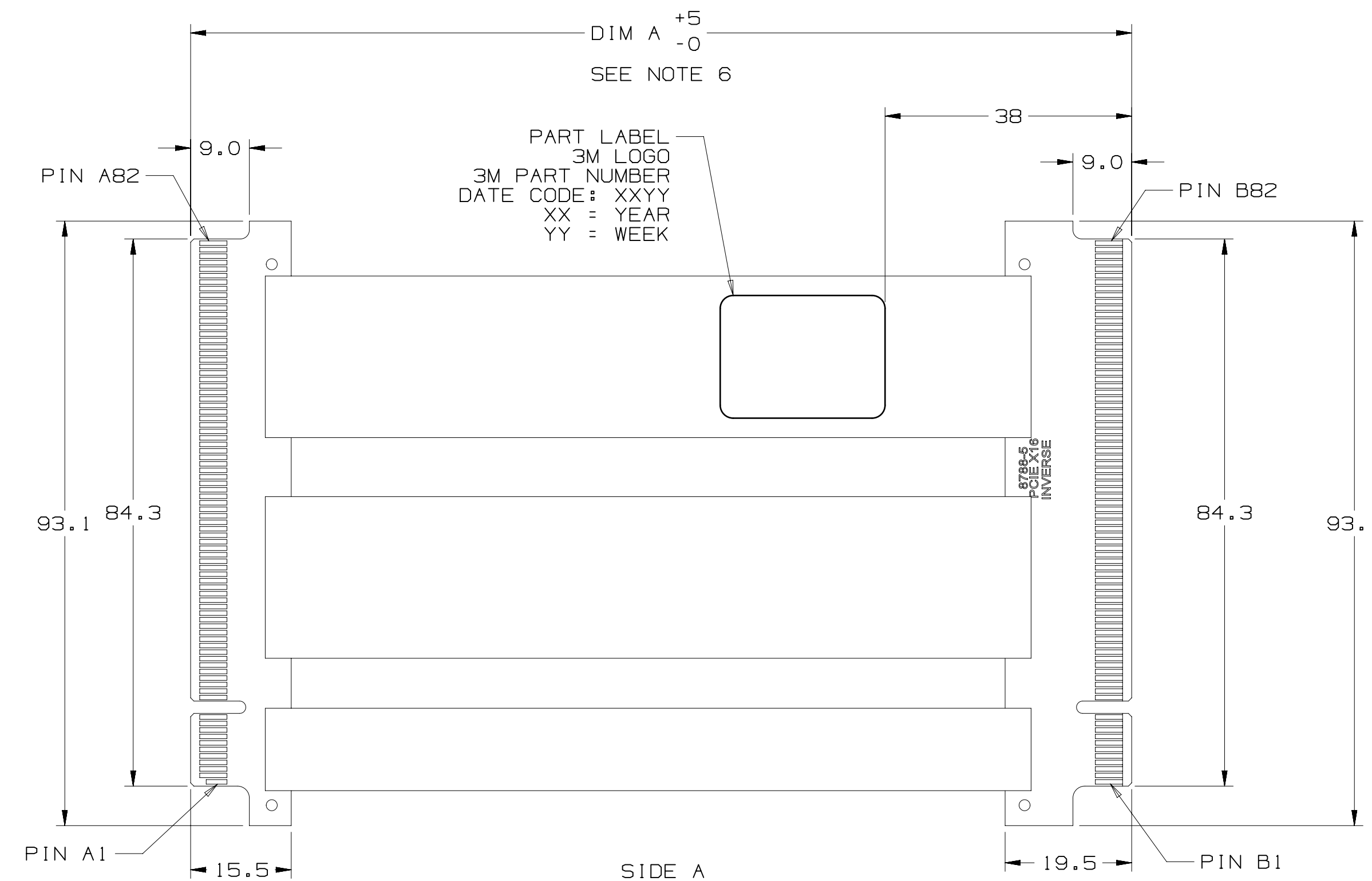
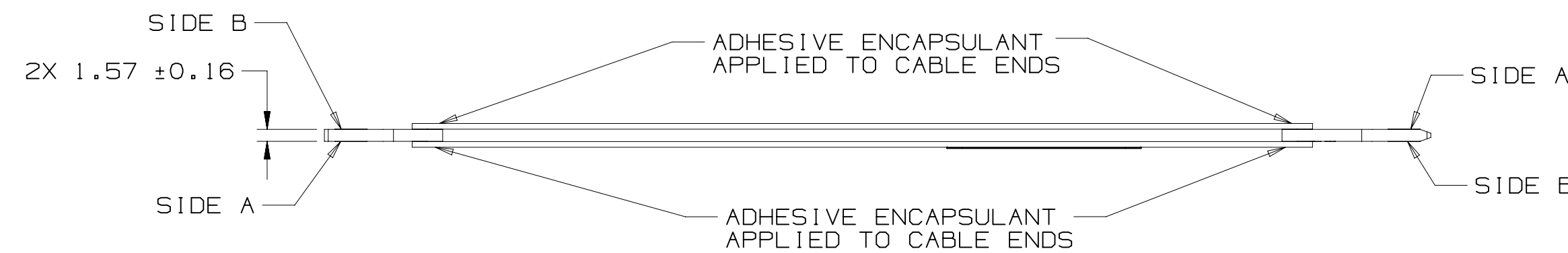
