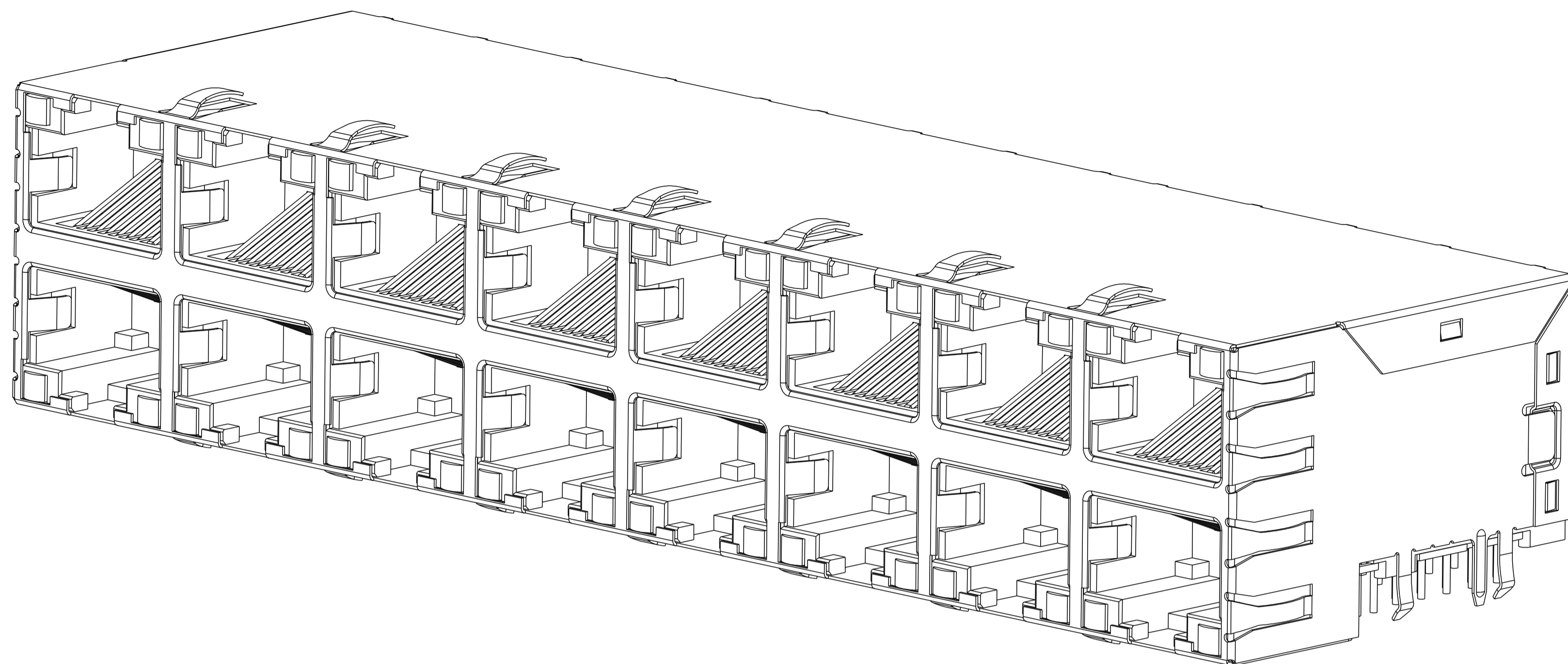
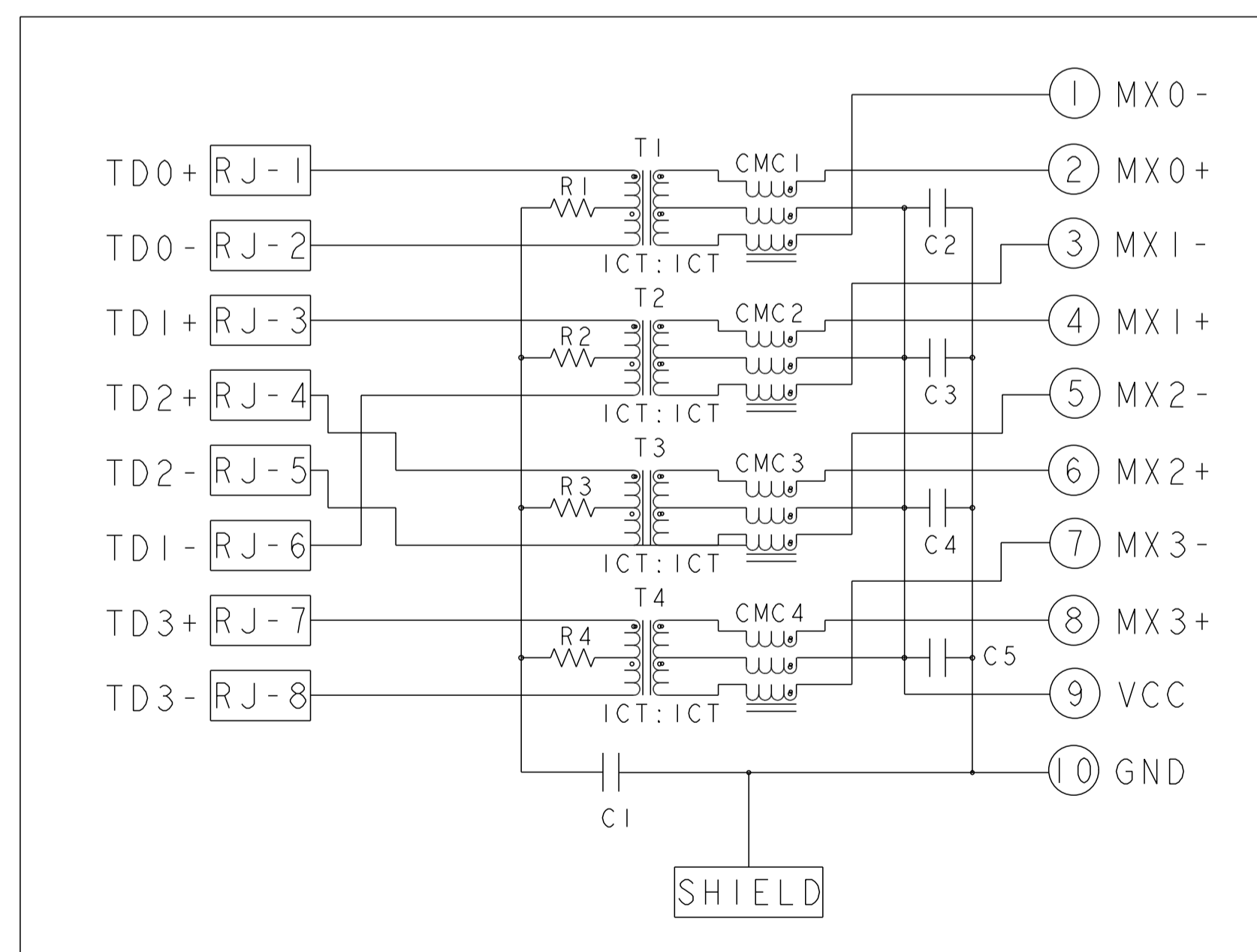


