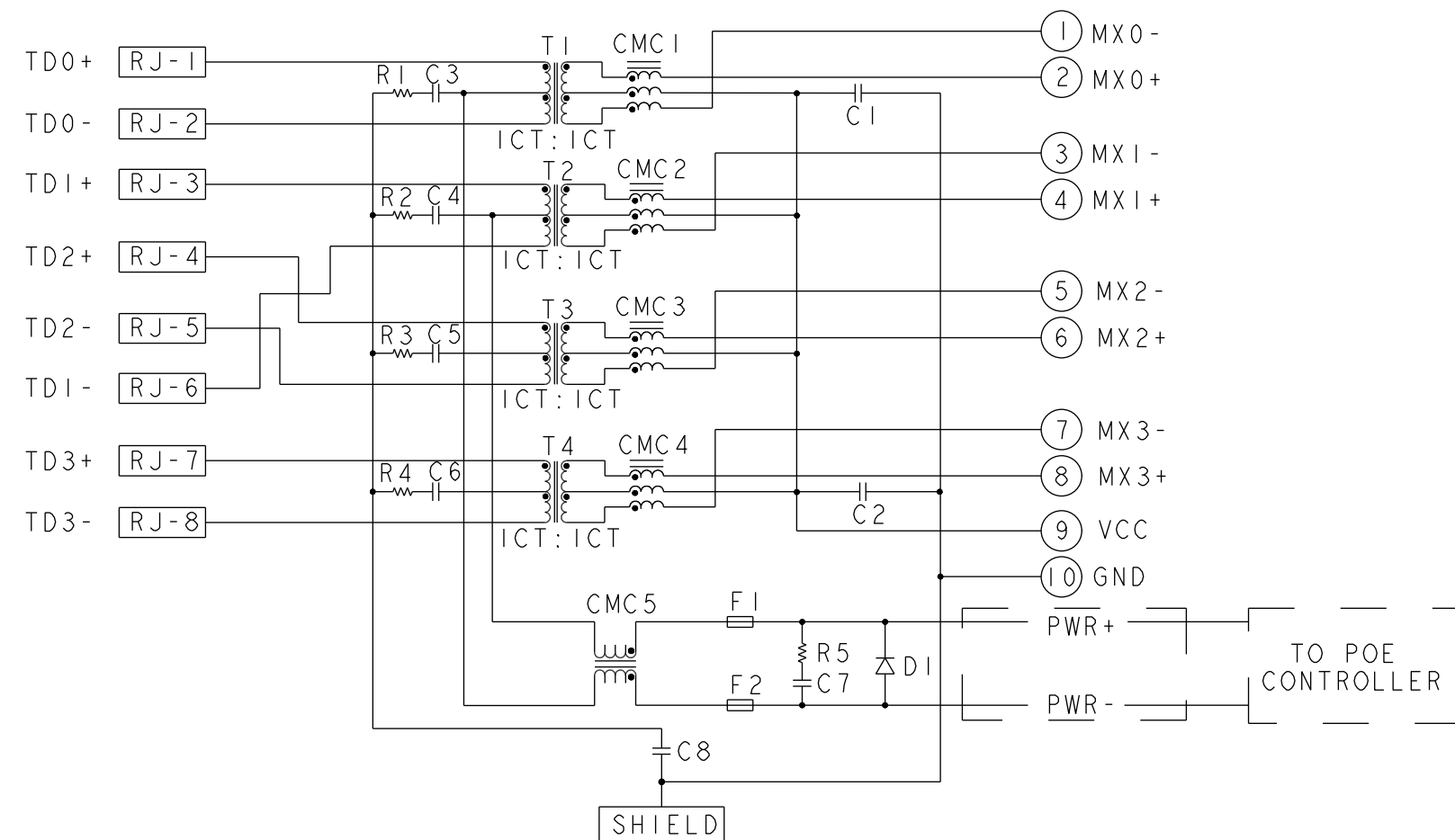


1. MATERIALS:
 - HOUSING: THERMOPLASTIC, BLACK, FLAMMABILITY RATING UL 94V-0.
 - SHIELD: BRASS, PREPLATED WITH 0.76um MIN SEMI-BRIGHT NICKEL, POST DIPPED WITH 2.54um MIN SAC SOLDER ON SOLDER TAILS.
 - CONTACTS: PHOSPHOR BRONZE, PLATED WITH 1.27um MIN OVERALL NICKEL UNDERPLATE, WITH SELECT 0.05um MIN GOLD OVER 0.76um MIN PALLADIUM-NICKEL 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.
 - LABEL: POLYIMIDE FILM.
2. MAGNETICS:
 - APPLICATION: 10/100/1000 BASE-T, PoE PLUS
 - IMPEDANCE: 100 OHMS
 - TURNS RATIO (CHIP:CABLE): 1:1 ALL FOUR PAIRS
 - OPEN CIRCUIT INDUCTANCE (OCL): 350uH MIN @100kHz, 0.1VRMS, 18mADC BIAS FROM 0°C TO 70°C, ACROSS RJ1-RJ2 & RJ3-RJ6; 8mADC BIAS FROM 0°C TO 70°C, ACROSS RJ4-RJ5 & RJ7-RJ8.
 - DIELECTRIC (ISOLATION VOLTAGE): 2250 VDC(MAX) FOR 60 SECONDS WITH A RISE TIME OF 500V/SEC AND WITH ALL PORTS CONNECTED.
 - ALL FOUR PAIRS BI-DIRECTIONAL
 - POE CURRENT: 600mADC MAX
 - PERFORMANCE @ 25°C: SEE TABLE ON SHEET 6

3. LABEL IS LOCATED IN THE APPROXIMATE AREA SHOWN. THE CONTENTS ON LABEL ARE BAR CODE OF PART NUMBER, PART NUMBER, BAR CODE OF DATE CODE, DATE CODE, TRP LOGO, COUNTRY OF ORIGIN AND AGENCY APPROVAL LOGO. YYWW WHERE "YY" IS YEAR, "WW" IS WORK WEEK, "D" IS DAY OF WEEK, WITH SUNDAY=1.