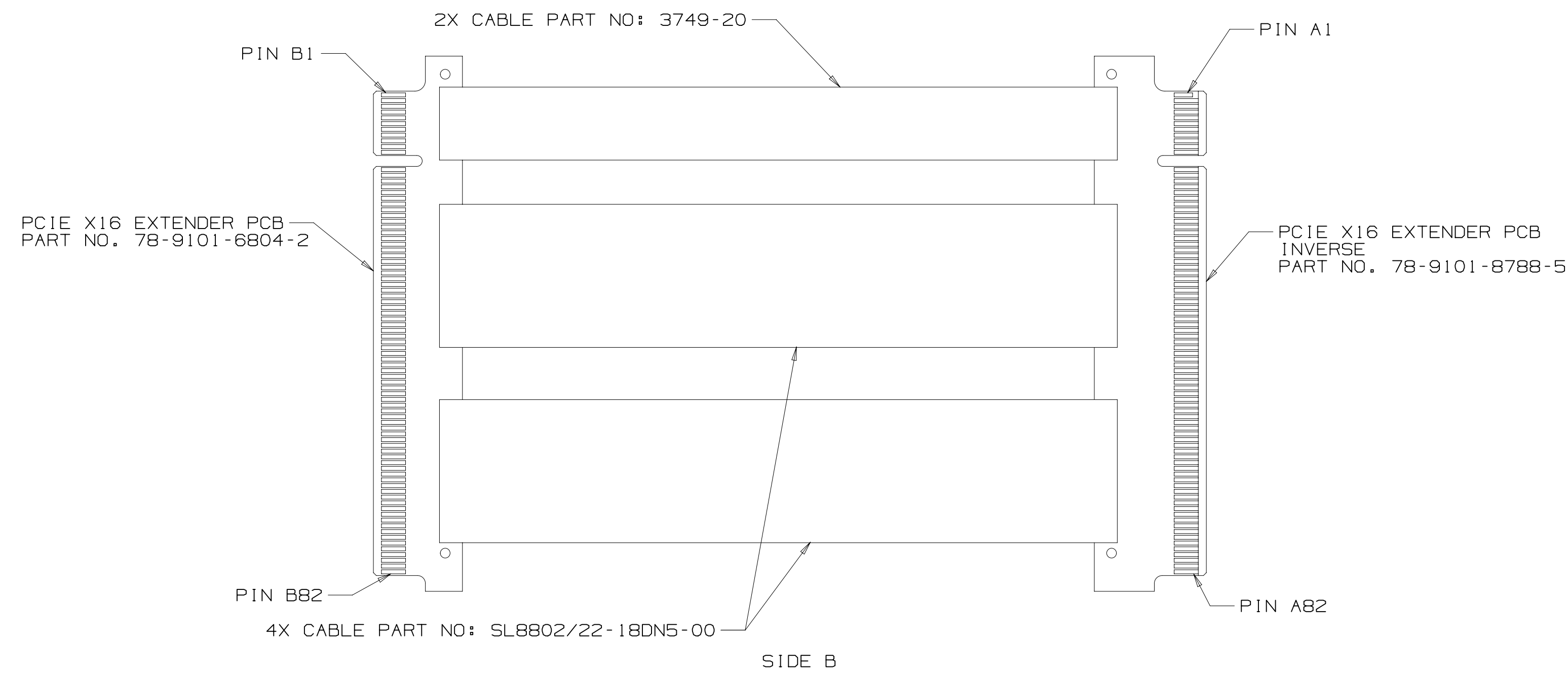


