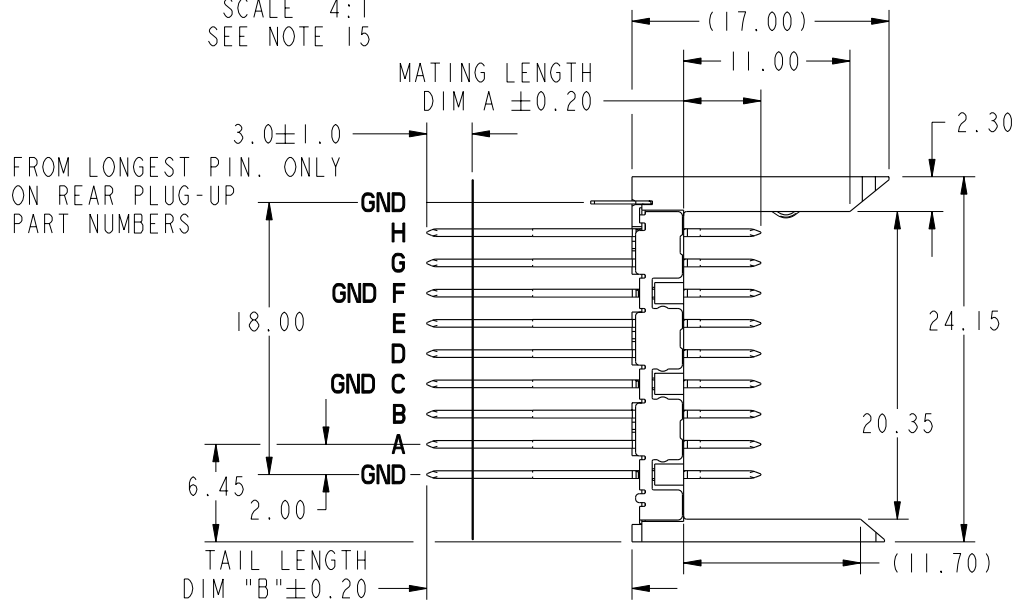




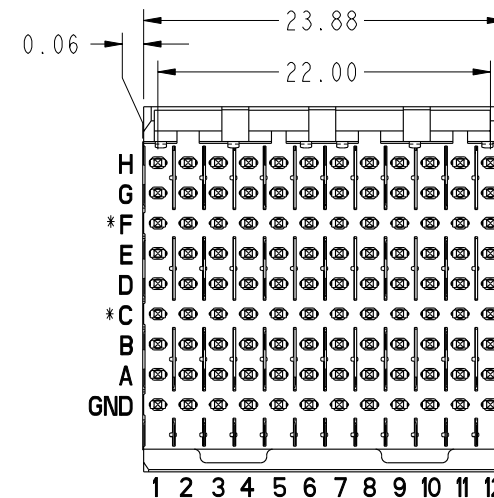
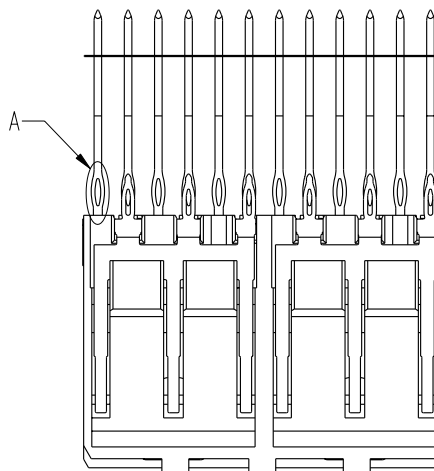
| PRODUCT<br>NUMBER | PLATING<br>PERFORMANCE<br>LEVEL | APPLICATION | SHROUD TO USE<br>FOR REAR PLUG-UP<br>APPLICATIONS |
|-------------------|---------------------------------|-------------|---------------------------------------------------|
| 74978-102ZZZ      | TELCORDIA CO                    | STANDARD    | 84625-102                                         |
| 74978-102ZZZLF    |                                 | LEAD FREE   | 84625-302                                         |
| 74978-502ZZZ      | TELCORDIA UE                    | STANDARD    | 84625-302                                         |
| 74978-502ZZZLF    |                                 | LEAD FREE   | 84625-502                                         |



DETAIL A  
SCALE 4:1  
SEE NOTE 15



SEE DETAIL A



**\*ROW C AND F INFORMATION**  
ODD NUMBER COLUMNS WITHIN ROW C & F ARE COMMONED  
TO GROUND INTERNALLY WITHIN THE HOUSING. THE  
EVEN NUMBER COLUMNS WITHIN ROW C & F ARE NOT.  
FOR MAXIMUM PERFORMANCE IT IS RECOMMENDED THESE  
EVEN COLUMNS BE GROUND COMMONED WITHIN PCB.  
SEE NOTE 14

