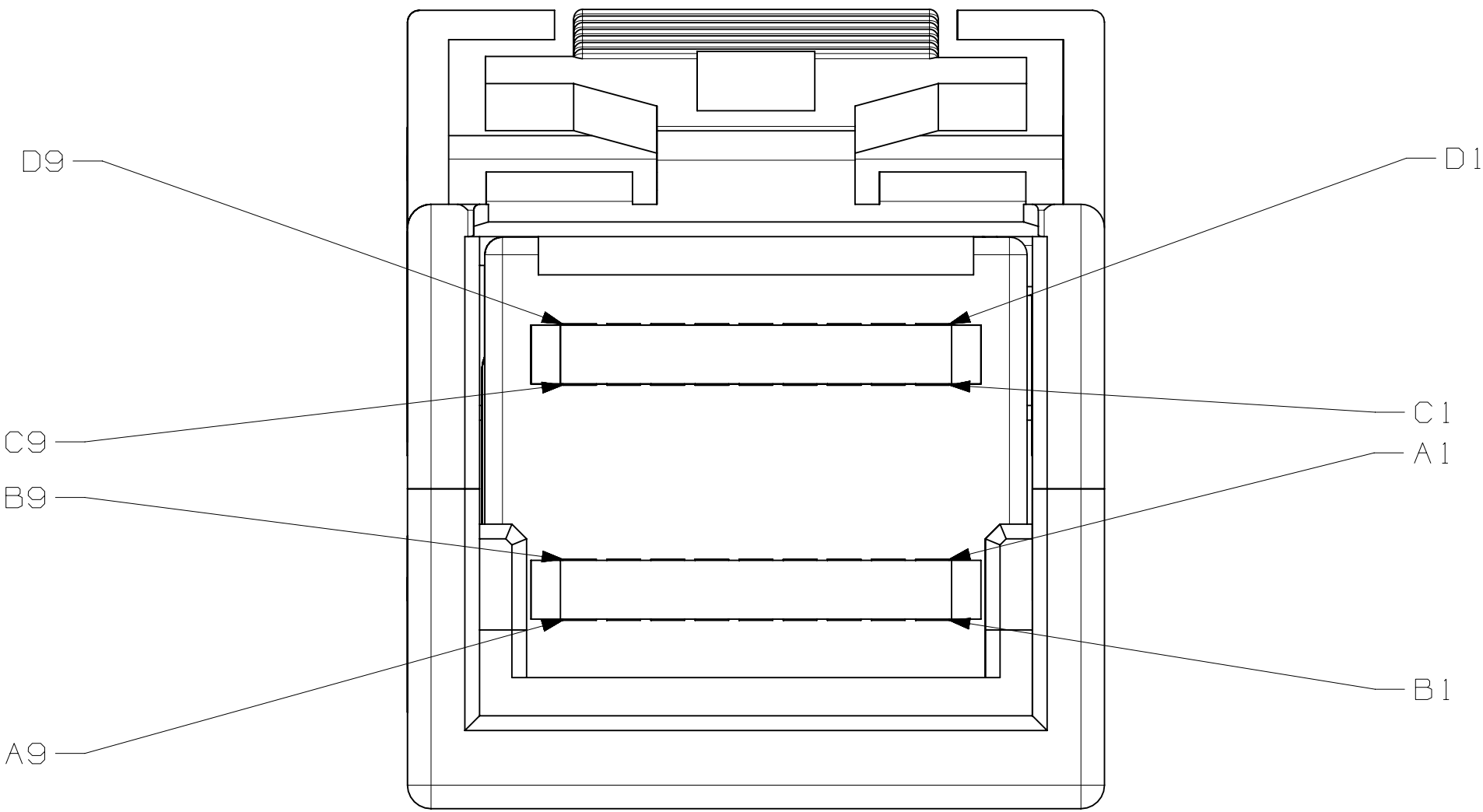
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HIGH SPEED SERIAL
DIFFERENTIAL PAIRS

SIGNAL RETURN

POWER AND MANAGEMENT INTERFACE

TABLE 3: WITHOUT SIDEBANDS



DESIGN REFERENCE		NEXT ASSEMBLY		A 0060751		MAR 30, 2015		KHL	SB
DISTRIBUTION CODES				REV	ECO	ISSUE DATE AND DESCRIPTION		DRFT	CHKD
				DRP	KOK	HOE	LEE	DATE	DATE
				CHKD	YUNLONG	QIAO	MAR 30, 2015	APPRV	SAUJIT BANDHU
DIVISION		DESIGN CODE		DATE	MAR 30, 2015	DATE	MAR 30, 2015	DATE	MAR 30, 2015
DO NOT SCALE DRAWING		SCALE 1/4		3M 3M Center St. Paul, MN 55144 © 3M COPYRIGHT 2015 This document and the information it contains are 3M property and may not be reproduced or further distributed without 3M permission, or used or disclosed other than for 3M authorized purposes. All rights reserved.					
THIRD ANGLE PROJECTION		TOLERANCES EXCEPT AS NOTED							
INTERPRET PER ASME Y14.5 - 1994		INCHES		INTERNAL MINISAS HD CABLE ASSEMBLY (SHORTENED CONNECTOR)					
MAX SURFACE ROUGHNESS		MILLIMETERS							
125/		0 ± 1		CAGE NUMBER					
ALL SURFACES		0 ± .5							
MARKED ONLY		0 ± .05		DRAWING NO.					
		0 ± .005							
		ANGLES ± 1°		REV.					
				MODEL					
				DET					
				SHT 2 OF 2					

