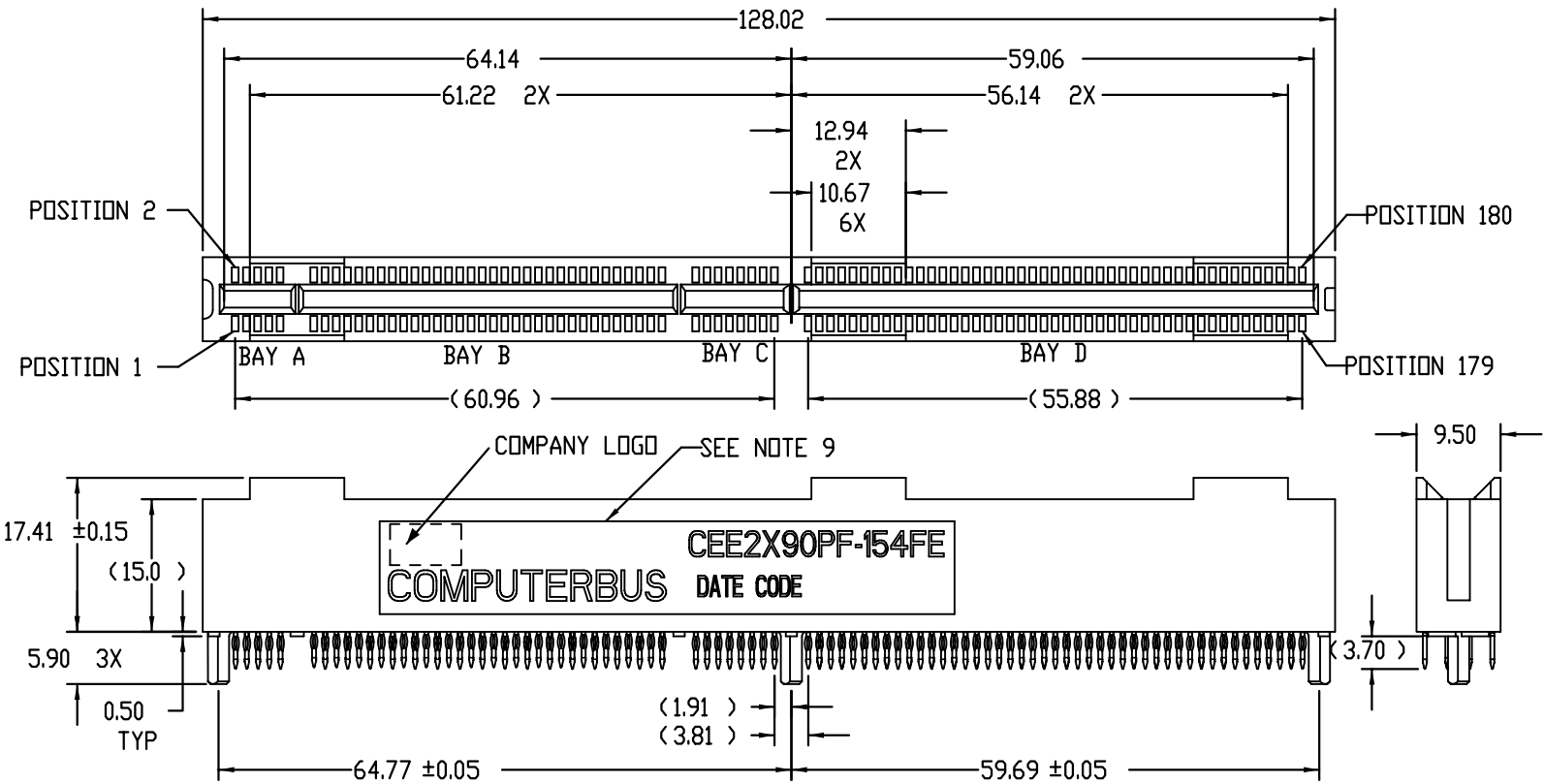


PRODUCT NUMBER  
SEE TABLE



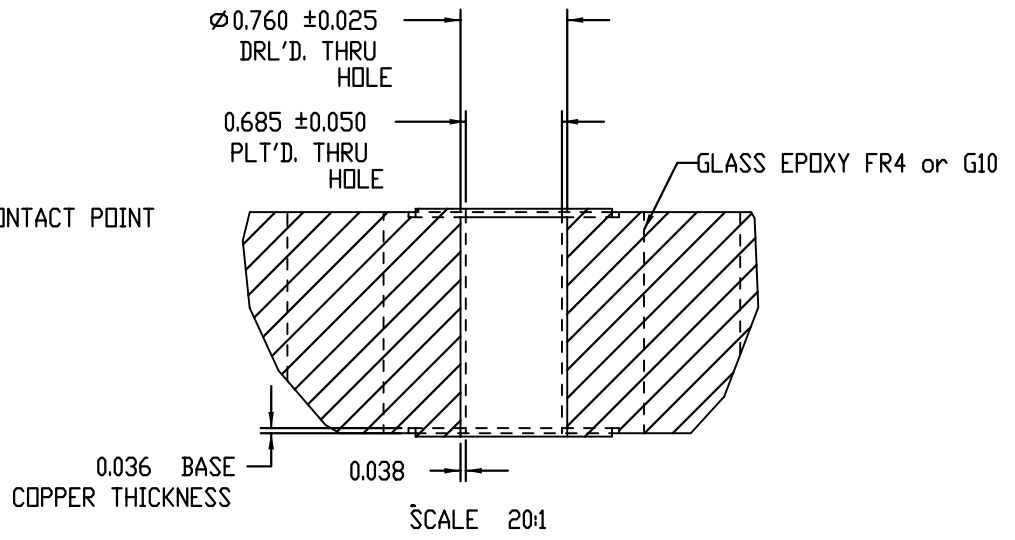