|                          |                   |     |            |                                          |                        |                                |                    |                                                                      |                               |
|--------------------------|-------------------|-----|------------|------------------------------------------|------------------------|--------------------------------|--------------------|----------------------------------------------------------------------|-------------------------------|
| mat'l code<br>SEE NOTE 5 |                   |     |            | tolerances unless<br>otherwise specified |                        | CUSTOMER                       |                    | FCI<br>www.fciconnect.com                                            |                               |
| ltr                      | ecn no.           | dr  | date       | linear                                   | 0.X $\pm 0.3$          | projection<br>                 | COPY               | title<br>VERTICAL SIGNAL HDR 8 ROW<br>P.F. 96 POS. SPECIAL LOAD EXT. | product family<br>METRAL 2000 |
| P                        | V06-0544          | DCH | 2006-06-09 |                                          | 0.XX $\pm 0.13$        |                                |                    |                                                                      |                               |
| R                        | V07-0183          | DCH | 2007-04-20 |                                          | .XXX $\pm 0.051$       |                                |                    |                                                                      |                               |
| S                        | V08-0010          | HTB | 2008-01-07 | angles                                   | 0° $\pm 2°$            | MM<br>                         | scale<br>1:1       | size<br>A                                                            | dwg no<br>74978               |
| T                        | V08-0023          | LP  | 2008-11-23 |                                          |                        |                                |                    |                                                                      |                               |
| -                        | -                 | -   | -          | enrg                                     | J. VOLSTORF 2001-01-10 | code<br>213<br>sheet<br>1 of 6 | cage code<br>22526 | 4                                                                    | B                             |
| M                        | V03-1156          | TAB | 2003-11-03 | chr                                      | J. VOLSTORF 2001-01-10 |                                |                    |                                                                      |                               |
| N                        | V05-0814          | VS  | 2005-09-21 | appd                                     | J. VOLSTORF 2001-01-10 |                                |                    |                                                                      |                               |
| sheet<br>index           | revision<br>sheet | T   | T          | T                                        | T                      | T                              | T                  | T                                                                    | T                             |
|                          |                   | 1   | 2          | 3                                        | 4                      | 5                              | 6                  |                                                                      |                               |



| PIN<br>CODE<br>NO. | DIM A<br>MATING<br>LENGTH | DIM B<br>TAIL<br>LENGTH | PCB THICKNESS RANGE<br>ACCOMMODATED BY PIN'S TAIL LENGTH |             |                                                         |             |             |
|--------------------|---------------------------|-------------------------|----------------------------------------------------------|-------------|---------------------------------------------------------|-------------|-------------|
|                    |                           |                         | WHEN MATING TO A 74981 METRAL<br>1000 SERIES RECEPTACLE  |             | WHEN MATING TO A 52066 SERIES<br>METRAL 4000 RECEPTACLE |             |             |
|                    |                           |                         | ROWS A,B,C,<br>D,E,F,G & H                               | GROUND ROW  | ROWS:A,B,<br>D,E,G & H                                  | ROW C&F     | GROUND ROW  |
| 01*                | 5.00                      | 4.30                    | 1.60 MIN                                                 | 1.60 MIN    | 1.60 MIN                                                | 1.60 MIN    | 1.60 MIN    |
| 22                 |                           | 12.20                   | 2.95 - 3.80                                              | 2.95 - 4.20 | 2.95 - 3.80                                             | 2.95 - 3.80 | 2.95 - 4.20 |
| 30                 |                           | 12.95                   | 2.95 - 4.55                                              | 3.25 - 4.95 | 2.95 - 4.55                                             | 2.95 - 4.55 | 3.25 - 4.95 |
| 05                 |                           | 13.70                   | 2.95 - 5.30                                              | 4.00 - 5.70 | 3.30 - 5.30                                             | 2.95 - 5.30 | 4.00 - 5.70 |
| 35                 |                           | 14.45                   | 3.05 - 6.05                                              | 4.75 - 6.45 | 4.05 - 6.05                                             | 3.05 - 6.05 | 4.75 - 6.45 |
| 48                 |                           | 15.20                   | 3.80 - 6.80                                              | 5.50 - 7.20 | 4.80 - 6.80                                             | 3.80 - 6.80 | 5.50 - 7.20 |
| 40                 |                           | 15.70                   | 4.30 - 7.30                                              | 6.00 - 7.70 | 5.30 - 7.30                                             | 4.30 - 7.30 | 6.00 - 7.70 |
| 65                 |                           | 16.40                   | 5.00 - 8.00                                              | 6.70 - 8.40 | 6.00 - 8.00                                             | 5.00 - 8.00 | 6.70 - 8.40 |
| 09                 |                           | 17.10                   | 5.70 - 8.70                                              | 7.40 - 9.10 | 6.70 - 8.70                                             | 5.70 - 8.70 | 7.40 - 9.10 |
| 02*                | 5.75                      | 4.30                    | 1.60 MIN                                                 | 1.60 MIN    | 1.60 MIN                                                | 1.60 MIN    | 1.60 MIN    |
| 44                 |                           | 12.20                   | 2.95 - 3.80                                              | 2.95 - 4.20 | 2.95 - 3.80                                             | 2.95 - 3.80 | 2.95 - 4.20 |
| 31                 |                           | 12.95                   | 2.95 - 4.55                                              | 3.25 - 4.95 | 2.95 - 4.55                                             | 2.95 - 4.55 | 3.25 - 4.95 |
| 06                 |                           | 13.70                   | 2.95 - 5.30                                              | 4.00 - 5.70 | 3.30 - 5.30                                             | 2.95 - 5.30 | 4.00 - 5.70 |
| 36                 |                           | 14.45                   | 3.05 - 6.05                                              | 4.75 - 6.45 | 4.05 - 6.05                                             | 3.05 - 6.05 | 4.75 - 6.45 |
| 49                 |                           | 15.20                   | 3.80 - 6.80                                              | 5.50 - 7.20 | 4.80 - 6.80                                             | 3.80 - 6.80 | 5.50 - 7.20 |
| 25                 |                           | 15.70                   | 4.30 - 7.30                                              | 6.00 - 7.70 | 5.30 - 7.30                                             | 4.30 - 7.30 | 6.00 - 7.70 |
| 66                 |                           | 16.40                   | 5.00 - 8.00                                              | 6.70 - 8.40 | 6.00 - 8.00                                             | 5.00 - 8.00 | 6.70 - 8.40 |
| 10                 |                           | 17.10                   | 5.70 - 8.70                                              | 7.40 - 9.10 | 6.70 - 8.70                                             | 5.70 - 8.70 | 7.40 - 9.10 |
| 03*                | 6.50                      | 4.30                    | 1.60 MIN                                                 | 1.60 MIN    | 1.60 MIN                                                | 1.60 MIN    | 1.60 MIN    |
| 45                 |                           | 12.20                   | 2.95 - 3.80                                              | 2.95 - 4.20 | 2.95 - 3.80                                             | 2.95 - 3.80 | 2.95 - 4.20 |
| 32                 |                           | 12.95                   | 2.95 - 4.55                                              | 3.25 - 4.95 | 2.95 - 4.55                                             | 2.95 - 4.55 | 3.25 - 4.95 |
| 07                 |                           | 13.70                   | 2.95 - 5.30                                              | 4.00 - 5.70 | 3.30 - 5.30                                             | 2.95 - 5.30 | 4.00 - 5.70 |
| 37                 |                           | 14.45                   | 3.05 - 6.05                                              | 4.75 - 6.45 | 4.05 - 6.05                                             | 3.05 - 6.05 | 4.75 - 6.45 |
| 50                 |                           | 15.20                   | 3.80 - 6.80                                              | 5.50 - 7.20 | 4.80 - 6.80                                             | 3.80 - 6.80 | 5.50 - 7.20 |
| 41                 |                           | 15.70                   | 4.30 - 7.30                                              | 6.00 - 7.70 | 5.30 - 7.30                                             | 4.30 - 7.30 | 6.00 - 7.70 |
| 24                 |                           | 16.40                   | 5.00 - 8.00                                              | 6.70 - 8.40 | 6.00 - 8.00                                             | 5.00 - 8.00 | 6.70 - 8.40 |
| 11                 |                           | 17.10                   | 5.70 - 8.70                                              | 7.40 - 9.10 | 6.70 - 8.70                                             | 5.70 - 8.70 | 7.40 - 9.10 |