| REVISIONS |     |             |           |     |      |
|-----------|-----|-------------|-----------|-----|------|
| P         | LTR | DESCRIPTION | DATE      | DWN | APVD |
| F         |     | LOGO CHANGE | 18APR2013 | GZ  | KZ   |



# S8G16 GIGABIT CIRCUIT

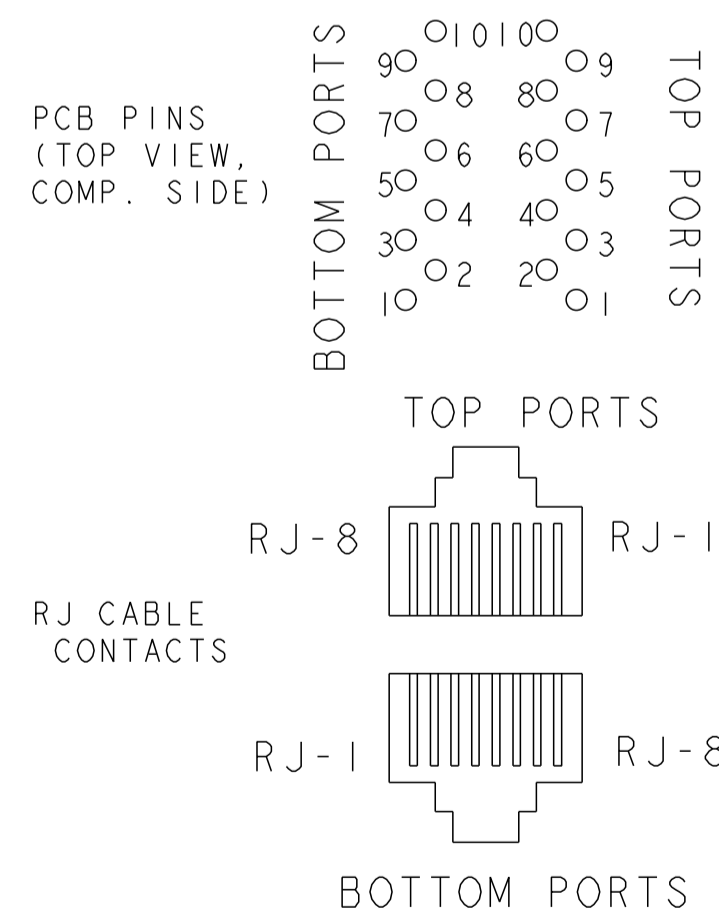
TOP AND BOTTOM PORTS



C1 = 1000pF, 3kV  
 C2 - C5 = 470pF, 10%, 50V  
 R1-R4 = 75 OHMS, 1/16W

## PIN DESIGNATIONS

(REPEAT FOR EACH VERTICAL PAIR OF PORTS)