3M™ HIGH ROUTABILITY INTERNAL MINISAS HD CABLE ASSEMBLIES, 8U SERIES

3M PART NUMBERING SCHEME

8US4 - XXX 29 - 00 - X.XX

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±15MM FOR "LENGTH" MORE THAN 0.5 METER

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D6	GROUND	—	GROUND	B6
D5	Tx0-	→→	Rx0-	B5
D4	Tx0+	→→	Rx0+	B4
D3	GROUND	—	GROUND	B3
D2	SIDEBAND 6	↔	SIDEBAND 5	D1
D1	SIDEBAND 5	↔	SIDEBAND 6	D2
C1	SIDEBAND 4	↔	SIDEBAND 2	C2
C2	SIDEBAND 2	↔	SIDEBAND 4	C1
C3	GROUND	—	GROUND	A3
C4	Tx1+	→→	Rx1+	A4
C5	Tx1-	→→	Rx1-	A5
C6	GROUND	—	GROUND	A6
C7	Tx3+	→→	Rx3+	A7
C8	Tx3-	→→	Rx3-	A8
C9	GROUND	—	GROUND	A9
B9	GROUND	—	GROUND	D9
B8	Rx2-	←←	Tx2-	D8
B7	Rx2+	←←	Tx2+	D7
B6	GROUND	—	GROUND	D6
B5	Rx0-	←←	Tx0-	D5
B4	Rx0+	←←	Tx0+	D4
B3	GROUND	—	GROUND	D3
B2	SIDEBAND 1	↔	SIDEBAND 3	B1
B1	SIDEBAND 3	↔	SIDEBAND 1	B2
A1	SIDEBAND 7	↔	SIDEBAND 0	A2
A2	SIDEBAND 0	↔	SIDEBAND 7	A1
A3	GROUND	—	GROUND	C3
A4	Rx1+	←←	Tx1+	C4
A5	Rx1-	←←	Tx1-	C5
A6	GROUND	—	GROUND	C6
A7	Rx3+	←←	Tx3+	C7
A8	Rx3-	←←	Tx3-	C8
A9	GROUND	—	GROUND	C9

TABLE 2: WITH SIDEBANDS

WIRING DIAGRAM 2				
P1			P2	
POSITION	SYMBOL		SYMBOL	POSITION
D9	GROUND	—	GROUND	B9
D8	Tx2-	→→	Rx2-	B8
D7	Tx2+	→→	Rx2+	B7
D6	GROUND	—	GROUND	B6
D5	Tx0-	→→	Rx0-	B5
D4	Tx0+	→→	Rx0+	B4
D3	GROUND	—	GROUND	B3
C3	GROUND	—	GROUND	A3
C4	Tx1+	→→	Rx1+	A4
C5	Tx1-	→→	Rx1-	A5
C6	GROUND	—	GROUND	A6
C7	Tx3+	→→	Rx3+	A7
C8	Tx3-	→→	Rx3-	A8
C9	GROUND	—	GROUND	A9
B9	GROUND	—	GROUND	D9
B8	Rx2-	←←	Tx2-	D8
B7	Rx2+	←←	Tx2+	D7
B6	GROUND	—	GROUND	D6
B5	Rx0-	←←	Tx0-	D5
B4	Rx0+	←←	Tx0+	D4
B3	GROUND	—	GROUND	D3
A3	GROUND	—	GROUND	C3
A4	Rx1+	←←	Tx1+	C4
A5	Rx1-	←←	Tx1-	C5
A6	GROUND	—	GROUND	C6
A7	Rx3+	←←	Tx3+	C7
A8	Rx3-	←←	Tx3-	C8
A9	GROUND	—	GROUND	C9