\* STUB PINS - NO REAR PLUG-UP

\*\* THE GREATEST RANGE OCCURS WHEN THE B  
DIMENSION OF PIN 'GND' IS ONE SIZE  
SHORTER THEN THE OTHER PINS.

|                       |          |    |      |                                          |                        |                       |                            |                           |                                                             |
|-----------------------|----------|----|------|------------------------------------------|------------------------|-----------------------|----------------------------|---------------------------|-------------------------------------------------------------|
| mat'l code SEE NOTE 5 |          |    |      | tolerances unless<br>otherwise specified |                        | CUSTOMER              |                            | FCI<br>www.fciconnect.com |                                                             |
| ltr                   | ecr no.  | dr | date | linear                                   | 0.X ±0.3               | projection            | COPY                       | title                     | VERTICAL SIGNAL HDR 8 ROW<br>P.F. 96 POS. SPECIAL LOAD EXT. |
| T                     |          |    |      |                                          | 0.XX ±0.13             |                       |                            |                           |                                                             |
|                       |          |    |      |                                          | .XXX ±.051             |                       |                            |                           |                                                             |
|                       |          |    |      | angles                                   | 0° ±2°                 | MM<br>←→<br>scale 1:1 | product family METRAL 2000 | code                      | 213                                                         |
|                       |          |    |      | dr                                       | E. KROPER. 2001-01-10  |                       |                            |                           |                                                             |
|                       |          |    |      | enrg                                     | J. VOLSTORF 2001-01-10 |                       |                            |                           |                                                             |
|                       |          |    |      | chr                                      | J. VOLSTORF 2001-01-10 | A                     | size                       | dwg no                    | sheet                                                       |
|                       |          |    |      | appd                                     | J. VOLSTORF 2001-01-10 |                       |                            |                           |                                                             |
| sheet                 | revision |    |      |                                          |                        |                       |                            |                           |                                                             |
| index                 | sheet    |    |      |                                          |                        |                       |                            |                           |                                                             |