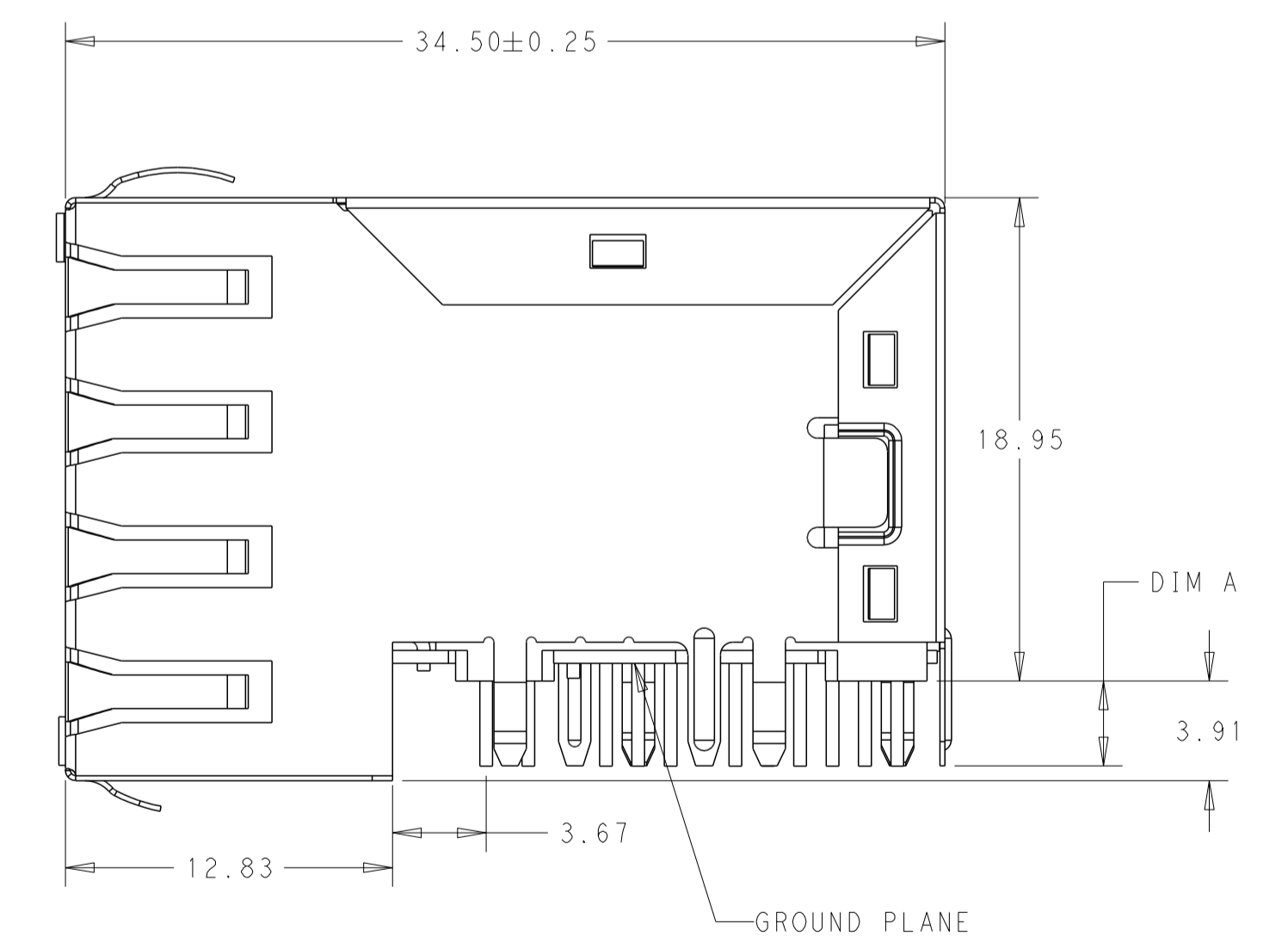
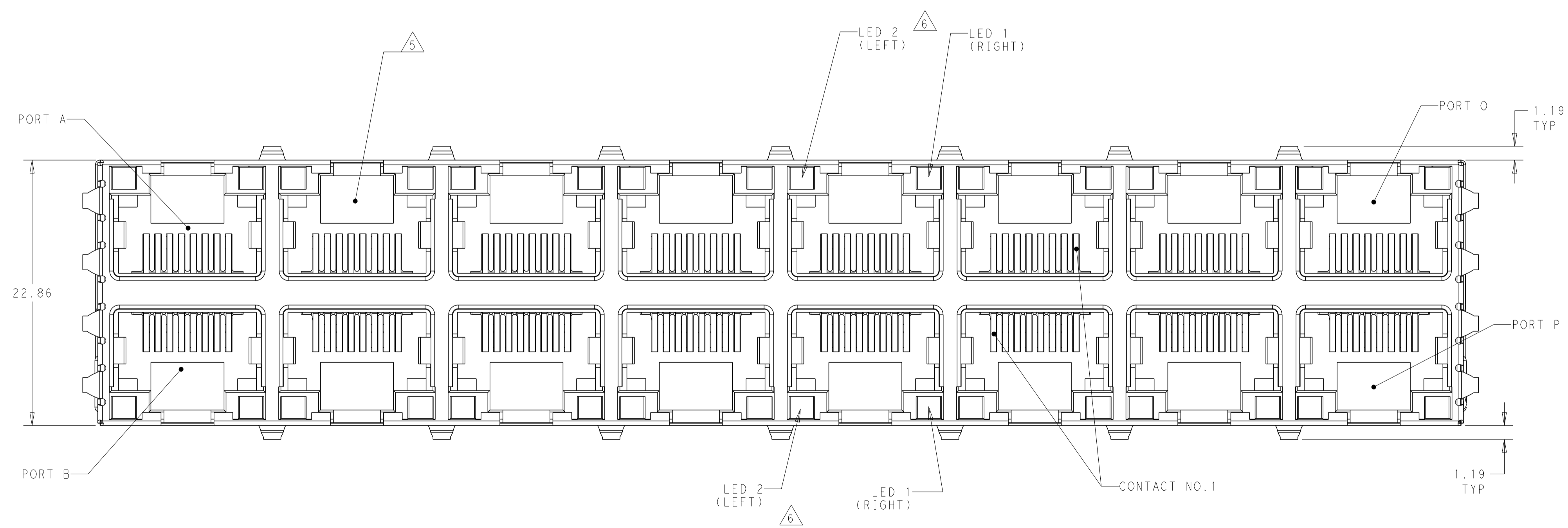
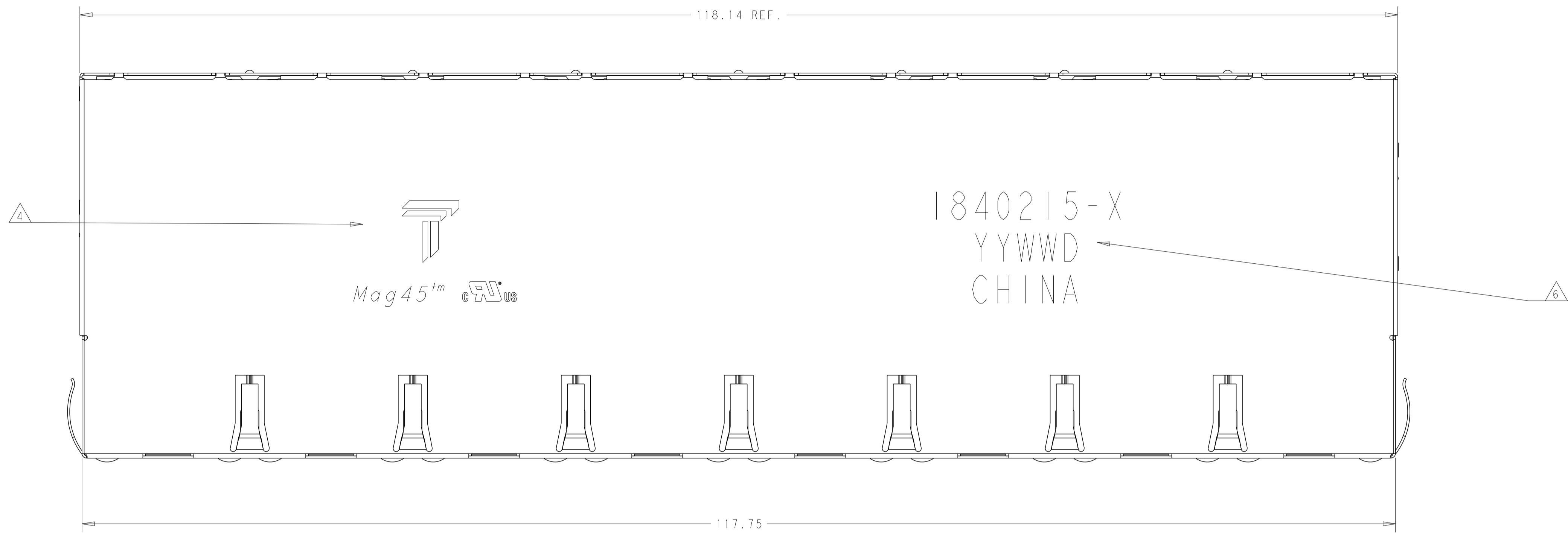
- 1 MATERIALS:
  - HOUSING: THERMOPLASTIC, BLACK, FLAMMABILITY RATING UL 94V-0.
  - SHIELD: BRASS, PREPLATED WITH 0.76um MIN SEMI-BRIGHT NICKEL, POST DIPPED WITH 2.54um MIN SAC SOLDER ON SOLDER TAILS.
  - CONTACTS: PHOSPHOR BRONZE, PLATED WITH 1.27um MIN OVERALL NICKEL UNDERPLATE, SELECTIVE 1.27um MIN GOLD AT MATING INTERFACE AND 2.54um MIN MATTE TIN ON SOLDER TAILS.
  - LED: DIFFUSED EPOXY LENS, CARBON STEEL LEAD FRAME LEADS, PREPLATED WITH 2.03um MIN SILVER OVER 1.02um MIN NICKEL OVER 1.02um MIN COPPER UNDERPLATE, POST PLATED WITH 2.54um MIN MATTE TIN AND/OR 2.54um MIN SAC SOLDER DIP OR PURE TIN SOLDER DIP.
- 2 MAGNETICS:
  - APPLICATION: 10/100/1000 BASE-T
  - IMPEDANCE: 100 ohm
  - TURNS RATIO (CHIP:CABLE): 1:1 ALL FOUR PAIRS
  - OPEN CIRCUIT INDUCTANCE (OCL): 350uH MIN @100kHz, 0.1VRMS, 8mA DC BIAS FROM 0°C TO 70°C, ALL FOUR PAIRS
  - RISE TIME(10%-90%): 2.5ns TYPICAL;
  - ALL FOUR PAIRS BI-DIRECTIONAL
  - PERFORMANCE @25°C:
    - INSERTION LOSS (IL): 1.1dB MAX FROM 0.5MHz TO 100MHz
