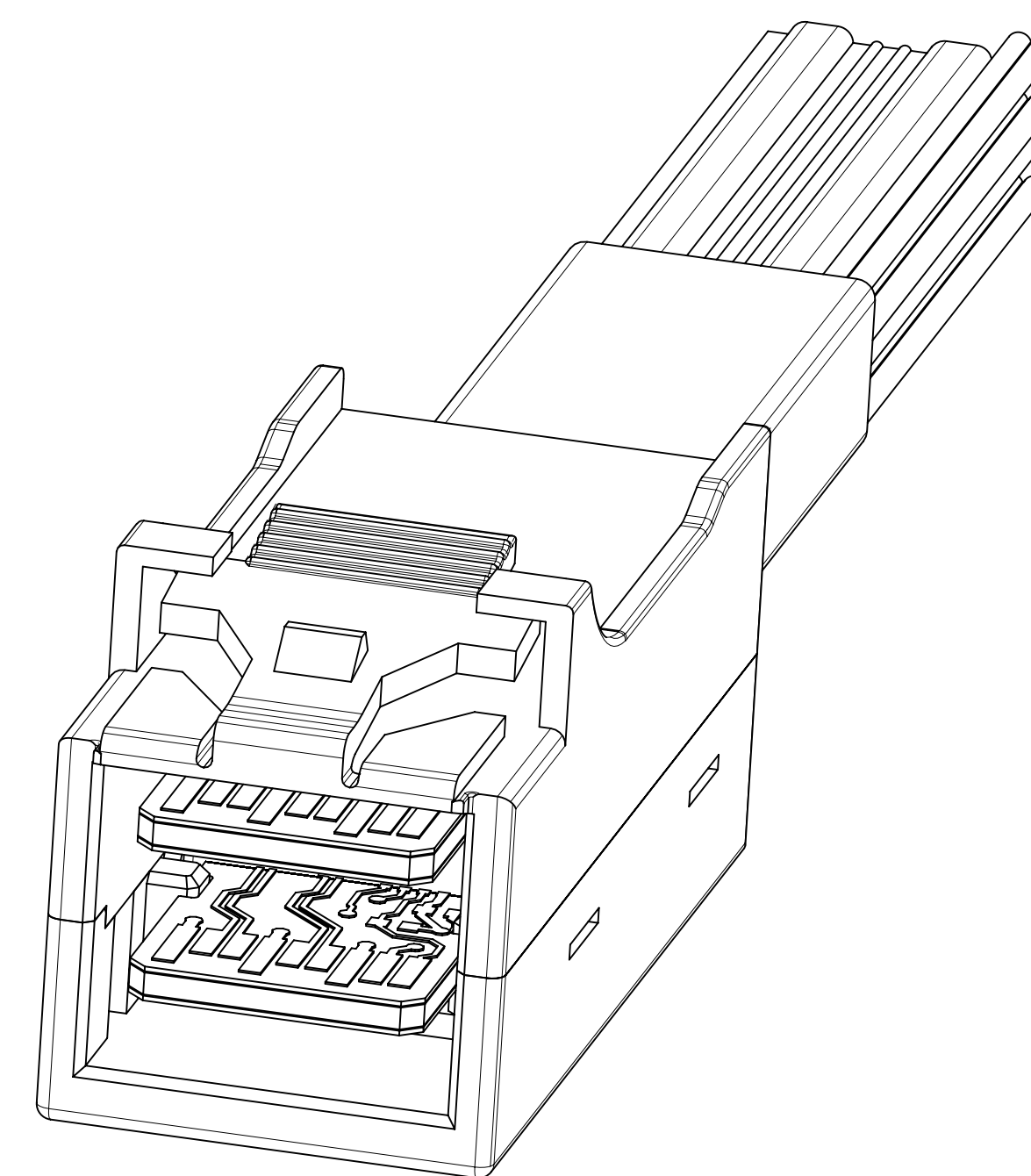
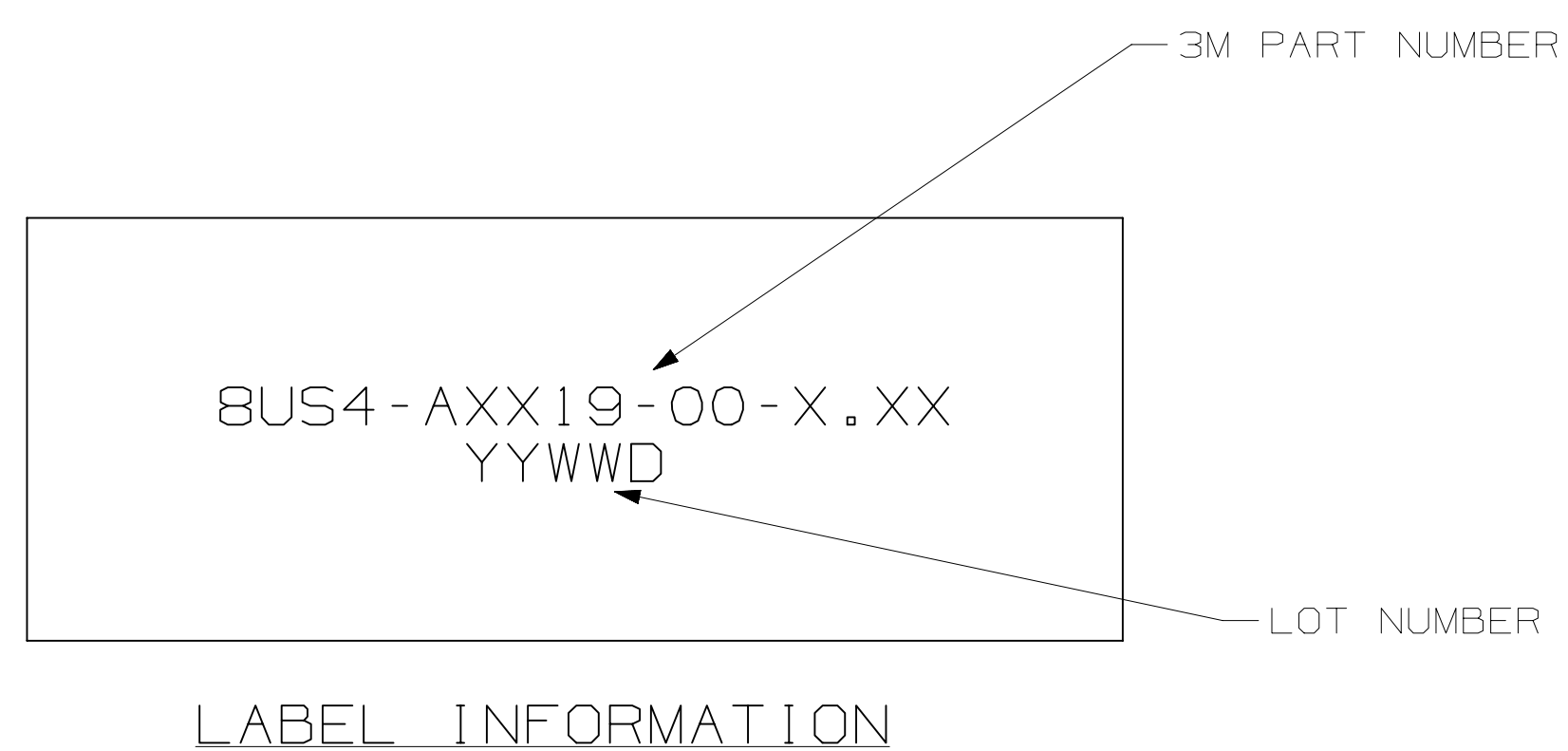
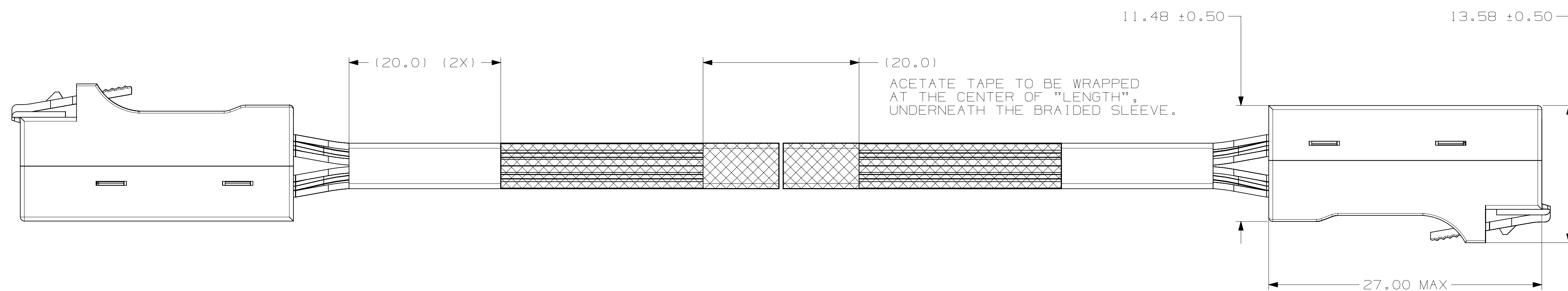