CIRCUIT S9HG48A STACKED SCHEMATIC △△

TOP AND BOTTOM PORTS

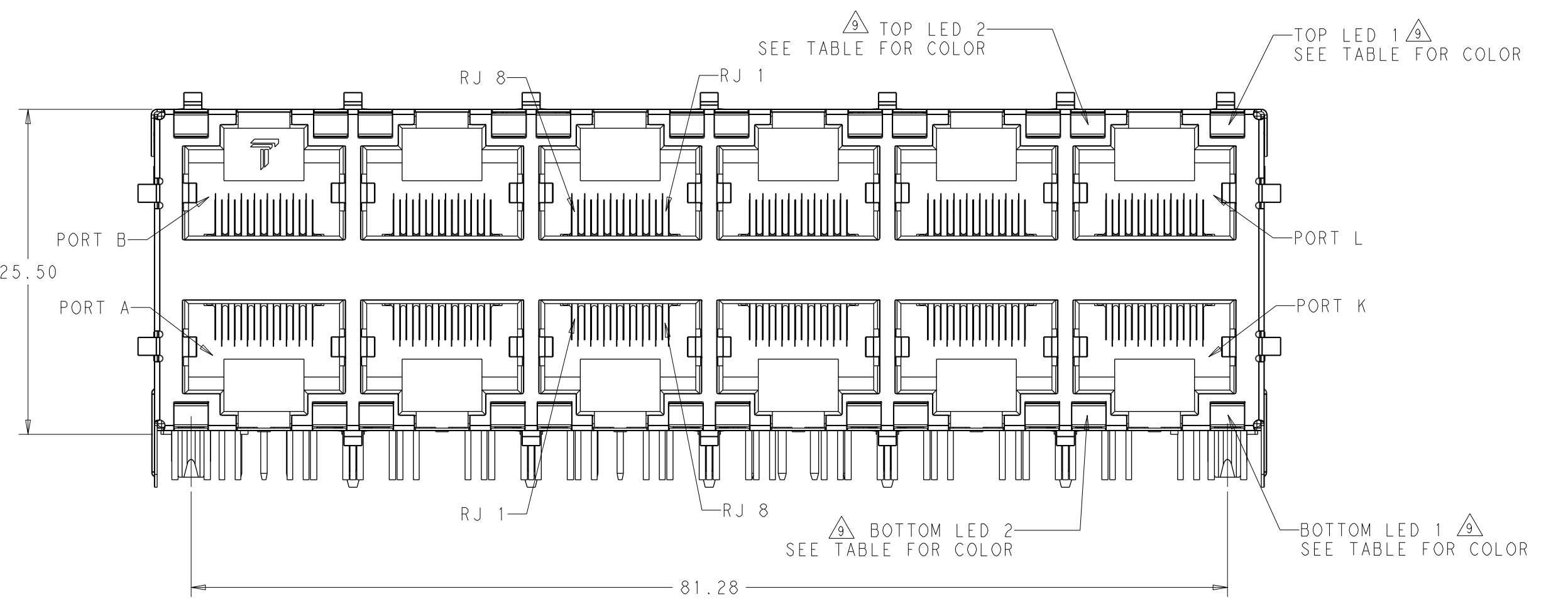