    - RETURN LOSS (RL): 18dB MIN FROM 0.5MHz TO 40MHz
    - 12-20LOG(f/80)dB MIN FROM 40.1MHz TO 100MHz
    - CROSSTALK ATTENUATION: 35dB MIN FROM 0.5MHz TO 40MHz
    - 33-20LOG(f/50)dB MIN FROM 40.1MHz TO 100MHz
    - COMMON MODE REJECTION RATIO (CMRR): 30dB MIN FROM 0.5MHz TO 100MHz
  - ISOLATION VOLTAGE: COMPLIES WITH IEEE802.3 2002, PARA 40.6.1.1, ITEM a and b.
- 3 PART NUMBER, DATE CODE AND COUNTRY OF ORIGIN ARE LOCATED IN THE APPROXIMATE AREA SHOWN. DATE CODE "YY" IS THE YEAR, "WW" IS THE WEEK, "D" IS THE DAY OF WEEK, WITH SUNDAY="1".
- 4 TRP LOGO AND AGENCY APPROVAL LOGO ARE LOCATED IN THE APPROXIMATE AREA SHOWN.
- 5 RJ45 CAVITIES CONFORM TO FCC RULES AND REGULATIONS PART 68 SUBPART F.
- 6 LED ARE DRIVEN WITH CONSTANT CURRENT AT APPROX. 20mA  
 DOMINANT WAVELENGTH (λD)  
 GREEN, 568nm TYP at IF=20mA  
 YELLOW, 588nm TYP at IF=20mA  
 FORWARD VOLTAGE (VF):  
 GREEN, 2.2V TYP at IF=20mA  
 YELLOW, 2.1V TYP at IF=20mA
- 7 INDICATED MAGNETIC CONNECTIONS ARE SYMMETRICAL AND SUPPORT AUTO-MDI/MDIX.
- 8 OPERATING TEMPERATURE: FROM 0°C TO 70°C
- 9 THE PARTS ARE RECOMMENDED FOR WAVE SOLDERING PROCESS, PEAK TEMPERATURE 265 °C MAX. 10 SECONDS MAX.