| PIN<br>CODE<br>NO. | DIM A<br>MATING<br>LENGTH | DIM B<br>TAIL<br>LENGTH | PCB THICKNESS RANGE<br>ACCOMMODATED BY PIN LENGTH    |             |                                                         |             |             |
|--------------------|---------------------------|-------------------------|------------------------------------------------------|-------------|---------------------------------------------------------|-------------|-------------|
|                    |                           |                         | WHEN MATING TO A 73981 OR<br>84688 SERIES RECEPTACLE |             | WHEN MATING TO A 52057 SERIES<br>METRAL 4000 RECEPTACLE |             |             |
|                    |                           |                         | ROWS A,B,C,D,E                                       | GROUND ROW  | ROWS:A,B,D,E                                            | ROW C       | GROUND ROW  |
| 04*                | 7.25                      | 4.30                    | 1.60 MIN                                             | 1.60 MIN    | 1.60 MIN                                                | 1.60 MIN    | 1.60 MIN    |
| 46                 |                           | 12.20                   | 2.95 - 3.80                                          | 2.95 - 4.20 | 2.95 - 3.80                                             | 2.95 - 3.80 | 2.95 - 4.20 |
| 33                 |                           | 12.95                   | 2.95 - 4.55                                          | 3.25 - 4.95 | 2.95 - 4.55                                             | 2.95 - 4.55 | 3.25 - 4.95 |
| 08                 |                           | 13.70                   | 2.95 - 5.30                                          | 4.00 - 5.70 | 3.30 - 5.30                                             | 2.95 - 5.30 | 4.00 - 5.70 |
| 38                 |                           | 14.45                   | 3.05 - 6.05                                          | 4.75 - 6.45 | 4.05 - 6.05                                             | 3.05 - 6.05 | 4.75 - 6.45 |
| 51                 |                           | 15.20                   | 3.80 - 6.80                                          | 5.50 - 7.20 | 4.80 - 6.80                                             | 3.80 - 6.80 | 5.50 - 7.20 |
| 42                 |                           | 15.70                   | 4.30 - 7.30                                          | 6.00 - 7.70 | 5.30 - 7.30                                             | 4.30 - 7.30 | 6.00 - 7.70 |
| 67                 |                           | 16.40                   | 5.00 - 8.00                                          | 6.70 - 8.40 | 6.00 - 8.00                                             | 5.00 - 8.00 | 6.70 - 8.40 |
| 12                 |                           | 17.10                   | 5.70 - 8.70                                          | 7.40 - 9.10 | 6.70 - 8.70                                             | 5.70 - 8.70 | 7.40 - 9.10 |
| 19*                | 8.00                      | 4.30                    | 1.60 MIN                                             | 1.60 MIN    | 1.60 MIN                                                | 1.60 MIN    | 1.60 MIN    |
| 47                 |                           | 12.20                   | 2.95 - 3.80                                          | 2.95 - 4.20 | 2.95 - 3.80                                             | 2.95 - 3.80 | 2.95 - 4.20 |
| 34                 |                           | 12.95                   | 2.95 - 4.55                                          | 3.25 - 4.95 | 2.95 - 4.55                                             | 2.95 - 4.55 | 3.25 - 4.95 |
| 20                 |                           | 13.70                   | 2.95 - 5.30                                          | 4.00 - 5.70 | 3.30 - 5.30                                             | 2.95 - 5.30 | 4.00 - 5.70 |
| 39                 |                           | 14.45                   | 3.05 - 6.05                                          | 4.75 - 6.45 | 4.05 - 6.05                                             | 3.05 - 6.05 | 4.75 - 6.45 |
| 52                 |                           | 15.20                   | 3.80 - 6.80                                          | 5.50 - 7.20 | 4.80 - 6.80                                             | 3.80 - 6.80 | 5.50 - 7.20 |
| 43                 |                           | 15.70                   | 4.30 - 7.30                                          | 6.00 - 7.70 | 5.30 - 7.30                                             | 4.30 - 7.30 | 6.00 - 7.70 |
| 68                 |                           | 16.40                   | 5.00 - 8.00                                          | 6.70 - 8.40 | 6.00 - 8.00                                             | 5.00 - 8.00 | 6.70 - 8.40 |
| 21                 |                           | 17.10                   | 5.70 - 8.70                                          | 7.40 - 9.10 | 6.70 - 8.70                                             | 5.70 - 8.70 | 7.40 - 9.10 |

\* STUB PINS - NO REAR PLUG-UP

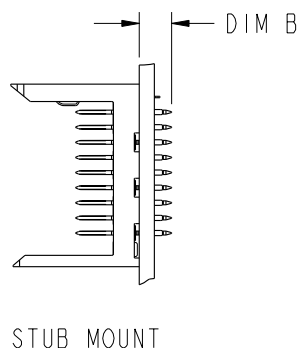
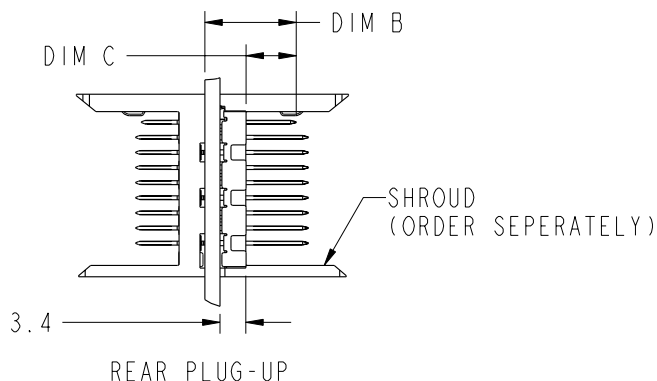
\*\* THE GREATEST RANGE OCCURS WHEN THE B  
DIMENSION OF PIN 'GND' IS ONE SIZE  
SHORTER THEN THE OTHER PINS.