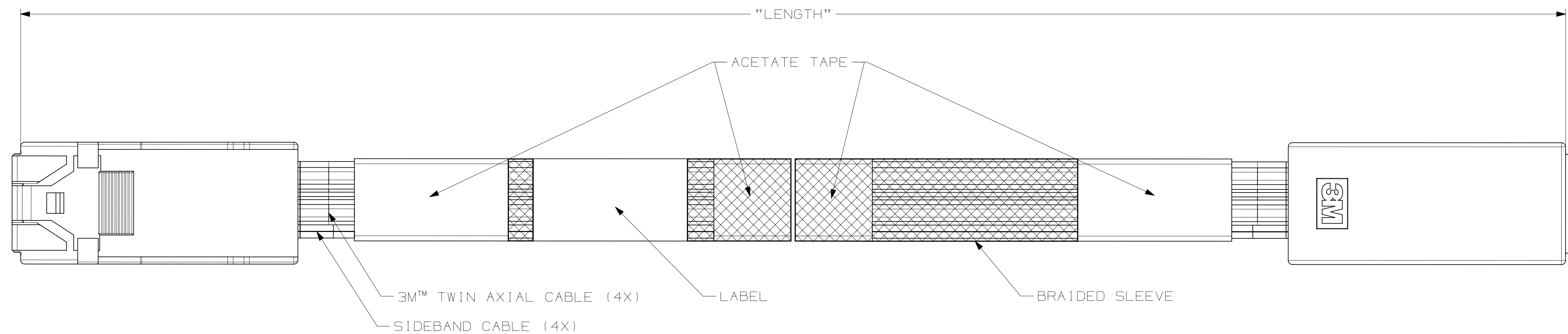
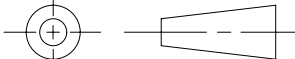