|       |                     |                      |                  |                   |                   |             |
|-------|---------------------|----------------------|------------------|-------------------|-------------------|-------------|
| 2.80  | GREEN/YELLOW        | GREEN/YELLOW         | GREEN/YELLOW     | GREEN/YELLOW      | 7                 | 1-1840215-4 |
| 2.50  | GREEN               | YELLOW               | GREEN            | YELLOW            | 7                 | 1840215-5   |
| 3.30  | GREEN/YELLOW        | GREEN/YELLOW         | GREEN/YELLOW     | GREEN/YELLOW      | 7                 | 1840215-4   |
| 3.30  | YELLOW              | GREEN                | GREEN            | YELLOW            | 7                 | 1840215-3   |
| 3.30  | GREEN               | YELLOW               | GREEN            | YELLOW            | 7                 | 1840215-2   |
| 3.30  | GREEN               | GREEN                | GREEN            | GREEN             | 7                 | 1840215-1   |
| DIM A | BOTTOM LED 2 (LEFT) | BOTTOM LED 1 (RIGHT) | TOP LED 2 (LEFT) | TOP LED 1 (RIGHT) | REAR PCB GND TABS | PART NUMBER |

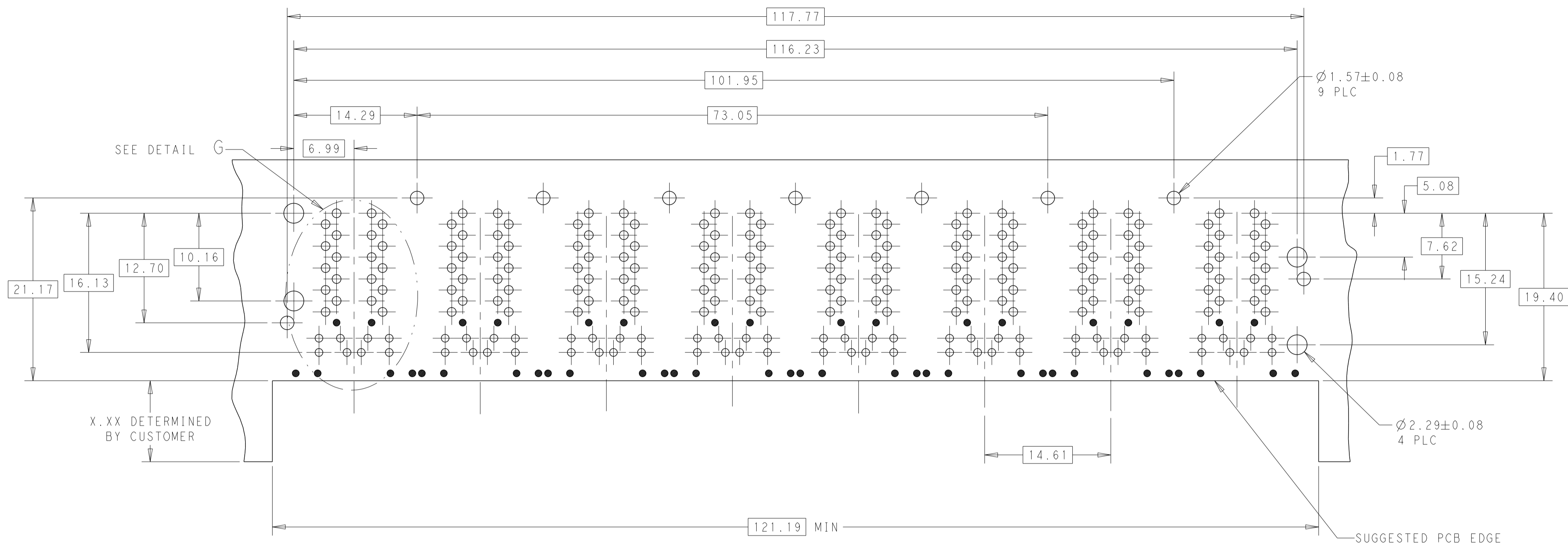
THIS DRAWING IS A CONTROLLED DOCUMENT.

|             |  |                  |             |           |
|-------------|--|------------------|-------------|-----------|
| DIMENSIONS: | TOLERANCES UNLESS OTHERWISE SPECIFIED: | DWN              | WAVE XU     | 15SEP2006 |
| mm          |  | CHK              | DENNIS CHEN | 15SEP2006 |
|             |  | APVD             | TEDDY XIONG | 15SEP2006 |
|             |  | PRODUCT SPEC     |             |           |
|             |  | 108-104004       |             |           |
|             |  | APPLICATION SPEC |             |           |
| MATERIAL    | FINISH                                 | WEIGHT           |             |           |
|             |  |                  |             |           |

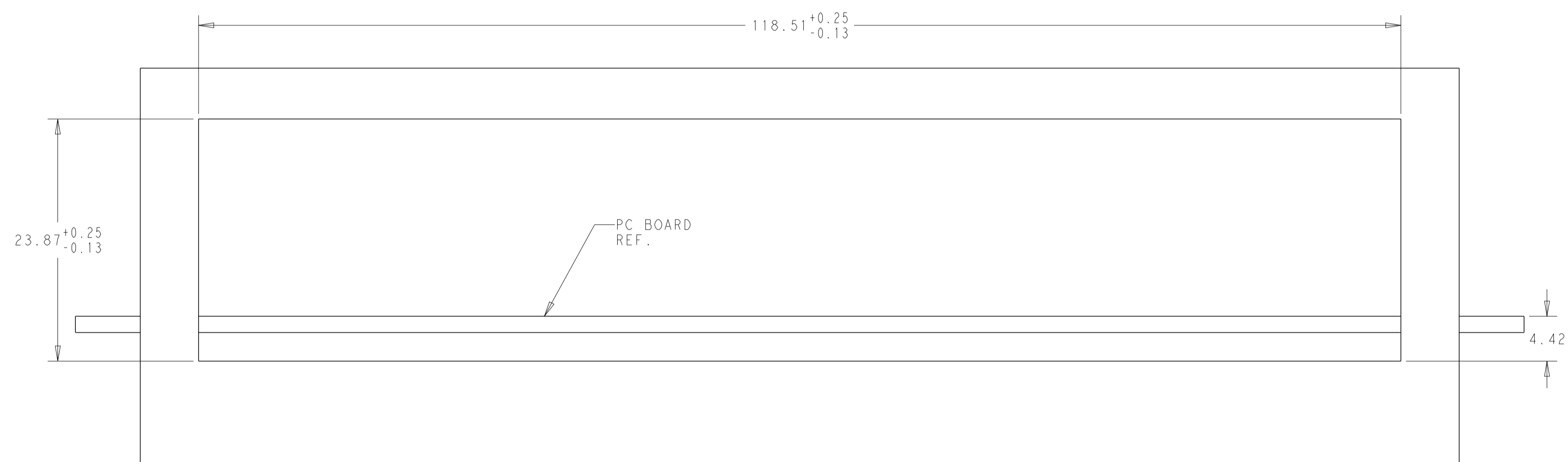
NAME: 2X8 MAG45(TM), MODULAR JACK, OFFSET  
 S8G16 GIGABIT CIRCUIT, W/LED'S  
 SIZE: A1 CAGE CODE: 1840215 DRAWING NO: 1840215  
 MATERIAL: FINISH: WEIGHT: -  
 Customer Drawing SCALE: 4:1 SHEET 1 OF 4 REV F