→→

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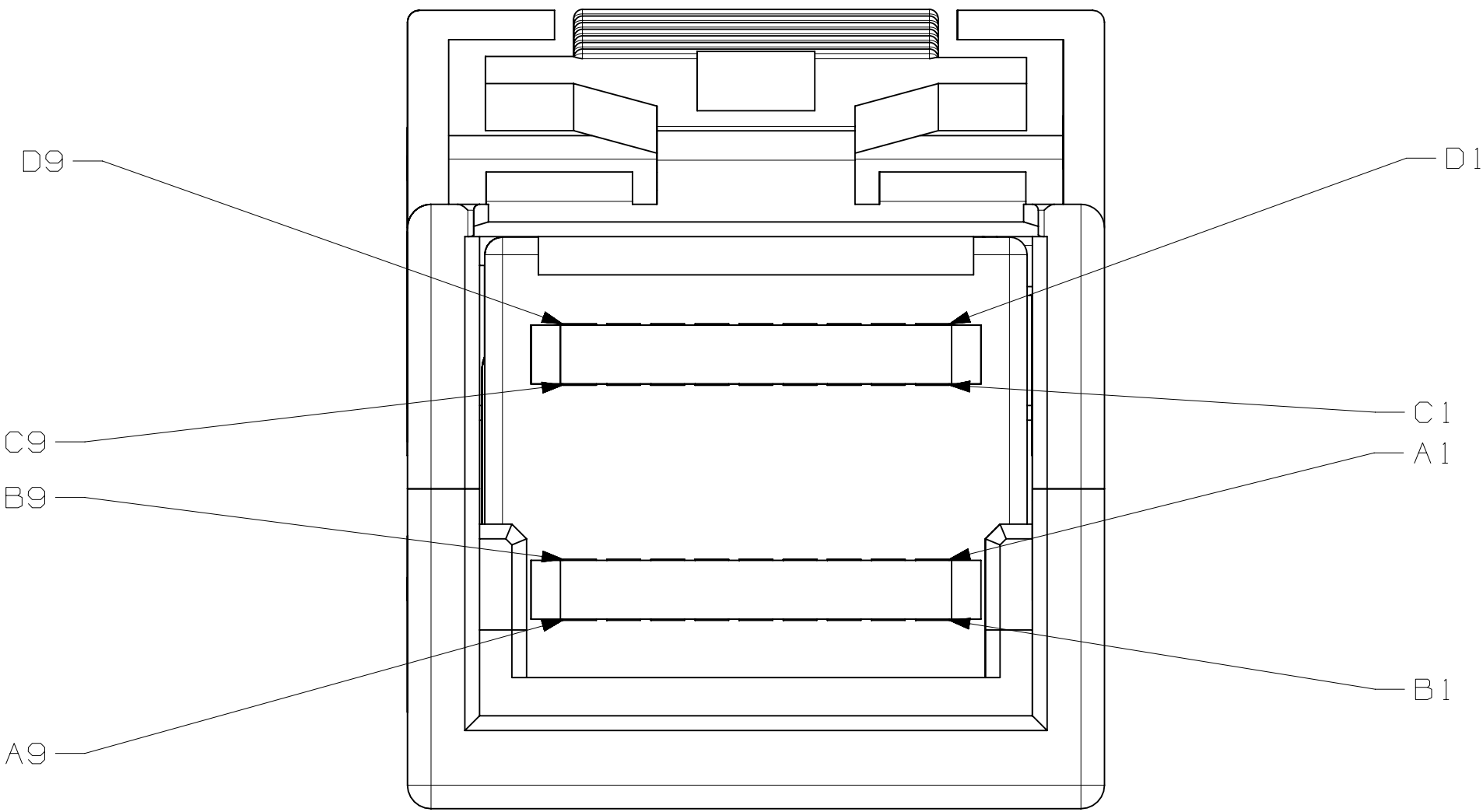
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HIGH SPEED SERIAL
DIFFERENTIAL PAIRS

SIGNAL RETURN

POWER AND MANAGEMENT INTERFACE

TABLE 3: WITHOUT SIDEBANDS



DESIGN REFERENCE		NEXT ASSEMBLY		A 0060751		MAR 30, 2015		KHL	SB
DISTRIBUTION CODES				REV	ECO	ISSUE DATE AND DESCRIPTION		DRFT	CHKD
				DRP	KOK	HOE	LEE	DATE	DATE
				CHKD	YUNLONG	QIAO	MAR 30, 2015	APPRV	SAUJIT BANDHU
DIVISION		DESIGN CODE		DATE	MAR 30, 2015	DATE	MAR 30, 2015	DATE	MAR 30, 2015
DO NOT SCALE DRAWING		SCALE 1/4		 3M Center St. Paul, MN 55144		© 3M COPYRIGHT 2015 This document and the information it contains are 3M property and may not be reproduced or further distributed without 3M permission, or used or disclosed other than for 3M authorized purposes. All rights reserved.			
THIRD ANGLE PROJECTION		TOLERANCES EXCEPT AS NOTED							
INTERPRET PER ASME Y14.5 - 1994		INCHES		TITLE INTERNAL MINISAS HD CABLE ASSEMBLY (SHORTENED CONNECTOR)					
MAX SURFACE ROUGHNESS		MILLIMETERS							
125/		0 ± 1		CAGE NUMBER		SIZE		DRAWING NO.	
ALL SURFACES		0 ± .5							
MARKED ONLY		0 ± .05		MODEL		DET		LISTS	
		0 ± .005							
		ANGLES ± 1°						SHT 2 OF 2	