3M™ TWIN AXIAL PCI EXPRESS X16 MALE-TO-MALE CABLE ASSEMBLY



| BILL OF MATERIALS |  |             |  |
|-------------------|--|-------------|--|
| ITEM              | DESCRIPTION  | QTY         |  |
| 1.0               | PCB<br>PCIE X16 EXTENDER (164 POS) CARD-EDGE INVERSE<br>3M P/N: 78-9101-8788-5 | 1           |  |
| 2.0               | PCB<br>PCIE X16 EXTENDER (164 POS) CARD-EDGE<br>3M P/N: 78-9101-6804-2         | 1           |  |
| 3.0               | CABLE<br>RIBBON TWIN AX CABLE<br>3M P/N: SL8802/22-18DN5-00                    | 4           |  |
| 4.0               | CABLE<br>RIBBON CABLE, 20 POSITION<br>3M P/N: 3749-20                          | 2           |  |
| 5.0               | STRAIN RELIEF<br>ADHESIVE  | AS REQUIRED |  |

- NOTES
- DIMENSIONS ARE IN MILLIMETERS.
  - 3M™ RIBBON TWINAX DESCRIPTION:  
30 AWG, SILVER PLATED SIGNAL WIRE  
IMPEDANCE: 85 ±5 OHM  
OVERALL RIBBON WIDTH: 24.90 MM  
OVERALL RIBBON THICKNESS: 0.75 MM
  - ROHS COMPLIANT. SEE REGULATORY INFORMATION APPENDIX IN "ROHS COMPLIANCE" SECTION AT WWW.3MCONNECTORS.COM (E1 & C1 APPLY)
  - THIS CABLE CONSTRUCTION HAS A THIN ALUMINUM LAYER AT EACH EDGE. USER SHOULD EVALUATE ITS USE IN THEIR APPLICATION AND, IF NECESSARY, INSULATING TAPE MAY BE APPLIED TO COVER THE ALUMINUM LAYER, AS USER DEEMS APPROPRIATE.
  - APPLICABLE SPECIFICATIONS:  
PRODUCT SPECIFICATION NUMBER:  
TWIN AX CABLE: PS-0106  
CABLE ASSEMBLY: PS-0137
  - ORDER BY APPLICABLE 3M PART NUMBER:  
8KC5-0742-XXXX  
XXXX = DIM 'A' IN MILLIMETERS (1000 = 1 METER)  
  
STANDARD LENGTH (DIM 'A')  
8KC5-0742-0250 (250 MM)  
8KC5-0742-0500 (500 MM)  
  
NON-STANDARD LENGTHS AVAILABLE UPON SPECIAL REQUEST. MAY REQUIRE HIGHER MOQS AND LONGER LEAD TIMES.
  - FLAMMABILITY RATING:  
TWIN AX CABLE: UL94 HB  
PCBS: UL94V-0
  - PADDLECARD FINGER GOLD THICKNESS: 0.76 μm [30 μ"] MIN ELECTROLYTIC HARD GOLD OVER 1.27 μm [50 μ"] MIN ELECTROLYTIC NICKEL.