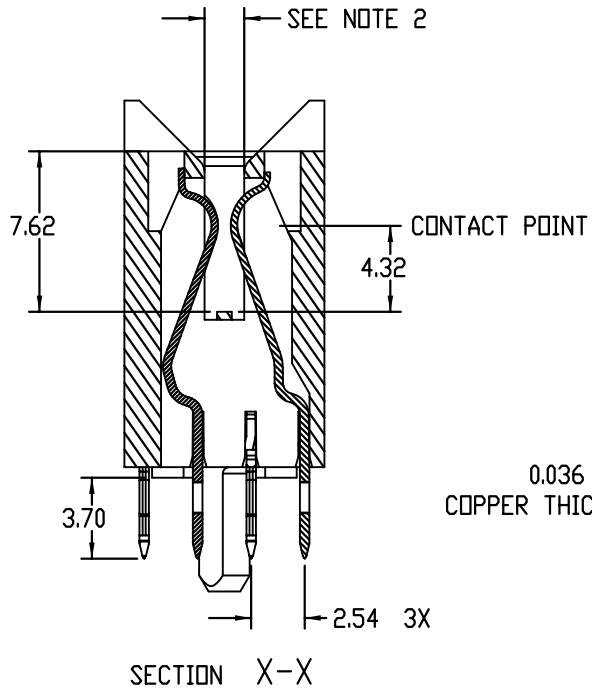
(CONNECTOR SHOWN FULLY POPULATED, SEE TABLE FOR LOAD PATTERN)