3M™ HIGH ROUTABILITY INTERNAL HD MINISAS CABLE ASSEMBLIES, 8U SERIES  
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|                                 |  |                                                                                          |  |                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                 |  |                    |  |                  |  |
|---------------------------------|--|------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|------------------|--|
| DESIGN REFERENCE                |  | NEXT ASSEMBLY                                                                            |  | B 00446310                                                                                                                                                       |  | APR 1, 2013                                                                                                                                                                                                                                                                     |  | KHL                |  | SB               |  |
| DISTRIBUTION CODES              |  |                                                                                          |  | A 0044954                                                                                                                                                        |  | DEC 13, 2012                                                                                                                                                                                                                                                                    |  | KHL                |  | SB               |  |
| DIVISION                        |  |                                                                                          |  | REV ECO                                                                                                                                                          |  | ISSUE DATE AND DESCRIPTION                                                                                                                                                                                                                                                      |  | DRFT               |  | CHKD             |  |
|                                 |  |                                                                                          |  | DFT KOK HOE LEE                                                                                                                                                  |  | DATE APR 1, 2013                                                                                                                                                                                                                                                                |  | MFG                |  | DATE             |  |
|                                 |  |                                                                                          |  | CHKD YUNLONG QIAO                                                                                                                                                |  | DATE APR 1, 2013                                                                                                                                                                                                                                                                |  | APPR SAUJIT BANDHU |  | DATE APR 1, 2013 |  |
| DIVISION                        |  | DIVISION CODE                                                                            |  |  <div> <div>3M Center</div> <div>St. Paul,</div> <div>MN 55144</div> </div> |  | <div>© 3M COPYRIGHT © 2013</div> <div>All rights reserved.</div> <div>This document contains information that constitutes 3M property and may not be reproduced or further distributed without 3M permission, or used or disclosed other than for 3M authorized purposes.</div> |  |                    |  |                  |  |
| DO NOT SCALE DRAWING            |  | SCALE $\frac{1}{4}$                                                                      |  |                                                                                                                                                                  |  | <div>TOLERANCES EXCEPT AS NOTED</div> <div>INCHES</div> <div> <div>0.0 ±</div> <div>0.00 ±</div> <div>0.00 ±</div> <div>0.000 ±</div> </div>                                                                                                                                    |  |                    |  |                  |  |
| THIRD ANGLE PROJECTION          |  |     |  | <div>MILLIMETERS</div> <div>0 ±</div> <div>0.0 ±</div> <div>0.0 ±</div> <div>0.00 ±</div>                                                                        |  | <div>INTERNAL MINISAS HD CABLE ASSEMBLY</div>                                                                                                                                                                                                                                   |  |                    |  |                  |  |
| INTERPRET PER ASME Y14.5 - 1994 |  |                                                                                          |  |                                                                                                                                                                  |  | CAGE NUMBER                                                                                                                                                                                                                                                                     |  | SIZE               |  | DRAWING NO.      |  |
| MAX SURFACE ROUGHNESS 125       |  | <input type="checkbox"/> ALL SURFACES<br><input checked="" type="checkbox"/> MARKED ONLY |  | <div>ANGLES ± 1°</div>                                                                                                                                           |  | D                                                                                                                                                                                                                                                                               |  | 78-5100-2555-0     |  | REV. B           |  |
|                                 |  |                                                                                          |  |                                                                                                                                                                  |  | MODEL                                                                                                                                                                                                                                                                           |  | DET                |  | REV              |  |
|                                 |  |                                                                                          |  |                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                 |  | YES                |  | NO               |  |
|                                 |  |                                                                                          |  |                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                 |  | SHT                |  | 1 OF             |  |