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|   |                                       |                            |         |   |      |              |
|---|---------------------------------------|----------------------------|---------|---|------|--------------|
| DESIGN REFERENCE                                | NEXT ASSEMBLY                         | REV                        | ECO     | ISSUE DATE AND DESCRIPTION  | DRFT | CHKD         |
|   |                                       | L                          | SCHMIDT | MAR 27, 2013  |      |              |
| DIVISION  | DIVISION CODE                         | APPRV                      | T       | SUNIGA  | DATE | MAR 28, 2013 |
| DO NOT SCALE DRAWING                            | SCALE 1/1                             | TOLERANCES EXCEPT AS NOTED |         |   |      |              |
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| INTERPRET PER ASME Y14.5 - 2009                 |                                       | MILLIMETERS                |         | TITLE<br>8KC5-0742-XXXX, CABLE ASSY, MALE PCIE X16 TO MALE PCIE X16   |      |              |
| MAX SURFACE ROUGHNESS 125                       | <input type="checkbox"/> ALL SURFACES |                            |         | CAGE NUMBER<br>D 78-5100-2586-5   |      |              |
| <input checked="" type="checkbox"/> MARKED ONLY |                                       | ANGLES ±1°                 |         | DRAWING NO.<br>D 78-5100-2586-5   |      |              |
|   |                                       |                            |         | REV.<br>D   |      |              |
|   |                                       |                            |         | MODEL<br>DET [ ] YES [X] NO [ ] SHT 1 OF 3  |      |              |

78-5100-2586-5  
 DRAWING NUMBER  
 11:51:00 AM 5/15/2019 -- UTC  
 Off-set (hrs) 6

| 3M 3749-20 Cable |                  |
|------------------|------------------|
| Wire #           | Pin Attachment # |
| 01               | Ground Layer     |
| 02               | B01 - B02        |
| 03               | B01 - B02        |
| 04               | B01 - B02        |
| 05               | B01 - B02        |
| 06               | B01 - B02        |
| 07               | B01 - B02        |
| 08               | Ground Layer     |
| 09               | B05              |
| 10               | B06              |
| 11               | Ground Layer     |
| 12               | B08              |
| 13               | B08              |
| 14               | B09              |
| 15               | B10              |
| 16               | B10              |
| 17               | Ground Layer     |
| 18               | B11              |
| 19               | Ground Layer     |
| 20               | B12              |