|             |          |          |         |                                       |                                  |            |                                   |
|-------------|----------|----------|---------|---------------------------------------|----------------------------------|------------|-----------------------------------|
| mat'l. code |          |          |         | surface<br>ISO 1302                   | tolerance<br>ISO 406<br>ISO 1101 | projection | product family<br>CARDEGGE        |
| ltr         | ecr no   | dr       | date    | tolerances unless otherwise specified |                                  |            | title                             |
| H           | V11759   | MEP      | 7/21/01 | angles                                | linear                           | .X±.2      | CEE 2X90 PF<br>CONNECTOR ASSEMBLY |
| J           | V12283   | GIP      | 10/1/01 |                                       |                                  | .XX±.10    |                                   |
| K           | V04-1156 | TAB      | 12/8/04 | 0°±1°                                 |                                  | .XXX±.050  |                                   |
| L           | M05-0075 | ERE      | 4/25/05 | dr                                    | G. PETERS                        | 10/4/01    | scale 13:10                       |
| M           | M06-0037 | MHT      | 3/30/06 | engr                                  | D. CASEY                         | 10/3/01    | MM                                |
| N           | M06-0234 | AGS      | 6/14/06 | chr                                   | G. PETERS                        | 10/4/04    | dwg no                            |
| P           | M08-0241 | MHT      | 8/25/08 | appd                                  | D. CASEY                         | 10/4/01    | sheet 1 of 6 size                 |
| sheet       |          | revision | P       | P                                     | P                                | P          | S97316                            |
| index       |          | sheet    | 1       | 2                                     | 3                                | 4          | A3                                |
|             |          |          |         |                                       |                                  |            | type Product Customer Drawing     |



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| FCI CATALOG NO.<br>F/CONNECTORS<br>w/CARD COLLECTORS | CONN.<br>SIZE | NUMBER OF<br>CONTACTS<br>LOADED | TERMIN. | LOAD PATTERN<br>UNPOPULATED POSITIONS                                      | CONTACT<br>PAIRS<br>BAY A | CONTACT<br>PAIRS<br>BAY B | CONTACT<br>PAIRS<br>BAY C | CONTACT<br>PAIRS<br>BAY D |
|--|---------------|---------------------------------|---------|--|---------------------------|---------------------------|---------------------------|---------------------------|
| CEE2X90PF-154FE                                      | 2x90          | 145                             | P.F.    | 1,2,4,5,7,25,26,27,28,37,38,47,48,49,                                      | 5                         | 32                        | 8                         | 45                        |
| CEE2X90PF-154FELF                                    |               |                                 |         | 50,67,68,69,70,71,72,73,74,91,92,93,<br>94,113,114,115,116,153,154,155,156 |                           |                           |                           |                           |