|                          |                |    |      |                                          |             |            |            |  |                                                                      |  |
|--------------------------|----------------|----|------|------------------------------------------|-------------|------------|------------|--|----------------------------------------------------------------------|--|
| mat'l code<br>SEE NOTE 5 |                |    |      | tolerances unless<br>otherwise specified |             |            | CUSTOMER   |  | <a href="http://www.fciconnect.com">www.fciconnect.com</a>           |  |
| ltr                      | ecn no.        | dr | date | linear                                   | 0.X ±0.3    |            | COPY       |  |                                                                      |  |
| T                        |                |    |      |                                          | 0.XX ±0.13  |            | projection |  |                                                                      |  |
|                          |                |    |      |                                          | .XXX ±.051  |            |            |  |                                                                      |  |
|                          |                |    |      | angles                                   | 0° ±2°      |            |            |  | title<br>VERTICAL SIGNAL HDR 8 ROW<br>P.F. 96 POS. SPECIAL LOAD EXT. |  |
|                          |                |    |      | dr                                       | E. KROPER.  | 2001-01-10 | MM         |  | product family METRAL 2000                                           |  |
|                          |                |    |      | enrg                                     | J. VOLSTORF | 2001-01-10 | scale      |  | code 213                                                             |  |
|                          |                |    |      | chr                                      | J. VOLSTORF | 2001-01-10 | 1:1        |  | sheet 3                                                              |  |
|                          |                |    |      | appd                                     | J. VOLSTORF | 2001-01-10 |            |  | size dwg no 74978                                                    |  |
| sheet index              | revision sheet |    |      |                                          |             |            |            |  |                                                                      |  |

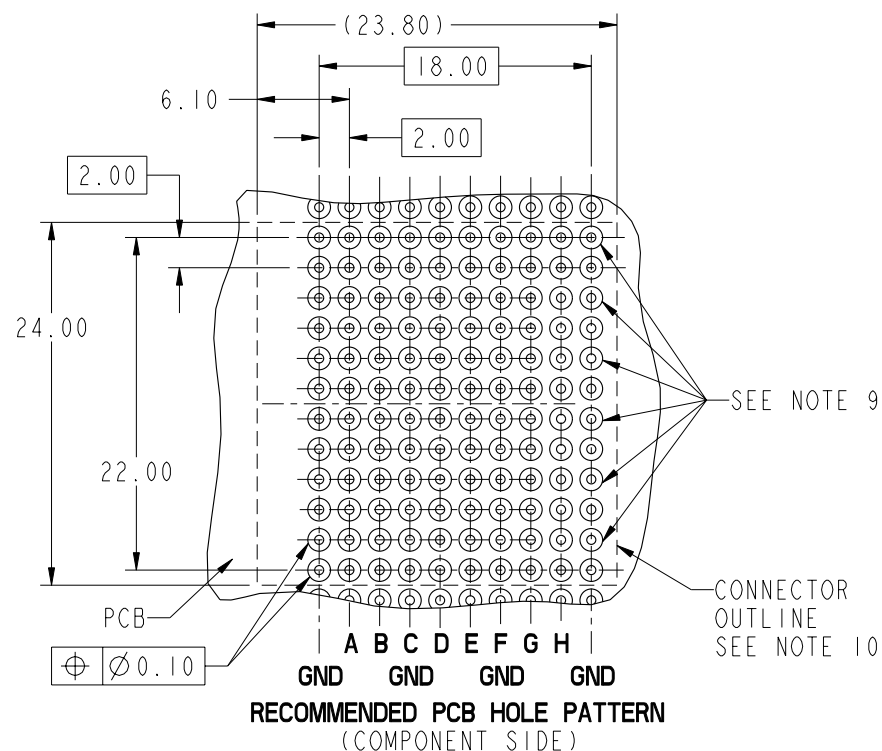


PRODUCT NUMBER  
SEE SHEET 1

| PRESS-FIT HOLES                | OPTION 1                  |
|--------------------------------|---------------------------|
| HOLE DIAMETER<br>AFTER PLATING | 0.65-0.80                 |
| DRILLED HOLE                   | 0.81-0.86<br>(0.85 DRILL) |
| COPPER PLATING                 | 0.025 MIN                 |
| SnPb PLATING                   | 0.005-0.015               |



SEE PRINT 58351 FOR ADDITIONAL PCB  
INFORMATION.



|                          |                   |    |      |                                          |                        |                 |                                            |                                                                      |  |
|--------------------------|-------------------|----|------|------------------------------------------|------------------------|-----------------|--------------------------------------------|----------------------------------------------------------------------|--|
| mat'l code<br>SEE NOTE 5 |                   |    |      | tolerances unless<br>otherwise specified |                        | CUSTOMER        |                                            | FCI<br>www.fciconnect.com                                            |  |
| ltr                      | ecn no.           | dr | date | linear                                   | 0.X ±0.3               | projection      | COPY                                       | title<br>VERTICAL SIGNAL HDR 8 ROW<br>P.F. 96 POS. SPECIAL LOAD EXT. |  |
| T                        |                   |    |      |                                          | 0.XX ±0.13             |                 |                                            |                                                                      |  |
|                          |                   |    |      |                                          | .XXX ±.051             |                 |                                            |                                                                      |  |
|                          |                   |    |      | angles                                   | 0° ±2°                 | MM<br>scale 1:1 | product family<br>METRAL 2000<br>size<br>A | code<br>213<br>sheet<br>4                                            |  |
|                          |                   |    |      | dr                                       | E. KROPER. 2001-01-10  |                 |                                            |                                                                      |  |
|                          |                   |    |      | enrg                                     | J. VOLSTORF 2001-01-10 |                 |                                            |                                                                      |  |
|                          |                   |    |      | chr                                      | J. VOLSTORF 2001-01-10 | dwg no<br>74978 | A                                          |                                                                      |  |
|                          |                   |    |      | appd                                     | J. VOLSTORF 2001-01-10 |                 |                                            |                                                                      |  |
| sheet<br>index           | revision<br>sheet |    |      |                                          |                        |                 |                                            |                                                                      |  |