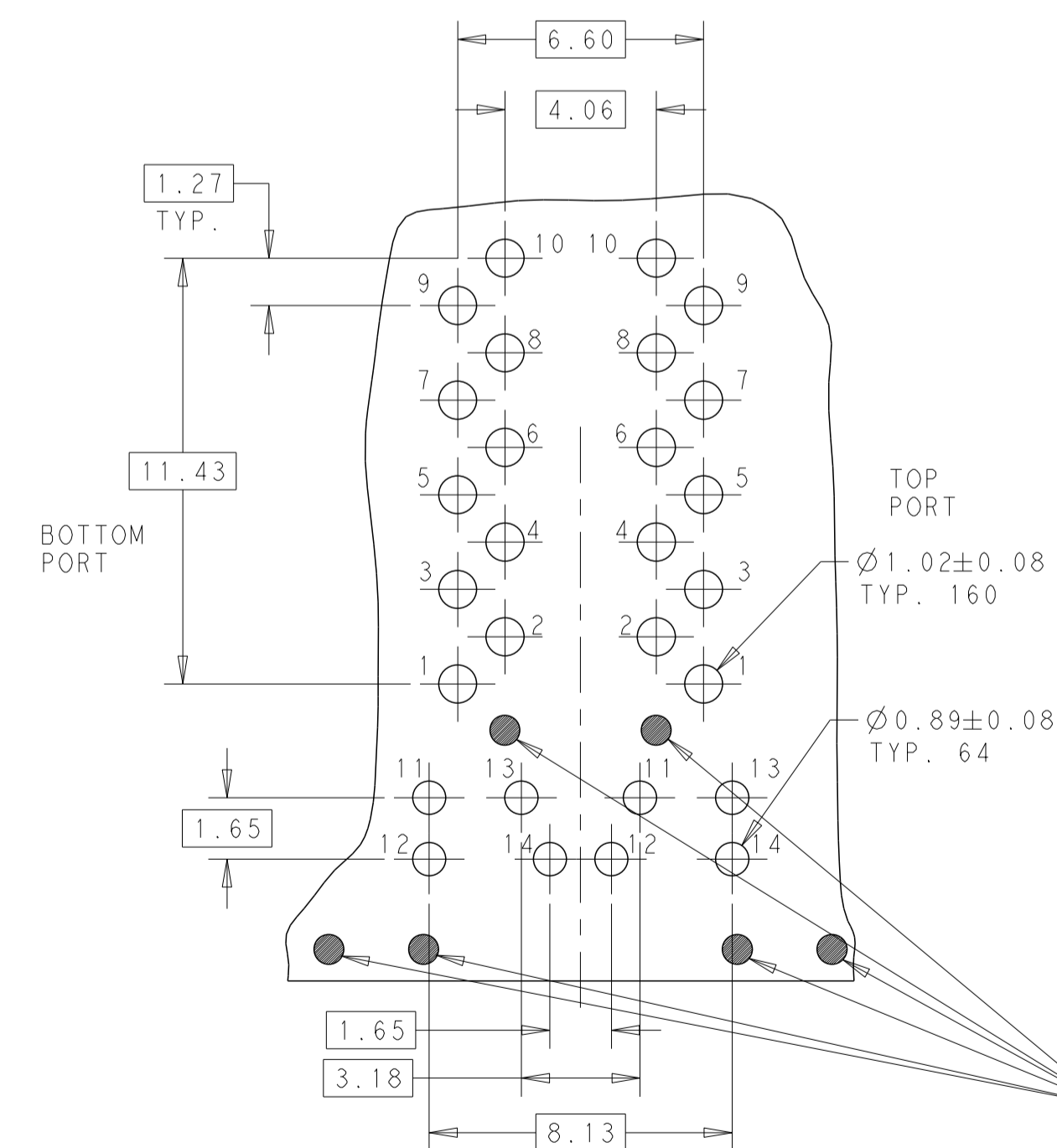
|  |  |  |           |                                     |
|--|--|--|-----------|-------------------------------------|
| THIS DRAWING IS A CONTROLLED DOCUMENT. |  | DATE                                   | 15SEP2006 | TRP connector<br>Dongguan China     |
| DRAWN BY                               |  | WAVE XU                                | 15SEP2006 |                                     |
| CHECKED BY                             |  | DENNIS CHEN                            | 15SEP2006 |                                     |
| APPROVED BY                            |  | TEDDY XIONG                            | 15SEP2006 |                                     |
| DIMENSIONS:                            |  | TOLERANCES UNLESS OTHERWISE SPECIFIED: |           | NAME                                |
| mm                                     |  |  |           | 2X8 MAG45(TM), MODULAR JACK, OFFSET |
| 0 PLC                                  |  | ±                                      |           | 88G16 GIGABIT CIRCUIT, W/LED'S      |
| 1 PLC                                  |  | ±0.25                                  |           | SIZE                                |
| 2 PLC                                  |  | ±0.25                                  |           | A1                                  |
| 3 PLC                                  |  | ±0.25                                  |           | CAGE CODE                           |
| 4 PLC                                  |  | ±                                      |           | DRAWING NO.                         |
| ANGLES                                 |  | ±                                      |           | 1840215                             |
| FINISH                                 |  | ±                                      |           | RESTRICTED TO                       |
| MATERIAL                               |  | WEIGHT                                 |           | -                                   |
|  |  | Customer Drawing                       |           | SCALE                               |
|  |  |  |           | 4:1                                 |
|  |  |  |           | SHEET                               |
|  |  |  |           | 2                                   |
|  |  |  |           | OF                                  |
|  |  |  |           | 4                                   |
|  |  |  |           | REV                                 |
|  |  |  |           | F                                   |