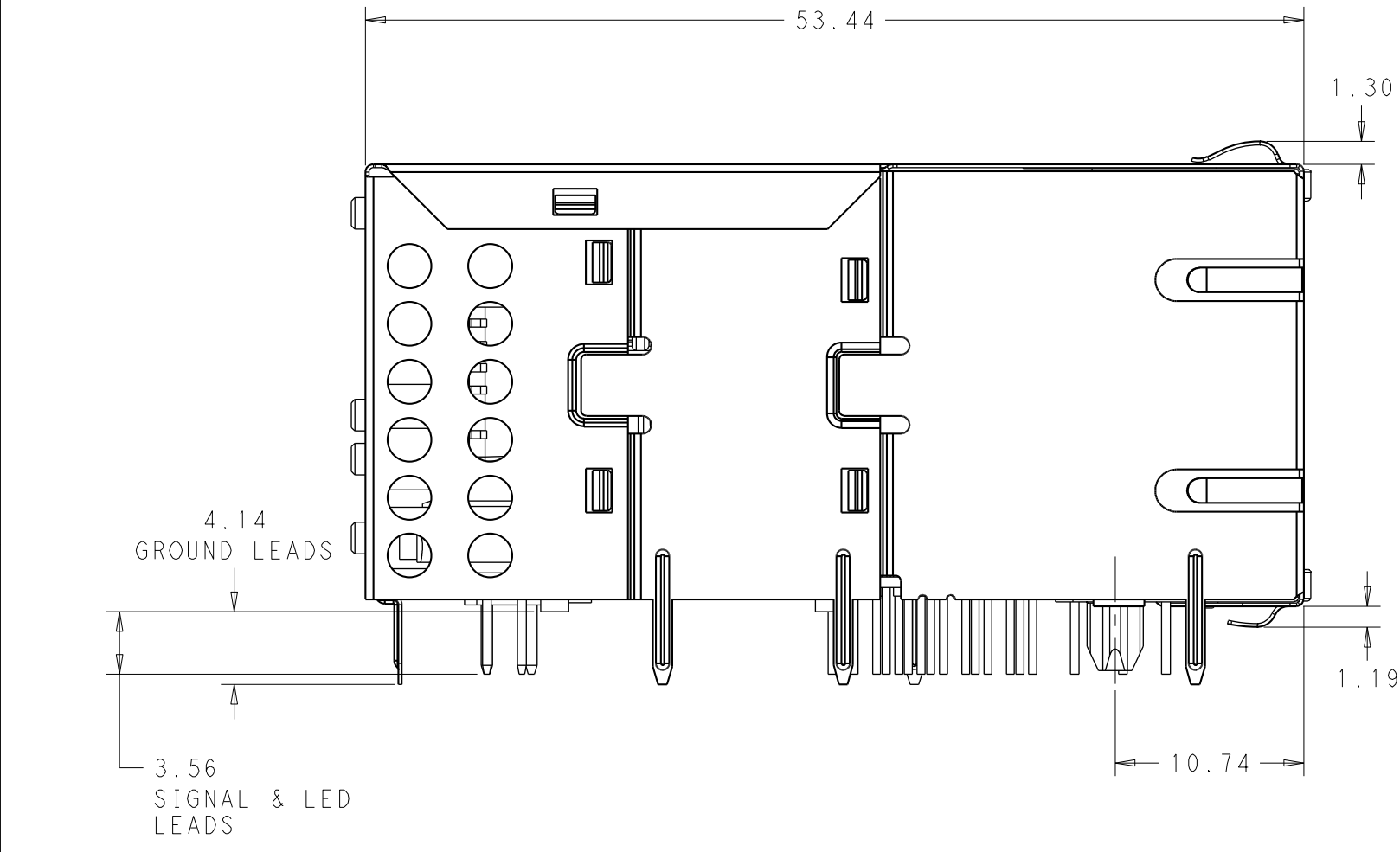
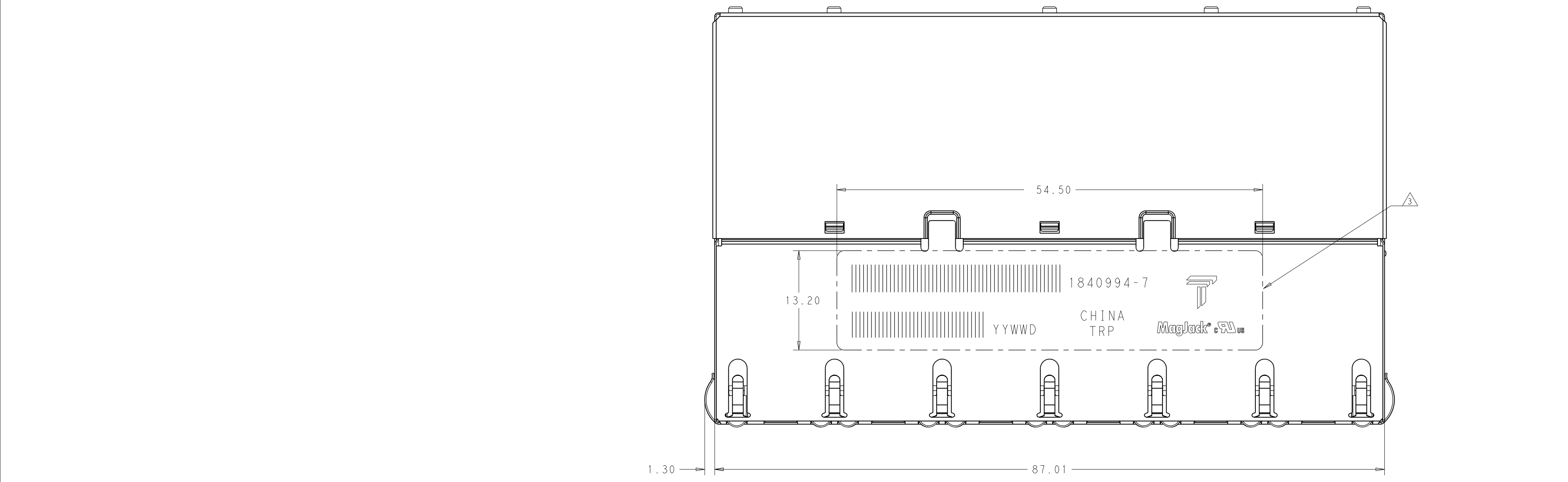