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### 3M PART NUMBERING SCHEME

8US4 - XXX 19 - 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                                         |
| AA1 | STD MINISAS HD 4i WITH SIDEBANDS (SEE TABLE 2) |
| CB1 | MINISAS HD 4i WITHOUT SIDEBANDS (SEE TABLE 3)  |

NOTES

1. MATERIALS:

HOUSING: THERMOPLASTIC

INNERMOULD : THERMOPLASTIC

3M™ TWIN AXIAL CABLE:  
CONDUCTORS: SOLID COPPER  
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

2. ROHS COMPLIANT. SEE REGULATORY INFORMATION APPENDIX IN "ROHS COMPLIANCE" SECTION AT [WWW.3MCONNECTORS.COM](http://WWW.3MCONNECTORS.COM) (E1 & C1 APPLY)
3. 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.
4. PRODUCT SPECIFICATION\*: 78-5102-0147-4

## WIRING DIAGRAMS

| 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       |

| SYMBOLS |   |                                         |
|---------|---|-----------------------------------------|
| →       | ← | HIGH SPEED SERIAL<br>DIFFERENTIAL PAIRS |
| →       | ← |                                         |
| —       |   | SIGNAL RETURN                           |
| ↔       |   | POWER AND MANAGEMENT INTERFACE          |