RECOMMENDED PC BOARD LAYOUT VIEW FROM COMPONENT SIDE



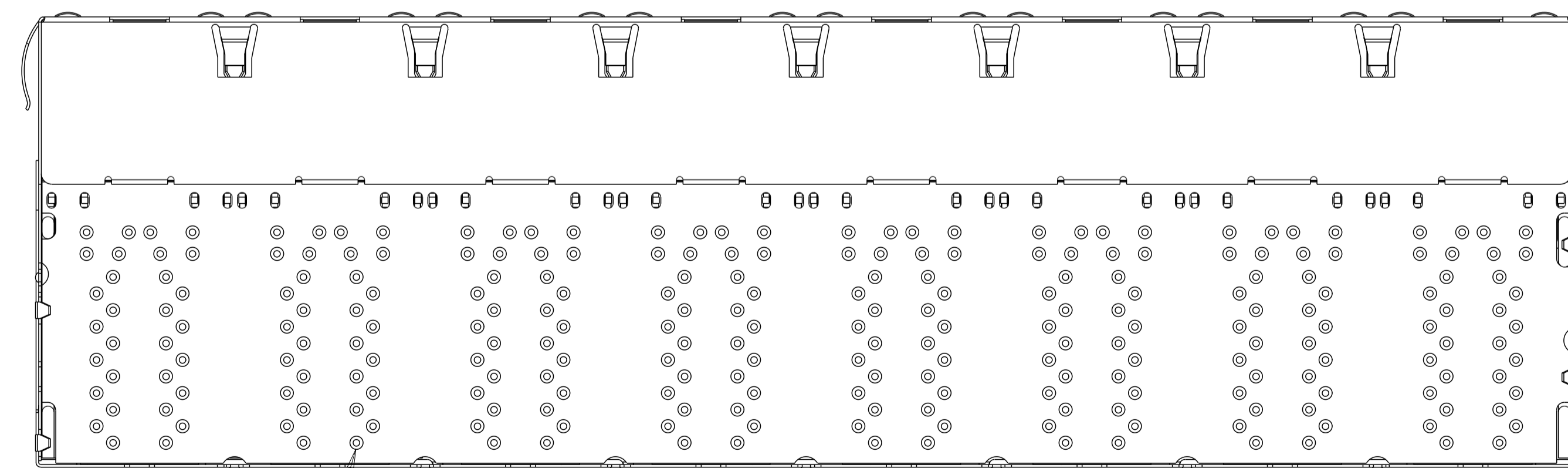
RECOMMENDED PANEL CUT-OUT



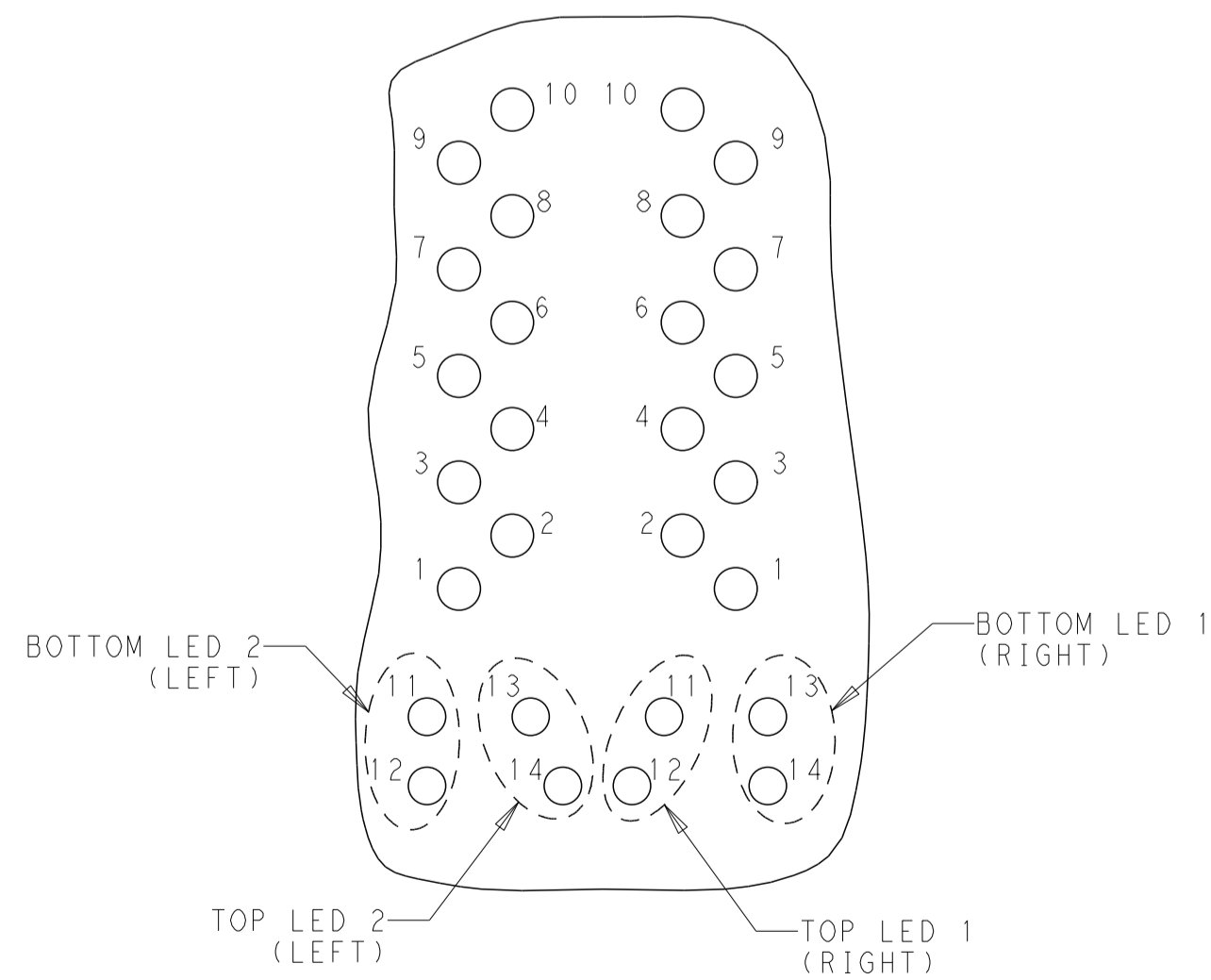
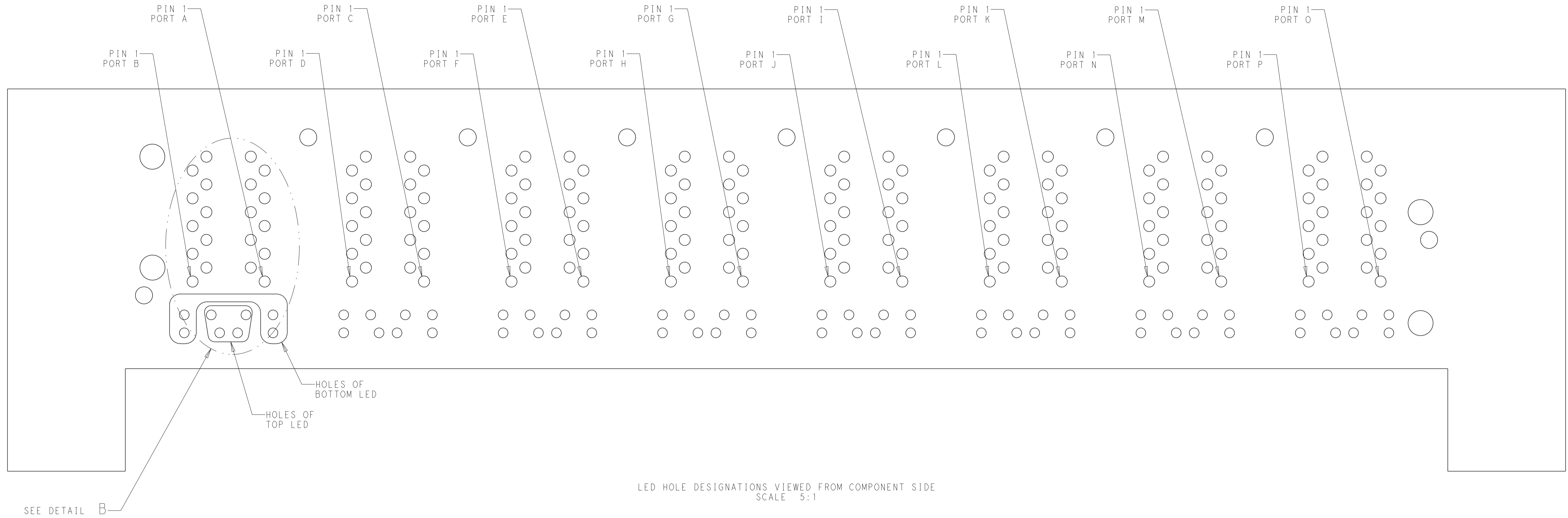
DETAIL G SCALE 6:1