C1-C2 = 220nF, 25V CAPACITORS
 C3-C6 = 10nF, 250V CAPACITORS
 C7 = 100nF, 100V CAPACITOR
 C8 = 1000pF, 2KV CAPACITOR
 R1-R4 = 75 Ohms, 1/16W RESISTORS
 R5 = 4.7 Ohms, 1/10W RESISTOR
 F1-F2 = 63V, 1.5A FUSES
 D1 = 10: 1A, Vr: 100V DIODE

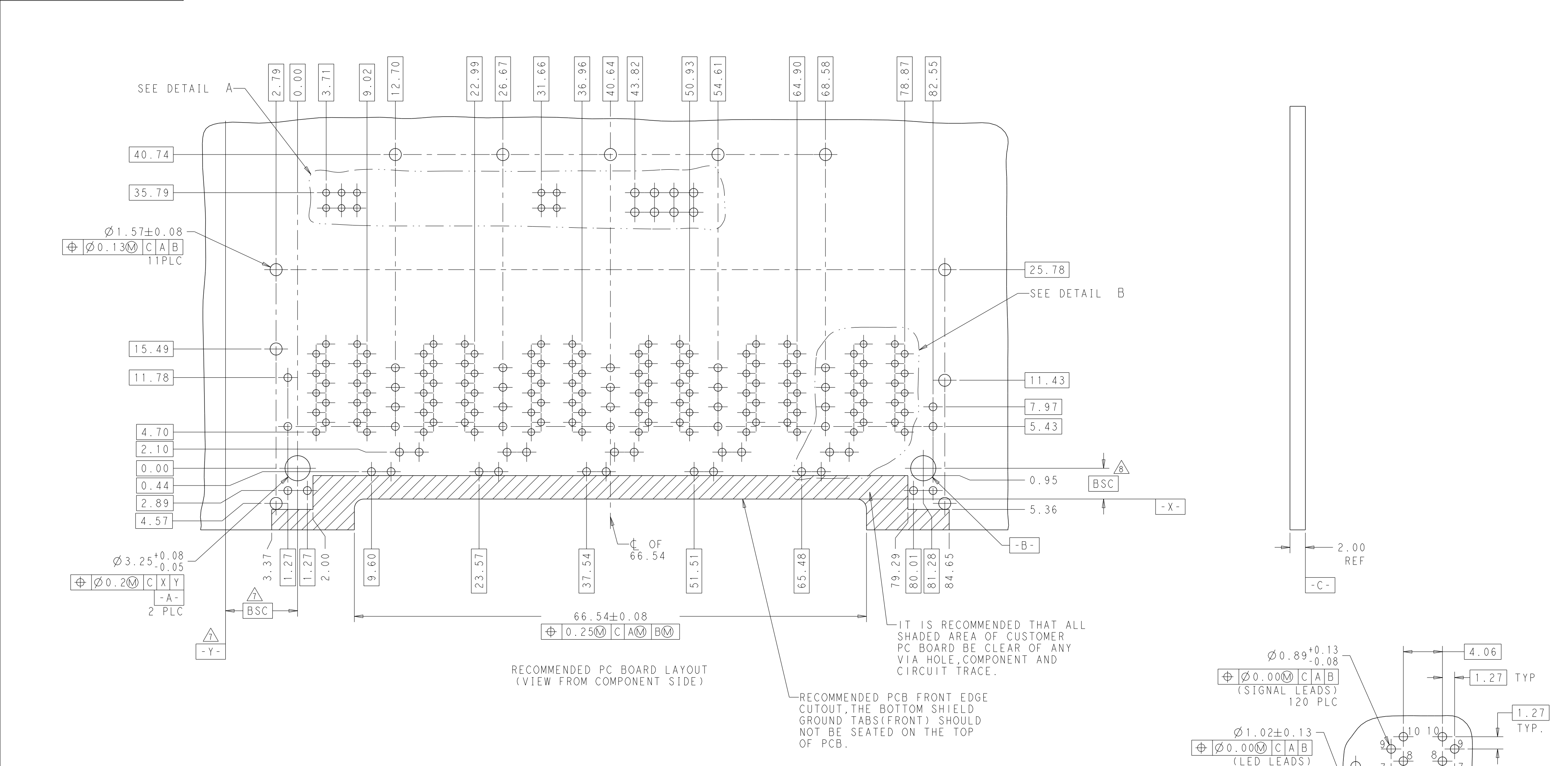
4. OPERATING TEMPERATURE: FROM 0°C TO 70°C.
5. RJ45 CAVITIES CONFORM TO FCC RULES AND REGULATIONS PART 68 SUBPART F.
6. INDICATED MAGNETIC CONNECTIONS ARE SYMMETRICAL AND SUPPORT AUTO-MDI/MDIX.
7. DATUM AND BASIC DIMENSION ESTABLISHED BY CUSTOMER.
8. BASIC DIMENSION ESTABLISHED BY CUSTOMER, BUT NOT TO BE GREATER THAN 5.08.
9. LED IS DRIVEN WITH CONSTANT CURRENT AT APPROX 20mA
 LED COLOR: DOMINANT WAVELENGTH (λ D):
 GREEN 568 nm TYP at IF=20mA
 ORANGE 610 nm TYP at IF=20mA
 FORWARD VOLTAGE (VF):
 GREEN 2.2V TYP at IF=20mA
 ORANGE 2.1V TYP at IF=20mA
10. THE PARTS ARE RECOMMENDED FOR WAVE SOLDERING PROCESS, PEAK TEMPERATURE 260°C MAX, 10 SECONDS MAX.