Pro/E

cage code 22526

PDM: Rev:T

STATUS: Released

Printed: May 13, 2011



| SPECIAL LOAD PATTERNS                                      |     |           |
|------------------------------------------------------------|-----|-----------|
| PRODUCT #                                                  | ROW | PIN CODES |
| 74978-X02001<br>SEE NOTE 16<br>LEAD FREE<br>OPTION         | H   | 01        |
|                                                            | G   |           |
|                                                            | F   |           |
|                                                            | E   |           |
|                                                            | D   |           |
|                                                            | C   |           |
|                                                            | B   |           |
|                                                            | A   |           |
|                                                            | GND |           |
| 74978-X02006<br>*RPU<br>SEE NOTE 16<br>LEAD FREE<br>OPTION | H   | 48        |
|                                                            | G   |           |
|                                                            | F   |           |
|                                                            | E   |           |
|                                                            | D   |           |
|                                                            | C   |           |
|                                                            | B   |           |
|                                                            | A   |           |
|                                                            | GND |           |
| 74978-X02011<br>SEE NOTE 16<br>LEAD FREE<br>OPTION         | H   | 02        |
|                                                            | G   |           |
|                                                            | F   |           |
|                                                            | E   |           |
|                                                            | D   |           |
|                                                            | C   |           |
|                                                            | B   |           |
|                                                            | A   |           |
|                                                            | GND | 01        |
| 74978-X02012<br>*RPU<br>SEE NOTE 16<br>LEAD FREE<br>OPTION | H   | 44        |
|                                                            | G   |           |
|                                                            | F   |           |
|                                                            | E   |           |
|                                                            | D   |           |
|                                                            | C   |           |
|                                                            | B   |           |
|                                                            | A   |           |
|                                                            | GND | 22        |
| 74978-X02013<br>*RPU<br>SEE NOTE 16<br>LEAD FREE<br>OPTION | H   | 06        |
|                                                            | G   |           |
|                                                            | F   |           |
|                                                            | E   |           |
|                                                            | D   |           |
|                                                            | C   |           |
|                                                            | B   |           |
|                                                            | A   |           |
|                                                            | GND | 30        |

PCB THICKNESS  
RANGE FOR REAR  
PLUG UP  
APPLICATIONS:  
5.50 - 6.80

PCB THICKNESS  
RANGE FOR REAR  
PLUG UP  
APPLICATIONS:  
2.95 - 3.80

PCB THICKNESS  
RANGE FOR REAR  
PLUG UP  
APPLICATIONS:  
3.30 - 4.95 FOR  
METRAL 1000  
(RECEPTACLE)  
APPLICATIONS,  
AND 3.30-4.95  
FOR METRAL 4000  
APPLICATIONS

| SPECIAL LOAD PATTERNS                                      |     |           |
|------------------------------------------------------------|-----|-----------|
| PRODUCT #                                                  | ROW | PIN CODES |
| 74978-X02050<br>SEE NOTE 16<br>LEAD FREE<br>OPTION         | H   | 02        |
|                                                            | G   | 03        |
|                                                            | F   | 04        |
|                                                            | E   | 02        |
|                                                            | D   | 03        |
|                                                            | C   | 04        |
|                                                            | B   | 02        |
|                                                            | A   | 03        |
| 74978-X02051<br>*RPU<br>SEE NOTE 16<br>LEAD FREE<br>OPTION | GND | 02        |
|                                                            | H   | 25        |
|                                                            | G   | 24        |
|                                                            | F   | 12        |
|                                                            | E   | 25        |
|                                                            | D   | 24        |
|                                                            | C   | 12        |
|                                                            | B   | 25        |
| 74978-X02052<br>*RPU<br>SEE NOTE 16<br>LEAD FREE<br>OPTION | A   | 24        |
|                                                            | GND | 49        |
|                                                            | H   | 06        |
|                                                            | G   |           |
|                                                            | F   |           |
|                                                            | E   |           |
|                                                            | D   |           |
|                                                            | C   |           |
| 74978-X02053<br>SEE NOTE 16<br>LEAD FREE<br>OPTION         | B   |           |
|                                                            | A   |           |
|                                                            | GND | 01        |
|                                                            | H   | 37        |
|                                                            | G   |           |
|                                                            | F   |           |
|                                                            | E   |           |
|                                                            | D   |           |
|                                                            | C   |           |
|                                                            | B   |           |
|                                                            | A   |           |
|                                                            | GND | 06        |