| PCI-Express X16 Pin-Out |                         |                          |       |
|-------------------------|-------------------------|--------------------------|-------|
| Pin #                   | Side B Description      | Side A Description       | Pin # |
| B01                     | +12 volt power          | Hot plug presence detect | A01   |
| B02                     | +12 volt power          | +12 volt power           | A02   |
| B03                     | +12 volt power          | +12 volt power           | A03   |
| B04                     | Ground                  | Ground                   | A04   |
| B05                     | SMBus clock             | TCK                      | A05   |
| B06                     | SMBus data              | TDI                      | A06   |
| B07                     | Ground                  | TD0                      | A07   |
| B08                     | +3.3 volt power         | TMS                      | A08   |
| B09                     | +TRST#                  | +3.3 volt power          | A09   |
| B10                     | 3.3v volt power         | +3.3 volt power          | A10   |
| B11                     | Link Reactivation       | Power Good               | A11   |
| Mechanical Key          |                         |                          |       |
| B12                     | Reserved                | Ground                   | A12   |
| B13                     | Ground                  | Reference Clock          | A13   |
| B14                     | Transmitter Lane 0,     | Differential pair        | A14   |
| B15                     | Differential pair       | Ground                   | A15   |
| B16                     | Ground                  | Receiver Lane 0,         | A16   |
| B17                     | Hotplug detect          | Differential pair        | A17   |
| B18                     | Ground                  | Ground                   | A18   |
| B19                     | Transmitter Lane 1,     | Reserved                 | A19   |
| B20                     | Differential pair       | Ground                   | A20   |
| B21                     | Ground                  | Receiver Lane 1,         | A21   |
| B22                     | Ground                  | Differential pair        | A22   |
| B23                     | Transmitter Lane 2,     | Ground                   | A23   |
| B24                     | Differential pair       | Ground                   | A24   |
| B25                     | Ground                  | Receiver Lane 2,         | A25   |
| B26                     | Ground                  | Differential pair        | A26   |
| B27                     | Transmitter Lane 3,     | Ground                   | A27   |
| B28                     | Differential pair       | Ground                   | A28   |
| B29                     | Ground                  | Receiver Lane 3,         | A29   |
| B30                     | Reserved                | Differential pair        | A30   |
| B31                     | Hot plug detect         | Ground                   | A31   |
| B32                     | Ground                  | Reserved                 | A32   |
| B33                     | Transmitter Lane 4,     | Reserved                 | A33   |
| B34                     | Differential pair       | Ground                   | A34   |
| B35                     | Ground                  | Receiver Lane 4,         | A35   |
| B36                     | Ground                  | Differential pair        | A36   |
| B37                     | Transmitter Lane 5,     | Ground                   | A37   |
| B38                     | Differential pair       | Ground                   | A38   |
| B39                     | Ground                  | Receiver Lane 5,         | A39   |
| B40                     | Ground                  | Differential pair        | A40   |
| B41                     | Transmitter Lane 6,     | Ground                   | A41   |
| B42                     | Differential pair       | Ground                   | A42   |
| B43                     | Ground                  | Receiver Lane 6,         | A43   |
| B44                     | Ground                  | Differential pair        | A44   |
| B45                     | Transmitter Lane 7,     | Ground                   | A45   |
| B46                     | Differential pair       | Ground                   | A46   |
| B47                     | Ground                  | Receiver Lane 7,         | A47   |
| B48                     | Hot plug detect         | Differential pair        | A48   |
| B49                     | Ground                  | Ground                   | A49   |
| B50                     | Transmitter Lane 8,     | Reserved                 | A50   |
| B51                     | Differential pair       | Ground                   | A51   |
| B52                     | Ground                  | Receiver Lane 8,         | A52   |
| B53                     | Ground                  | Differential pair        | A53   |
| B54                     | Transmitter Lane 9,     | Ground                   | A54   |
| B55                     | Differential pair       | Ground                   | A55   |
| B56                     | Ground                  | Receiver Lane 9,         | A56   |
| B57                     | Ground                  | Differential pair        | A57   |
| B58                     | Transmitter Lane 10,    | Ground                   | A58   |
| B59                     | Differential pair       | Ground                   | A59   |
| B60                     | Ground                  | Receiver Lane 10,        | A60   |
| B61                     | Ground                  | Differential pair        | A61   |
| B62                     | Transmitter Lane 11,    | Ground                   | A62   |
| B63                     | Differential pair       | Ground                   | A63   |
| B64                     | Ground                  | Receiver Lane 11,        | A64   |
| B65                     | Ground                  | Differential pair        | A65   |
| B66                     | Transmitter Lane 12,    | Ground                   | A66   |
| B67                     | Differential pair       | Ground                   | A67   |
| B68                     | Ground                  | Receiver Lane 12,        | A68   |
| B69                     | Ground                  | Differential pair        | A69   |
| B70                     | Transmitter Lane 13,    | Ground                   | A70   |
| B71                     | Differential pair       | Ground                   | A71   |
| B72                     | Ground                  | Receiver Lane 13,        | A72   |
| B73                     | Ground                  | Differential pair        | A73   |
| B74                     | Transmitter Lane 14,    | Ground                   | A74   |
| B75                     | Differential pair       | Ground                   | A75   |
| B76                     | Ground                  | Receiver Lane 14,        | A76   |
| B77                     | Ground                  | Differential pair        | A77   |
| B78                     | Transmitter Lane 15,    | Ground                   | A78   |
| B79                     | Differential pair       | Ground                   | A79   |
| B80                     | Ground                  | Receiver Lane 15,        | A80   |
| B81                     | Hot plug present detect | Differential pair        | A81   |
| B82                     | Hot Plug Detect         | Ground                   | A82   |

| 3M 3749-20 Cable |        |
|------------------|--------|
| Pin Attachment # | Wire # |
| Ground Layer     | 01     |
| A01              | 02     |
| Ground Layer     | 03     |
| A02 - A03        | 04     |
| A02 - A03        | 05     |
| A02 - A03        | 06     |
| A02 - A03        | 07     |
| Ground Layer     | 08     |
| A05              | 09     |
| A06              | 10     |
| A07              | 11     |
| A08              | 12     |
| Ground Layer     | 13     |
| A09 - A10        | 14     |
| A09 - A10        | 15     |
| A09 - A10        | 16     |
| A09 - A10        | 17     |
| Ground Layer     | 18     |
| Ground Layer     | 19     |
| A11              | 20     |