PIN #0, BOTTOM LED'S PIN ON MOD JACK AND BOTTOM PCB ARE STUB PINS WITH LENGTH SIMILAR TO PCB STANDOFF HEIGHT PRECAUTIONS SHOULD BE TAKEN IN PCB DESIGN TO GUARD AGAINST SHORTING TRACES TO STUB PINS

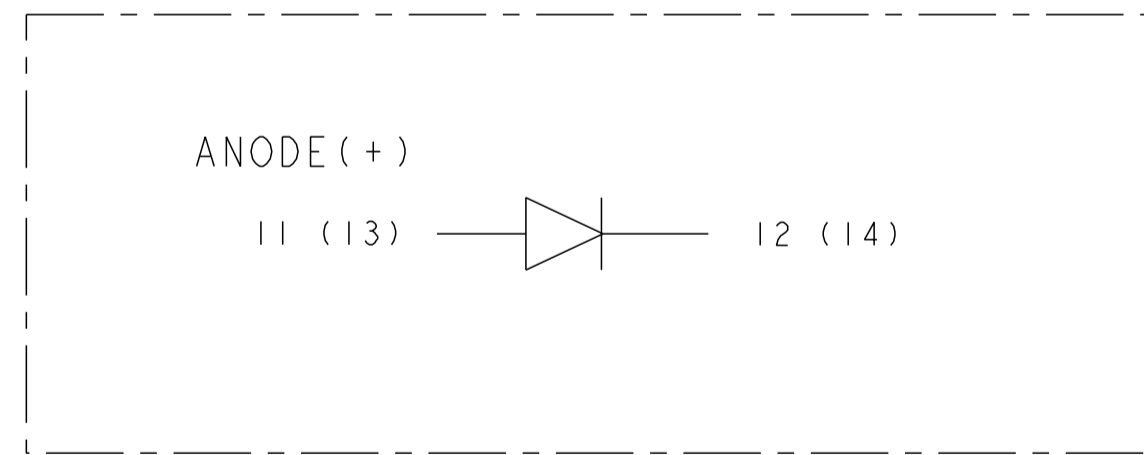
ALL THE SIGNAL PINS MUST BE SOLDERED WITH BOTTOM PCB



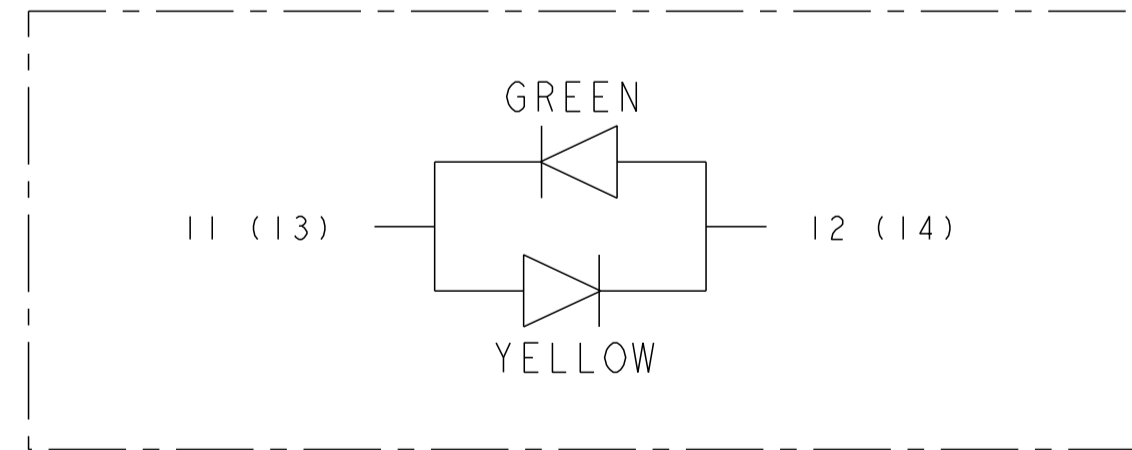
|  |  |                          |  |                       |
|--|--|--------------------------|--|-----------------------|
| THIS DRAWING IS A CONTROLLED DOCUMENT.   |  | DATE: 15SEP2006          |  | TRP connector         |
| DRAWN: WAVE XU   |  | CHK: DENNIS CHEN         |  | Dongguan China        |
| DIMENSIONS: mm   |  | APVD: TEDDY XIONG        | NAME: 2X8 MAG45(TM), MODULAR JACK, OFFSET S8G16 GIGABIT CIRCUIT, W/LED'S |                       |
| TOLERANCES UNLESS OTHERWISE SPECIFIED:   |  | PRODUCT SPEC: 108-104004 | SIZE: A1   | DRAWING NO: C=1840215 |
| 0 PLC ±<br>1 PLC ±0.25<br>2 PLC ±0.25<br>3 PLC ±0.25<br>4 PLC ±<br>ANGLES ±<br>MATERIAL FINISH |  | APPLICATION SPEC: -      | RESTRICTED TO: -   | SCALE: 3:1            |
| MATERIAL FINISH  |  | WEIGHT: -                | SHEET: 3   | OF: 4                 |
| Customer Drawing   |  | Customer Drawing         | REV: F   |                       |



### SINGLE COLOR LED



### BI COLOR LED



|  |   |  |                                 |
|--|---|--|---------------------------------|
| THIS DRAWING IS A CONTROLLED DOCUMENT. |   | DWN WAVE XU 15SEP2006<br>CHK DENNIS CHEN 15SEP2006<br>APVD TEDDY XIONG 15SEP2006 | TRP connector<br>Dongguan China |
| DIMENSIONS:<br>mm                      | TOLERANCES UNLESS OTHERWISE SPECIFIED:<br>0 PLC ±<br>1 PLC ±0.25<br>2 PLC ±0.25<br>3 PLC ±0.25<br>4 PLC ±<br>ANGLES ±<br>FINISH | PRODUCT SPEC<br>108-104004<br>APPLICATION SPEC                                   |                                 |