PCB THICKNESS  
RANGE FOR REAR  
PLUG UP  
APPLICATIONS:  
5.70 - 7.20 FOR  
METRAL 1000  
(RECEPTACLE)  
APPLICATIONS,  
AND 6.00-7.20  
FOR METRAL 4000  
APPLICATIONS

PCB THICKNESS  
RANGE FOR REAR  
PLUG UP  
APPLICATIONS:  
2.95 - 5.30 FOR  
METRAL 1000  
(RECEPTACLE)  
APPLICATIONS,  
AND 3.30-5.30  
FOR METRAL 4000  
APPLICATIONS

PCB THICKNESS  
RANGE FOR REAR  
PLUG UP  
APPLICATIONS:  
4.00 - 5.70 FOR  
METRAL 1000  
(RECEPTACLE)  
APPLICATIONS,  
AND 4.05 - 5.70  
FOR METRAL 4000  
APPLICATIONS

| SPECIAL LOAD PATTERNS                              |     |           |
|----------------------------------------------------|-----|-----------|
| PRODUCT #                                          | ROW | PIN CODES |
| 74978-X02054<br>SEE NOTE 16<br>LEAD FREE<br>OPTION | H   | 03        |
|                                                    | G   |           |
|                                                    | F   |           |
|                                                    | E   |           |
|                                                    | D   |           |
|                                                    | C   |           |
|                                                    | B   |           |
|                                                    | A   |           |
|                                                    | GND | 02        |

\*REAR PLUG-UP PART NUMBER

|                          |          |    |      |                                          |                        |            |       |                                |      |
|--------------------------|----------|----|------|------------------------------------------|------------------------|------------|-------|--------------------------------|------|
| mat'l code<br>SEE NOTE 5 |          |    |      | tolerances unless<br>otherwise specified |                        | CUSTOMER   |       | www.fciconnect.com             |      |
| ltr                      | ecn no.  | dr | date | linear                                   | 0.X ±0.3               | projection |       | COPY                           |      |
| T                        |          |    |      |                                          | 0.XX ±0.13             |            |       | title                          |      |
|                          |          |    |      |                                          | .XXX ±.051             |            |       | VERTICAL SIGNAL HDR 8 ROW      |      |
|                          |          |    |      | angles                                   | 0° ±2°                 |            | scale | P.F. 96 POS. SPECIAL LOAD EXT. |      |
|                          |          |    |      | dr                                       | E. KROPER. 2001-01-10  |            |       | product family                 |      |
|                          |          |    |      | enrg                                     | J. VOLSTORF 2001-01-10 |            |       | METRAL 2000                    |      |
|                          |          |    |      | chr                                      | J. VOLSTORF 2001-01-10 | A          | size  | dwg no                         | code |
|                          |          |    |      | appd                                     | J. VOLSTORF 2001-01-10 |            |       |                                |      |
|                          |          |    |      |                                          |                        |            |       |                                |      |
| sheet                    | revision |    |      |                                          |                        |            |       |                                |      |
| index                    | sheet    |    |      |                                          |                        |            |       |                                |      |

cage code 22526

PRODUCT NUMBER

SEE SHEET 1

## NOTES:

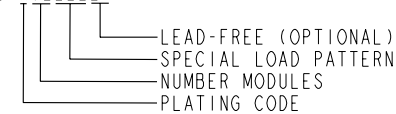
1. SEE APPLICATION SPECIFICATION GS-20-010 FOR INFORMATION ON AVAILABLE TOOLING, CIRCUIT BOARD DESIGN CONSIDERATIONS, REPAIR PROCEDURES AND PRODUCT OFFERINGS.
2. SEE FCI PUBLICATION 950511-028 FOR "ELECTRICAL PERFORMANCE DATA FOR DIFFERENTIAL APPLICATIONS."
3. SEE FCI PUBLICATION 950511-028 FOR "ELECTRICAL PERFORMANCE DATA FOR SINGLE-ENDED APPLICATION."
4. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS AND TOLERANCES ARE IN ACCORDANCE WITH ASME Y14.5M, 1994
5. HOUSING MATERIAL: LIQUID CRYSTAL POLYMER, 30% GLASS FILLED, FLAME RETARDANT PER UL 94-V0.  
PIN MATERIAL: PHOSPHOR BRONZE  
GROUND SPRING MATERIAL: PHOSPHOR BRONZE  
STRIPLINE SHIELD MATERIAL: PHOSPHOR BRONZE
6. PLATING INFORMATION: PLATING ON CONTACT AREA MEETS THE PERFORMANCE LEVELS AS SHOWN IN TABLE ON SHEET 1. PLATING ON "LF" TAILS IS Sn. PLATING ON ALL OTHER TAILS IS SnPb.
7. DIMENSIONAL RESTRICTIONS OF PINS IN HEADERS.  
FOR MATING WITH METRAL 1000 RECEPTACLES  
DIM A : 5.00mm MIN, 8.00mm MAX FOR ROWS A-H  
DIM A : 5.00mm MIN, 5.75mm MAX FOR ROW GND NEXT TO ROW A  
DIM C : 5.00mm MIN, 8.00mm MAX FOR ROWS A-H  
DIM C : 4.60mm MIN, 6.30mm MAX FOR ROW GND NEXT TO ROW A  
FOR MATING WITH METRAL 4000 RECEPTACLES  
DIM A : 5.00mm MIN, 6.50mm MAX FOR ROWS A, B, D, E, G & H  
DIM A : 5.00mm MIN, 8.00mm MAX FOR ROWS C & F  
DIM A : 5.00mm MIN, 5.75mm MAX FOR ROW GND NEXT TO ROW A  
DIM C : 5.00mm MIN, 7.00mm MAX FOR ROWS A, B, D, E, G & H  
DIM C : 5.00mm MIN, 8.00mm MAX FOR ROWS C & F  
DIM C : 4.60mm MIN, 6.30mm MAX FOR ROW GND NEXT TO ROW A
8. THE MIN PCB THICKNESS FOR REAR PLUG-UP APPLICATIONS IS 2.9mm SINCE THE COMPLIANT SECTIONS OF THE GROUND SPRING OF THE HEADER DIRECTLY OPPOSE THE GROUND SPRING OF THE SHROUD. THE MIN PCB THICKNESS FOR FRONT PLUG-UP ONLY APPLICATIONS IS 1.6mm.