| | | | | |
|--------------|--------------|-----------|-----------|-------------|
| GRN/ORA | GRN/ORA | GRN/ORA | GRN/ORA | 1840994-7 |
| BOTTOM LED 2 | BOTTOM LED 1 | TOP LED 2 | TOP LED 1 | PART NUMBER |

| | | | | | |
|---|--|---------------------------------|--|---|--|
| THIS DRAWING IS A CONTROLLED DOCUMENT. | | DWN: TOMMY REN/YI LIU 20NOV2010 | | trp CONNECTOR a bel group DONGGUAN CHINA | |
| DIMENSIONS: mm | | CHK: TONY YUAN 20NOV2010 | | | |
| TOLERANCES UNLESS OTHERWISE SPECIFIED: | | APVD: KEITH ZHU 20NOV2010 | | DESC: 2X6 S9HG48A CIRCUIT WITH LEDS WITH LTC CONTROLLER | |
| 0 PLC ±0.25 1 PLC ±0.25 2 PLC ±0.25 3 PLC ± 4 PLC ± ANGLES ± APPLICATION SPEC - | | MODEL NAME: MAGJACK | | SIZE: A1 | |
| PRODUCT SPEC: 108-104008 | | CAGE CODE: 1840994 | | DRAWING NO: 1840994 | |
| CUSTOMER DRAWING | | SCALE: NTS | | SHEET 1 OF 6 REV E | |