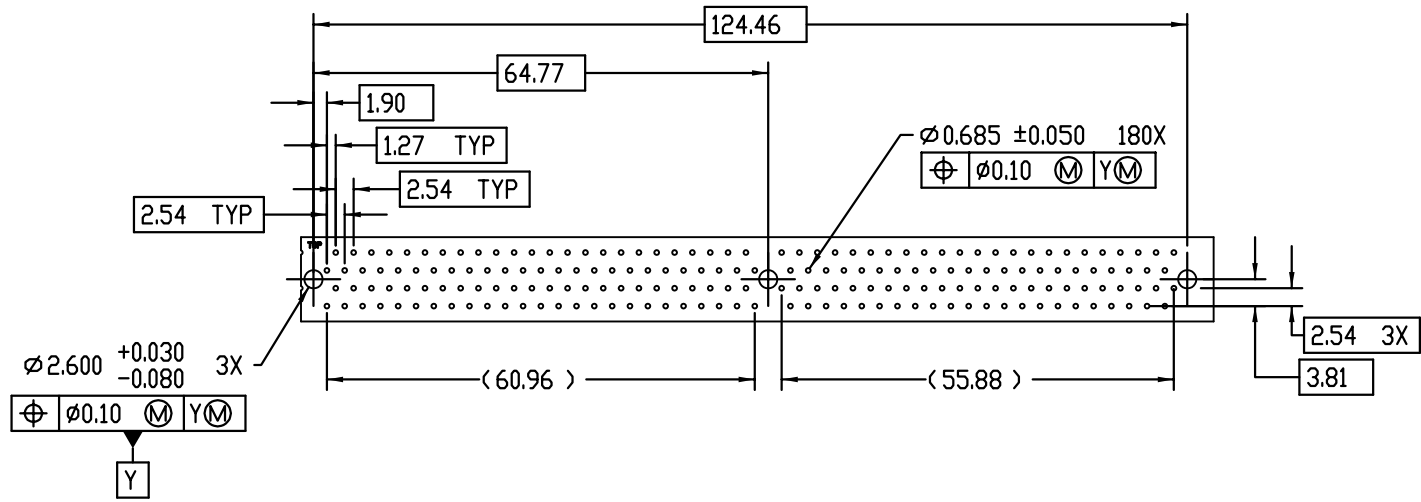
RECOMMENDED PLATED THRU HOLE DIMENSIONS  
FOR COMPLIANT PRESS PINS



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|             |                |                     |      |                                       |                               |                  |  |  |  |
|-------------|----------------|---------------------|------|---------------------------------------|-------------------------------|------------------|--|--|--|
| mat'l. code |                | surface<br>ISO 1302 |      | tolerance<br>ISO 406<br>ISO 1101      |                               | projection<br>MM |  | product family<br>CARDEDGE                 |  |
| ltr         | ecn no         | dr                  | date | tolerances unless otherwise specified |                               | MM               |  | title<br>CEE 2X90 PF<br>CONNECTOR ASSEMBLY |  |
| P           |                |                     |      | angles                                | linear                        | scale 1:1        |  | dwg no<br>S97316                           |  |
|             |                |                     |      | 0°±1°                                 | .X±.2<br>.XX±.10<br>.XXX±.050 |                  |  | sheet 2 of 6 size<br>A3                    |  |
|             |                |                     |      | dr                                    | G. PETERS                     | 10/4/01          |  | type<br>Product Customer Drawing           |  |
|             |                |                     |      | enr                                   | D. CASEY                      | 10/3/01          |  |  |  |
|             |                |                     |      | chr                                   | G. PETERS                     | 10/4/04          |  |  |  |
|             |                |                     |      | appd                                  | D. CASEY                      | 10/4/01          |  |  |  |
| sheet index | revision sheet |                     |      |                                       |                               |                  |  |  |  |