9. THESE HOLES ARE NEEDED FOR REAR PLUG-UP DESIGNS USING A SHROUD AND MAY BE OMITTED FOR FRONT PLUG-UP ONLY DESIGNS.
10. THE 'CONNECTOR OUTLINE' IS THE MIN OUTLINE REQUIRED. TO DETERMINE THE OUTLINE NECESSARY TO PERMIT THE VARIOUS TYPES OF REPAIR OPERATIONS, SEE APPLICATION SPECIFICATION GS-20-010.

11. CURRENT RATING : 1 AMP PER PIN

12. TEMPERATURE RANGE : -55°C TO +105°C

13. P/N 74978-X02ZZZLF



14. FOR FRONT PLUG-UP APPLICATIONS, THE EVEN NUMBERED PINS IN ROW 'C' AND 'F' CAN BE USED FOR POWER AS WELL AS FOR GROUND. IF THE SURROUNDING PINS ARE NOT USED FOR POWER, THEN EACH PIN CAN CARRY 3 AMPS. IF THE SURROUNDING PINS ARE USED FOR POWER, THEN EACH PIN CAN CARRY 1 AMP. WHEN THE SURROUNDING PINS ARE USED ONLY FOR LOW SPEED SIGNALS, THEN THE EVEN NUMBERED 'C' AND 'F' ROW PINS CAN ALSO BE USED FOR LOW SPEED SIGNALS. THIS IS NOT TRUE FOR REAR PLUG-UP APPLICATIONS USING METRAL 2000 SHROUD AS IN THIS CASE ALL 'C' AND 'F' ROW PINS ARE COMMON TO GROUND.

15. PRODUCTS WHERE THE PART NUMBER ENDS IN LF MEET EUROPEAN UNION DIRECTIVES AND OTHER COUNTRY REGULATIONS AS DESCRIBED IN GS-22-008.  
ALL PRODUCTS WILL WITHSTAND EXPOSURE TO 260°C FOR 60 SECONDS IN A CONVECTION, INFRA-RED OR VAPOR PHASE REFLOW OVEN.

16. FOR LEAD FREE PART NUMBERS ADD 'LF' SUFFIX.  
EXAMPLE: 74978-XXXXLF

17. PIN TYPE IS AT THE MANUFACTURERS OPTION AND CAN BE EITHER BABY-H OR EYE OF THE NEEDLE STYLE

|                       |         |                |      |                                          |             |            |            |  |                                                                      |        |             |      |       |
|-----------------------|---------|----------------|------|------------------------------------------|-------------|------------|------------|--|----------------------------------------------------------------------|--------|-------------|------|-------|
| mat'l code SEE NOTE 5 |         |                |      | tolerances unless<br>otherwise specified |             |            | CUSTOMER   |  | FCI<br>www.fciconnect.com                                            |        |             |      |       |
| ltr                   | ecn no. | dr             | date | linear                                   | 0. X ±0.3   |            | COPY       |  | title<br>VERTICAL SIGNAL HDR 8 ROW<br>P.F. 96 POS. SPECIAL LOAD EXT. |        |             |      |       |
| T                     |         |                |      |                                          | 0. XX ±0.13 |            | projection |  |                                                                      |        |             |      |       |
|                       |         |                |      |                                          | .XXX ±.051  |            |            |  |                                                                      |        |             |      |       |
|                       |         |                |      | angles                                   | 0° ±2°      |            |            |  |                                                                      |        |             |      |       |
|                       |         |                |      | dr                                       | E. KROPER.  | 2001-01-10 |            |  | product family                                                       |        | METRAL 2000 | code |       |
|                       |         |                |      | enrg                                     | J. VOLSTORF | 2001-01-10 |            |  | size                                                                 | dwg no | 213         |      |       |
|                       |         |                |      | chr                                      | J. VOLSTORF | 2001-01-10 | scale      |  | A                                                                    |        | 74978       |      | sheet |
|                       |         |                |      | appd                                     | J. VOLSTORF | 2001-01-10 | 1:1        |  |                                                                      |        |             |      | 6     |
| sheet index           |         | revision sheet |      |                                          |             |            |            |  |                                                                      |        |             |      |       |