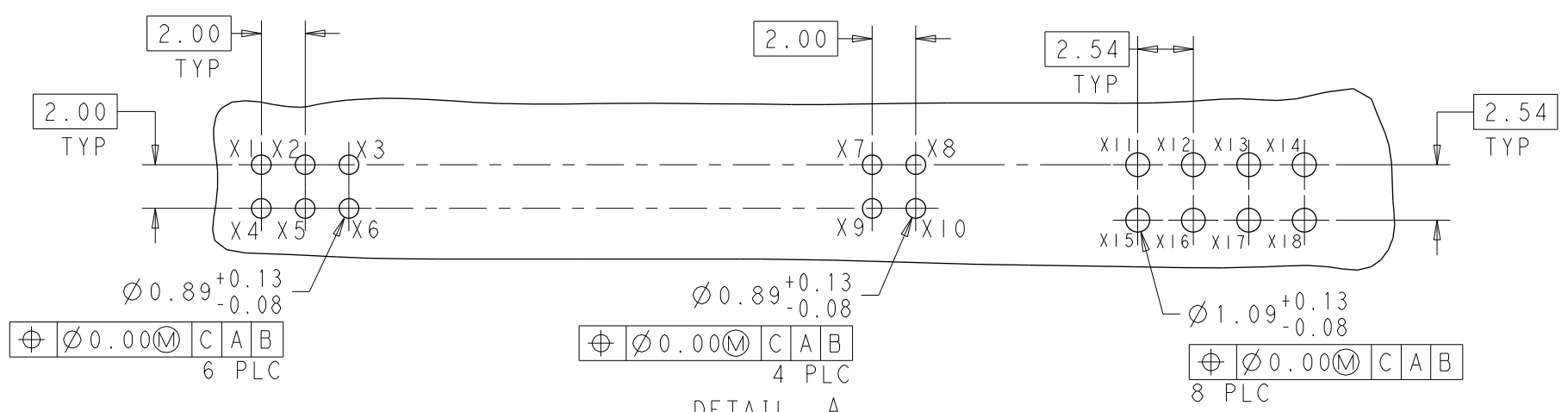


| | | | |
|---|---|---|---|
| THIS DRAWING IS A CONTROLLED DOCUMENT. | | DNW: TOMMY REN/11/20NOV2010 | TRP CONNECTOR a bel group DONGGUAN CHINA |
| DIMENSIONS: mm | | CHK: TONY YUAN 20NOV2010 | |
| TOLERANCES UNLESS OTHERWISE SPECIFIED: | | APPV: KEITH ZHU 20NOV2010 | |
| 0 PLC ±0.25 1 PLC ±0.25 2 PLC ±0.25 3 PLC ± 4 PLC ± ANGLES ± APPLICATION SPEC ± | MODEL NAME MAGJACK STACK PoE PLUS | DESC 2X6 S9HG48A CIRCUIT WITH LEDS WITH LTC CONTROLLER | SIZE A1 |
| PRODUCT SPEC 108-104008 | CUSTOMER DRAWING | CAGE CODE 1840994 | RESTRICTED TO SCALE NTS SHEET 2 OF 6 REV E |