PRODUCT NUMBER  
SEE TABLE



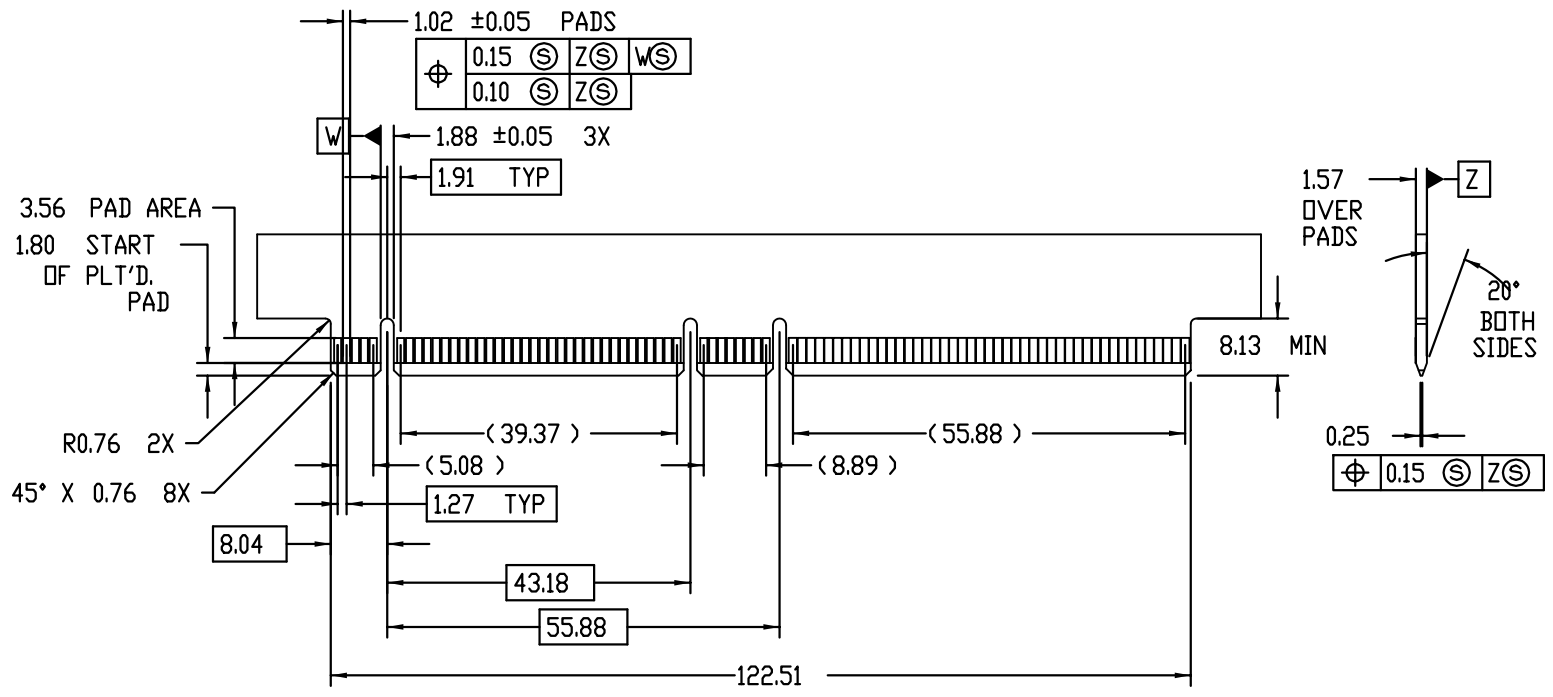
RECOMMENDED BACKPLANE HOLE PATTERN FOR CEE2X90PF-154FE & CEE2X90PF-154FELF



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|             |          |                     |      |                                       |           |                               |  |  |  |
|-------------|----------|---------------------|------|---------------------------------------|-----------|-------------------------------|--|--|--|
| mat'l. code |          | surface<br>ISO 1302 |      | tolerance<br>ISO 406<br>ISO 1101      |           | projection<br>MM              |  | product family<br>CARDEDGE                 |  |
| ltr         | ecn no   | dr                  | date | tolerances unless otherwise specified |           | MM                            |  | title<br>CEE 2X90 PF<br>CONNECTOR ASSEMBLY |  |
| P           |          |                     |      | angles                                | linear    | .X±.2<br>.XX±.10<br>.XXX±.050 |  | scale 1:1                                  |  |
|             |          |                     |      | 0°±1°                                 |           |                               |  | sheet 3 of 6 size                          |  |
|             |          |                     |      | dr                                    | G. PETERS | 10/4/01                       |  | dwg no<br>S97316                           |  |
|             |          |                     |      | enr                                   | D. CASEY  | 10/3/01                       |  | A3   |  |
|             |          |                     |      | chr                                   | G. PETERS | 10/4/04                       |  | type<br>Product Customer Drawing           |  |
|             |          |                     |      | appd                                  | D. CASEY  | 10/4/01                       |  |  |  |
| sheet       | revision |                     |      |                                       |           |                               |  |  |  |
| index       | sheet    |                     |      |                                       |           |                               |  |  |  |