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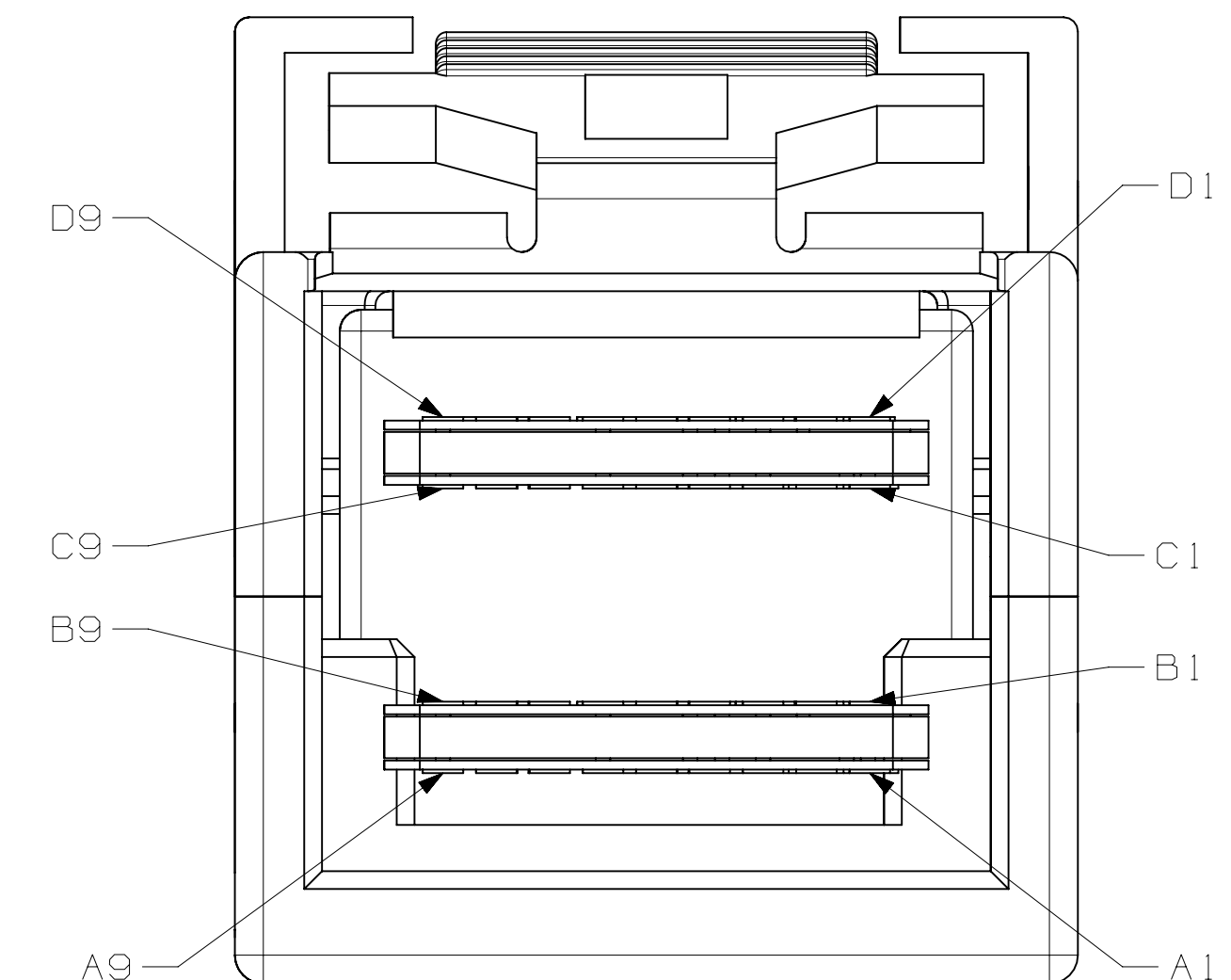
TABLE 2: WITH SIDEBANDS

| 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       |

| SYMBOLS |   |                                         |
|---------|---|-----------------------------------------|
| →       | ← | HIGH-SPEED SERIAL<br>DIFFERENTIAL PAIRS |
| →       | ← |                                         |
| —       |   | SIGNAL RETURN                           |
| ↔       |   | POWER AND MANAGEMENT INTERFACE          |