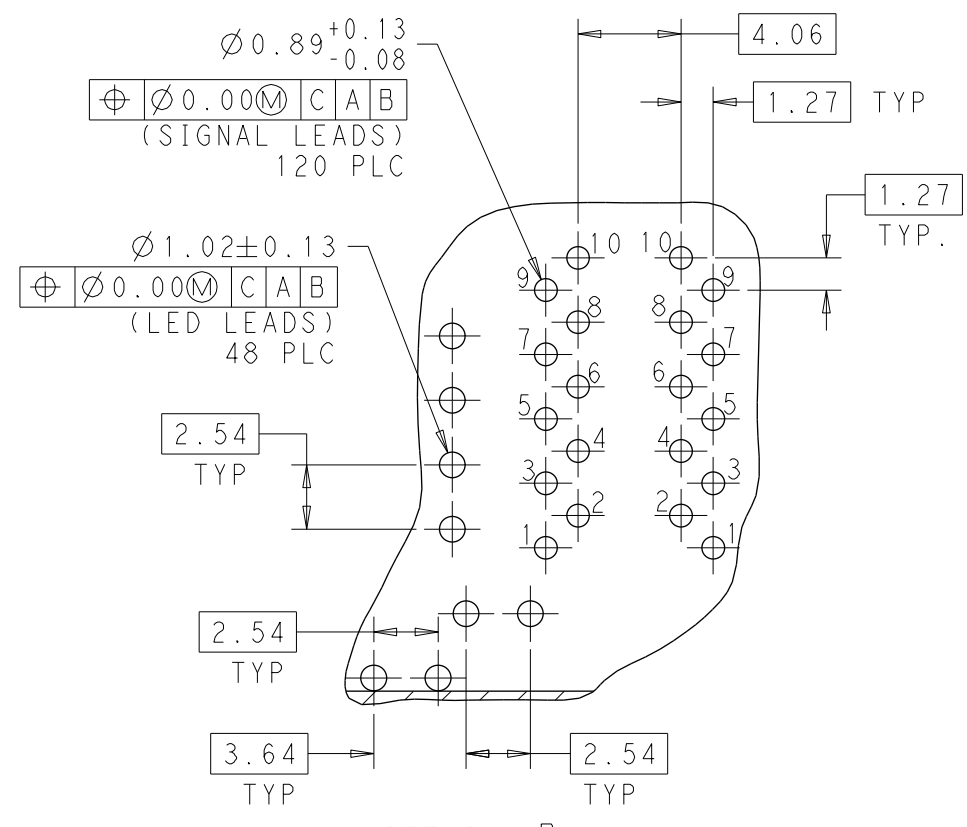


RECOMMENDED PC BOARD LAYOUT (VIEW FROM COMPONENT SIDE)

RECOMMENDED PCB FRONT EDGE CUTOUT, THE BOTTOM SHIELD GROUND TABS (FRONT) SHOULD NOT BE SEATED ON THE TOP OF PCB.



DETAIL A SCALE 5:1



DETAIL B SCALE 5:1

FUNCTION OF PINS

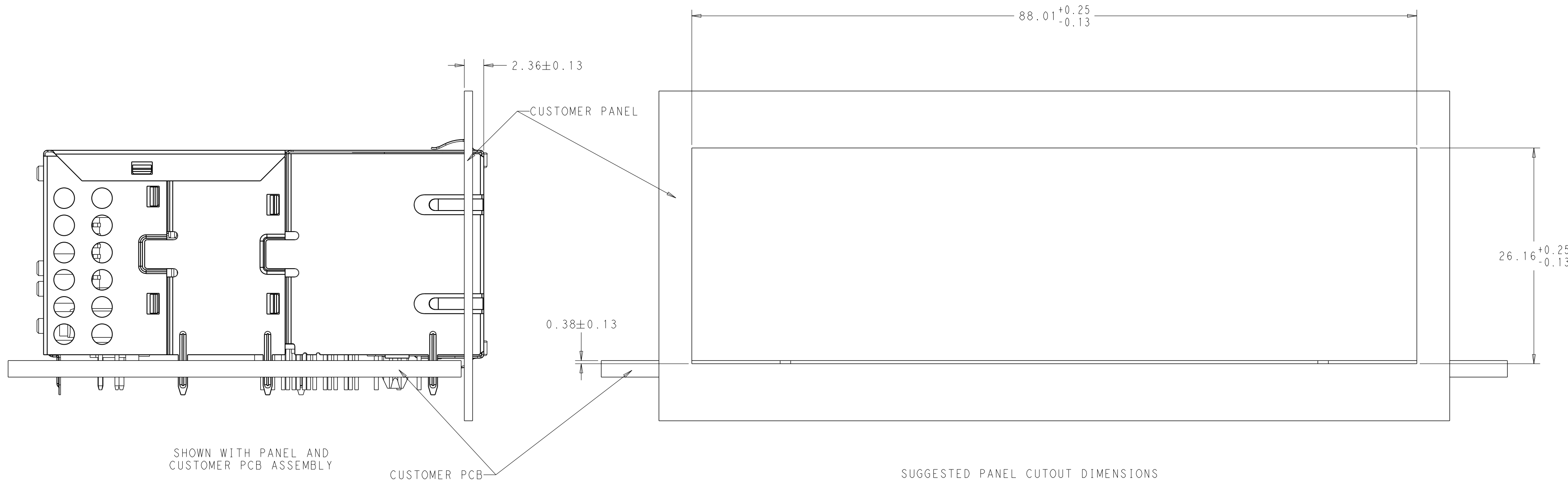
| PIN # | X1 | X2 | X3 | X4 | X5 | X6 | X7 | X8 | X9 | X10 | X11 | X12 | X13 | X14 | X15 | X16 | X17 | X18 |
|-------------|-------|-----|-----|--------|--------|------|---------|------|-----|-----|---------|---------|---------|---------|---------|---------|---------|---------|
| DESCRIPTION | D_GND | SCL | SDA | D_3.3V | PO_RST | nINT | JMP_RTN | AUTO | ID0 | ID1 | VMAIN_P | VMAIN_P | VMAIN_N | VMAIN_N | VMAIN_P | VMAIN_P | VMAIN_N | VMAIN_N |

THIS DRAWING IS A CONTROLLED DOCUMENT.

| | | | | | | | |
|----------------|--|-------------|-------------|-------------|---------|---------|----------|
| DIMENSIONS: mm | TOLERANCES UNLESS OTHERWISE SPECIFIED: | 0 PLC ±0.25 | 1 PLC ±0.25 | 2 PLC ±0.25 | 3 PLC ± | 4 PLC ± | ANGLES ± |
|----------------|--|-------------|-------------|-------------|---------|---------|----------|