PRODUCT NUMBER  
SEE TABLE



RECOMMENDED MATING COMPONENT P.C.B. FOR CEE2X90PF-154FE & CEE2X90PF-154FELF



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|             |                |                     |      |                                       |                               |                  |  |                                   |  |
|-------------|----------------|---------------------|------|---------------------------------------|-------------------------------|------------------|--|-----------------------------------|--|
| mat'l. code |                | surface<br>ISO 1302 |      | tolerance<br>ISO 406<br>ISO 1101      |                               | projection<br>MM |  | product family<br>CARDEDGE        |  |
| ltr         | ecn no         | dr                  | date | tolerances unless otherwise specified |                               | title            |  | CEE 2X90 PF<br>CONNECTOR ASSEMBLY |  |
| P           |                |                     |      | angles                                | linear                        | scale 1:1        |  | sheet 4 of 6 size                 |  |
|             |                |                     |      | 0°±1°                                 | .X±.2<br>.XX±.10<br>.XXX±.050 |                  |  | S97316 A3                         |  |
|             |                |                     |      | dr                                    | G. PETERS                     | 10/4/01          |  | type Product Customer Drawing     |  |
|             |                |                     |      | enr                                   | D. CASEY                      | 10/3/01          |  |                                   |  |
|             |                |                     |      | chr                                   | G. PETERS                     | 10/4/04          |  |                                   |  |
|             |                |                     |      | appd                                  | D. CASEY                      | 10/4/01          |  |                                   |  |
| sheet index | revision sheet |                     |      |                                       |                               |                  |  |                                   |  |

PRODUCT NUMBER

SEE TABLE

NOTES:

1. INTERPRET THIS DRAWING IN ACCORDANCE WITH ANSI Y14.5M -1982.
- ② CONNECTORS WITH CARD COLLECTING SCOPES ARE DESIGNED TO ACCOMMODATE 1.57+/-180 PC BOARDS WITH WARPAGE UP TO +/-2.03.
3. RECOMMENDED COMPONENT BOARD MATERIAL:  
P.C. BOARD:FR-4 WITH 28.35 GRAMS MIN. COPPER, PADS PLATED WITH .76 MICRONS MIN GOLD, PER MIL-G-45204, TYPE 1, CLASS 1, GRADE C OVER 2.54 MICRONS MIN NI. UNDERPLATE PER QQ-N-290.
4. RECOMMENDED BACK PLANE THICKNESS IS 2.39 FOR 3.71 COMPLIANT TAIL.
5. CONTACT MATING SURFACES ARE LUBRICATED WITH OS-138.
6. MATERIAL:

BODY: POLYPHTHALAMIDE (PPA) UL RATED 94V-0  
COLOR, BLACK

CONTACTS: PHOS BRONZE, PER FCI SPEC. M738

CONTACT FINISH: FE 0.75 MICRONS MIN GOLD OR GXT IN CONTACT AREA 1-3 MICRONS MIN 60/40 TIN LEAD ON SOLDER TAILS 2 MICRONS MIN NI UNDERPLATE ALL OVER.

LEAD FREE OPTION:

CONTACT FINISH: FE 0.75 MICRONS MIN GOLD OR GXT IN CONTACT AREA 1-3 MICRONS MIN PURE TIN ON SOLDER TAILS 2 MICRONS MIN NI UNDERPLATE ALL OVER.

7. PERFORMANCE CHARACTERISTICS: SEE SHEET 7.
8. APPLICATION SPECIFICATION PER BUS-09-026.
9. ITEM NAME, LOGO, PART NUMBER, DATE CODE, AND UL SYMBOLS TO APPEAR IN THIS AREA.

⑩ LF SUFFIX AT THE END OF PART NUMBER IS LEAD FREE.

⑪ THIS PRODUCT MEETS EUROPEAN UNION DIRECTIVES AND OTHER COUNTRY REGULATION AS DESCRIBED IN GS-22-008.

⑫ PLATING OPTIONS:  
MAY BE EITHER GOLD OR GXT PLATED AT MANUFACTURER'S OPTION.

|             |                |                     |      |                                       |           |                |  |                                   |  |
|-------------|----------------|---------------------|------|---------------------------------------|-----------|----------------|--|-----------------------------------|--|
| mat'l. code |                | surface<br>ISO 1302 |      | tolerance<br>ISO 406<br>ISO 1101      |           | projection<br> |  | product family<br>CARDEDGE        |  |
| ltr         | ecn no         | dr                  | date | tolerances unless otherwise specified |           | title          |  | sheet 5 of 6 size                 |  |
| P           |                |                     |      | angles                                | linear    | MM             |  | CEE 2X90 PF<br>CONNECTOR ASSEMBLY |  |
|             |                |                     |      | 0°±1°                                 |           | scale 1:1      |  | S97316 A3                         |  |
|             |                |                     |      | dr                                    | G. PETERS | 10/4/01        |  | type Product Customer Drawing     |  |
|             |                |                     |      | enr                                   | D. CASEY  | 10/3/01        |  |                                   |  |
|             |                |                     |      | chr                                   | G. PETERS | 10/4/04        |  |                                   |  |
|             |                |                     |      | appd                                  | D. CASEY  | 10/4/01        |  |                                   |  |
| sheet index | revision sheet |                     |      |                                       |           |                |  |                                   |  |