TABLE 3: WITHOUT SIDEBANDS



|                                        |  |                                                                                                                                          |  |                                                      |  |                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                     |  |                  |  |
|----------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------|--|
|                                        |  |                                                                                                                                          |  | B 00449510                                           |  | APR 1, 2013                                                                                                                                                                                                                                                                                                                                                                                              |  | KHL                                                                 |  | SB               |  |
|                                        |  |                                                                                                                                          |  | A 00449514                                           |  | DEC 13, 2012                                                                                                                                                                                                                                                                                                                                                                                             |  | KHL                                                                 |  | SB               |  |
| DESIGN REFERENCE                       |  |                                                                                                                                          |  | NEXT ASSEMBLY                                        |  | REV. ECO                                                                                                                                                                                                                                                                                                                                                                                                 |  | ISSUE DATE AND DESCRIPTION                                          |  | DRFT CHKD        |  |
| DISTRIBUTION CODES                     |  |                                                                                                                                          |  | DRFT KOK HOE LEE                                     |  | DATE APR 1, 2013                                                                                                                                                                                                                                                                                                                                                                                         |  | MFG                                                                 |  | DATE             |  |
|                                        |  |                                                                                                                                          |  | CHND UNLONLG OIAO                                    |  | DATE APR 1, 2013                                                                                                                                                                                                                                                                                                                                                                                         |  | APRVL SAUJIT BANDHU                                                 |  | DATE APR 1, 2013 |  |
| DIVISION                               |  |                                                                                                                                          |  | DESIGN CODE                                          |  | <div style="display: flex; justify-content: space-between;"> <div> <p>3M Center<br/>St. Paul, MN 55144</p> </div> <div> <p>© 3M COPYRIGHT 1913</p> <p>This document and the information it contains on 3M property and may not be reproduced on further distribution without the written consent of 3M or as disclosed otherwise than for 3M authorized purposes. All rights reserved.</p> </div> </div> |  |                                                                     |  |                  |  |
| DO NOT SCALE DRAWING                   |  | SCALE<br>1<br>4                                                                                                                          |  | TOLERANCES EXCEPT AS NOTED                           |  | <div style="display: flex; justify-content: space-between;"> <div> <p>TITLE</p> <p>INTERNAL MINISAS HD CABLE ASSEMBLY</p> </div> <div> <p>CAGE NUMBER</p> <p>D 78-5100-2555-0</p> </div> <div> <p>REV.</p> <p>B</p> </div> </div>                                                                                                                                                                        |  |                                                                     |  |                  |  |
| <p>THIRD ANGLE PROJECTION</p>          |  | <p>INCHES</p> <p>.00 ±<br/>.00 ±<br/>.000 ±<br/>.000 ±</p>                                                                               |  | <p>MILLIMETERS</p> <p>0 ±<br/>0 ±.05<br/>0 ±.005</p> |  |                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                     |  |                  |  |
| <p>INTERPRET PER ASME Y14.5 - 1994</p> |  | <p>MAX SURFACE ROUGHNESS</p> <p>125</p> <p><input type="checkbox"/> ALL SURFACES<br/><input checked="" type="checkbox"/> MARKED ONLY</p> |  | <p>ANGLES ± 1°</p>                                   |  |                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                     |  |                  |  |
|                                        |  |                                                                                                                                          |  | MODEL                                                |  | DET. LISTS                                                                                                                                                                                                                                                                                                                                                                                               |  | YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |  | SHT 2 OF 2       |  |

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