| 3M SL8802 Cable |                |
|-----------------|----------------|
| Wire #          | Pin Attachment |
| GND             | Ground Layer   |
| pr_01           | B14            |
| pr_01           | B15            |
| pr_02           | B17            |
| pr_02           | Ground Layer   |
| pr_03           | B19            |
| pr_03           | B20            |
| pr_04           | B23            |
| pr_04           | B24            |
| GND             | Ground Layer   |
| pr_05           | B27            |
| pr_05           | B28            |
| pr_06           | B30            |
| pr_06           | B31            |
| pr_07           | B33            |
| pr_07           | B34            |
| GND             | Ground Layer   |
| pr_08           | B37            |
| pr_08           | B38            |
| pr_09           | B41            |
| pr_09           | B42            |
| pr_10           | B45            |
| pr_10           | B46            |
| pr_11           | B48            |
| pr_11           | Ground Layer   |
| GND             | Ground Layer   |

| 3M SL8802 Cable  |        |
|------------------|--------|
| Pin Attachment # | Wire # |
| Ground Layer     | GND    |
| A13              | pr_01  |
| A14              | pr_01  |
| A16              | pr_02  |
| A17              | pr_02  |
| Ground Layer     | pr_03  |
| A19              | pr_03  |
| A21              | pr_04  |
| A22              | pr_04  |
| Ground Layer     | GND    |
| A25              | pr_05  |
| A26              | pr_05  |
| A29              | pr_06  |
| A30              | pr_06  |
| A32              | pr_07  |
| A33              | pr_07  |
| Ground Layer     | GND    |
| A35              | pr_08  |
| A36              | pr_08  |
| A39              | pr_09  |
| A40              | pr_09  |
| A43              | pr_10  |
| A44              | pr_10  |
| A47              | pr_11  |
| A48              | pr_11  |
| Ground Layer     | GND    |

| 3M SL8802 Cable |                  |
|-----------------|------------------|
| Wire #          | Pin Attachment # |
| GND             | Ground Layer     |
| pr_01           | B50              |
| pr_01           | B51              |
| pr_02           | Ground Layer     |
| pr_02           | Ground Layer     |
| pr_03           | B54              |
| pr_03           | B55              |
| pr_04           | B58              |
| pr_04           | B59              |
| GND             | Ground Layer     |
| pr_05           | B62              |
| pr_05           | B63              |
| pr_06           | B66              |
| pr_06           | B67              |
| pr_07           | B70              |
| pr_07           | B71              |
| GND             | Ground Layer     |
| pr_08           | B74              |
| pr_08           | B75              |
| pr_09           | Ground Layer     |
| pr_09           | Ground Layer     |
| pr_10           | B78              |
| pr_10           | B79              |
| pr_11           | B81              |
| pr_11           | B82              |
| GND             | Ground Layer     |

| 3M SL8802 Cable  |        |
|------------------|--------|
| Pin Attachment # | Wire # |
| Ground Layer     | GND    |
| A50              | pr_01  |
| Ground Layer     | pr_01  |
| A52              | pr_02  |
| A53              | pr_02  |
| Ground Layer     | pr_03  |
| Ground Layer     | pr_03  |
| A56              | pr_04  |
| A57              | pr_04  |
| Ground Layer     | GND    |
| A60              | pr_05  |
| A61              | pr_05  |
| A64              | pr_06  |
| A65              | pr_06  |
| A68              | pr_07  |
| A69              | pr_07  |
| Ground Layer     | GND    |
| A72              | pr_08  |
| A73              | pr_08  |
| A76              | pr_09  |
| A77              | pr_09  |
| Ground Layer     | pr_10  |
| Ground Layer     | pr_10  |
| A80              | pr_11  |
| A81              | pr_11  |
| Ground Layer     | GND    |