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PRODUCT NUMBER  
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PERFORMANCE CHARACTERISTICS:  
ENVIRONMENTAL:

OPERATING TEMPERATURE: -40C TO 105C  
THERMAL SHOCK: MIL-STD-1344, METHOD 1003.1)-55C TO +85C, 5 CYCLES)

FLAMABILITY RATING: UL94V-0

MECHANICAL:

DURABILITY: 100 MATING CYCLES WITHOUT PHYSICAL DAMAGE, OR EXCEEDING LOW LEVEL CONTACT RESISTANCE REQUIREMENTS WHEN MATED WITH RECOMMENDED CARD.

CONTACT RETENTION: MIL-STD-1344, METHOD 2007.1, 4.4 N MIN.

MATING FORCE: MIL-STD-1344, METHOD 2013.1 2.0 N MAX. AVERAGE PER OPPOSING PAIR USING GAUGE PER MIL-STD-C-21097 WITH CARD PROFILE

CONTACT NORMAL FORCE: 0.72 N MINIMUM

PRESS FIT TERMINATION FORCES: INSERTION FORCE 70 N MAX. PER PIN  
RETENTION FORCE 9 N MIN. PER PIN

ELECTRICAL:

CONTACT RESISTANCE: MIL-STD-1344, METHOD 3002-1, WITH 10 MILLIOHM MAX. INITIAL, 20 (LOW SIGNAL LEVEL) MILLIOHM RISE. COMPONENT BOARD SIDE - 1 MILLIOHM MAX., CONNECTION PRESS FIT PIN WITH PLATED THROUGH HOLE.

INSULATION RESISTANCE: MIL-STD-202, METHOD 302, CONDITION B, 1000 MEGOHMS MIN.

DIELECTRIC WITHSTAND VOLTAGE: MIL-STD-1344, METHOD D3001.1 CONDITION 1, 500 VAC RM

CAPACITANCE: 2 PICROFARADS, MAX AT 1 MEGAHERTZ

CURRENT RATING: 1 AMP, 30C RISE ABOVE AMBIENT

VOLTAGE RATING: 150 VAC (RMS)



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|             |                |    |      |                                       |                                  |                |  |
|-------------|----------------|----|------|---------------------------------------|----------------------------------|----------------|--|
| mat'l. code |                |    |      | surface<br>ISO 1302                   | tolerance<br>ISO 406<br>ISO 1101 | projection<br> | product family<br>CARDEDGE                 |
| ltr         | ecn no         | dr | date | tolerances unless otherwise specified |                                  | MM<br>         | title<br>CEE 2X90 PF<br>CONNECTOR ASSEMBLY |
| P           |                |    |      | angles                                | linear                           |                |  |
|             |                |    |      | 0°±1°                                 | .X±.2<br>.XX±.10<br>.XXX±.050    | scale 1:2      | dwg no<br>S97316                           |
|             |                |    |      | dr                                    | G. PETERS                        | 10/4/01        | sheet 6 of 6 size<br>A3                    |
|             |                |    |      | engr                                  | D. CASEY                         | 10/3/01        | type<br>Product Customer Drawing           |
|             |                |    |      | chr                                   | G. PETERS                        | 10/4/04        |  |
|             |                |    |      | appd                                  | D. CASEY                         | 10/4/01        |  |
| sheet index | revision sheet |    |      |                                       |                                  |                |  |