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|   |       |                    |     |    |
|---|-------|--------------------|-----|----|
| D | 84237 | APR 23, 2019       | LDS | TS |
| C | 77002 | REVISED PART LABEL | AD  | LS |
| B | 48418 | JUN 19, 2013       | LDS | TS |
| A | 46893 | MAR 27, 2013       | LDS | TS |

|                                 |                |                            |      |   |      |      |
|---------------------------------|----------------|----------------------------|------|---|------|------|
| DESIGN REFERENCE                | NEXT ASSEMBLY  | REV                        | ECO  | ISSUE DATE AND DESCRIPTION  | DRFT | CHKD |
|                                 |                | APP                        | DATE | MFG   | DATE |      |
|                                 |                | CHKD                       | DATE | APPV  | DATE |      |
| DIVISION                        |                | DIVISION CODE              |      |   |      |      |
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| THIRD ANGLE PROJECTION          |                | INCHES                     |      | <b>8KC5-0742-XXXX, CABLE ASSY, MALE PCIE X16 TO MALE PCIE X16</b>   |      |      |
| INTERPRET PER ASME Y14.5 - 2009 |                | MILLIMETERS                |      | <small>MAX SURFACE ROUGHNESS: .000 ± .005</small><br><small>ALL SURFACES MARKED ONLY</small><br><small>ANGLES ±1°</small>   |      |      |
| CAGE NUMBER                     | SIZE           | DRAWING NO.                | REV. | <small>MODEL</small>  |      |      |
| D                               | 78-5100-2586-5 | D                          | D    | <small>DET</small> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <small>SHT 2 OF 3</small>  |      |      |

Imaged: Central Standard Time 5/15/2019 -- UTC Drf-set (hrs) 6

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| REV | ECO   | ISSUE DATE AND DESCRIPTION   | DRFT | CHKD |
| D   | 84237 | APR 23, 2019<br>REVISED PART LABEL   | LDS  | TS   |
| C   | 77002 | DEC 14, 2017<br>PIN DEFINITION A50<br>WAS A33, ZONE B4,<br>SH2; ADDED SH3<br>WARRANTY INFO | AD   | LS   |
| B   | 48418 | JUN 19, 2013<br>ADDED SIDE A & SIDE B<br>INDICATORS  | LDS  | TS   |
| A   | 46893 | MAR 27, 2013<br>WORK REQUEST 11618<br>INITIAL RELEASE                                      | LDS  | TS   |

|                  |               |          |         |                            |      |          |
|------------------|---------------|----------|---------|----------------------------|------|----------|
| DESIGN REFERENCE | NEXT ASSEMBLY | REV      | ECO     | ISSUE DATE AND DESCRIPTION | DRFT | CHKD     |
|                  |               | L        | SCHMIDT | MAR 27, 2013               |      |          |
| APPROVED         | DATE          | APPROVED | DATE    | APPROVED                   | DATE | APPROVED |
|                  |               | T        | SUNIGA  | MAR 28, 2013               |      |          |

|   |             |                            |             |   |
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| THIRD ANGLE PROJECTION                          | INCHES      | MILLIMETERS                |             |   |
| INTERPRET PER ASME Y14.5 - 2009                 | 0 ± .1      | 0 ± .1                     | TITLE       | 8KC5-0742-XXXX, CABLE ASSY, MALE PCIE X16 TO MALE PCIE X16  |
| MAX SURFACE ROUGHNESS 125                       | 0 ± .1      | 0 ± .1                     | CAGE NUMBER | D78-5100-2586-5   |
| <input type="checkbox"/> ALL SURFACES           | .00 ± .05   | .00 ± .05                  | DRAWING NO. | D78-5100-2586-5   |
| <input checked="" type="checkbox"/> MARKED ONLY | .000 ± .005 | .000 ± .005                | REV.        | D   |
|   | ANGLES ± 1° | ANGLES ± 1°                | MODEL       |   |

78-5100-2586-5  
 DRAWING NUMBER  
 1  
 REV. 1  
 5/15/2019  
 UTC  
 6  
 hrs  
 set  
 Off  
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 Central  
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