DWG: TOMMY REN/YL 20NOV2010
 CHK: TONY YUAN 20NOV2010
 APPR: KEITH ZHU 20NOV2010
 MODEL NAME: MAGJACK
 DESC: 2X6 S9HG48A CIRCUIT WITH LEDS WITH LTC CONTROLLER
 SIZE: A1
 CAGE CODE: 1840994
 SCALE: NTS
 SHEET: 3 OF 6
 REV: E

trp CONNECTOR DONGGUAN CHINA
 a bel group
 MAGJACK STACK PoE PLUS
 CUSTOMER DRAWING




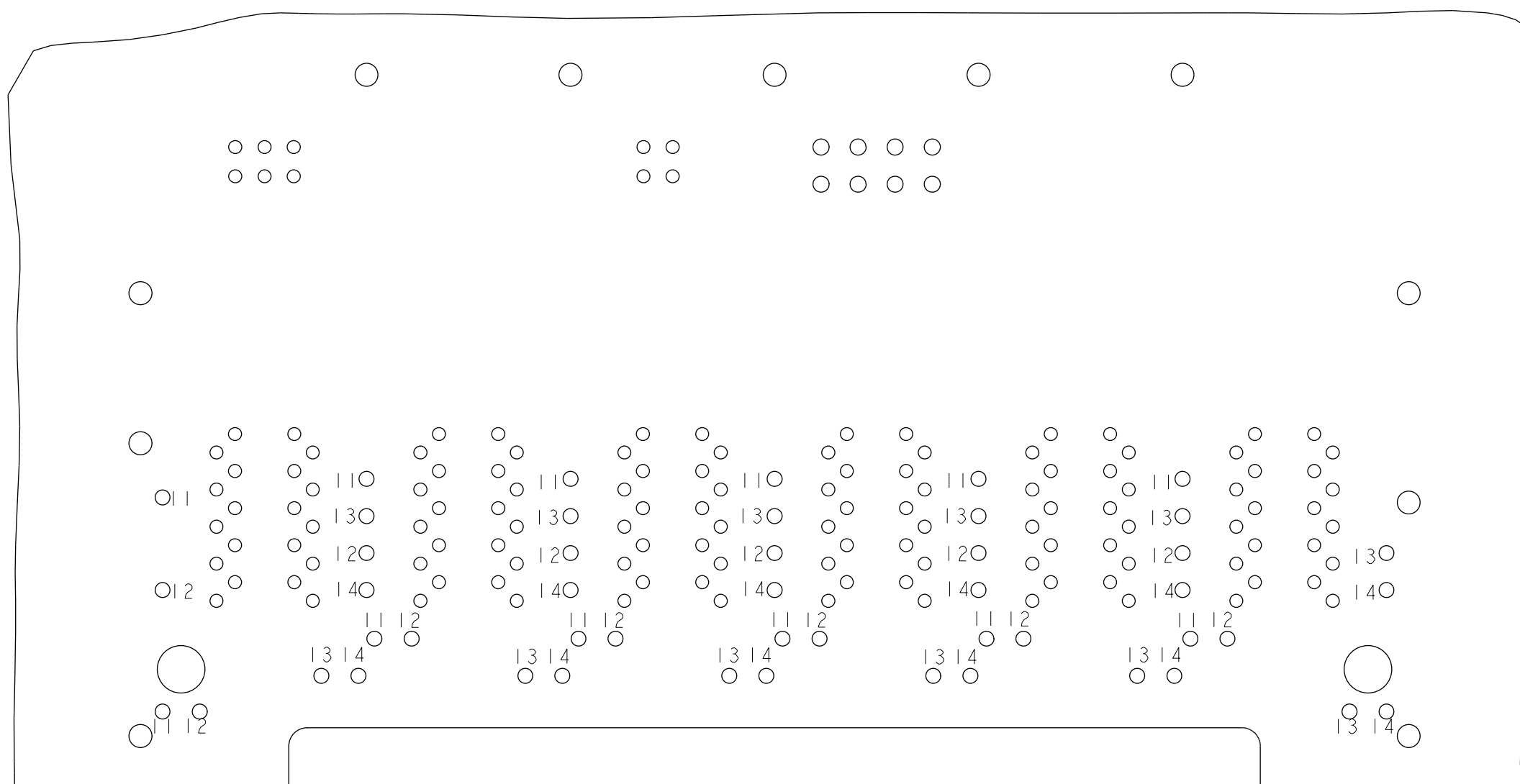
SHOWN WITH PANEL AND CUSTOMER PCB ASSEMBLY

CUSTOMER PCB

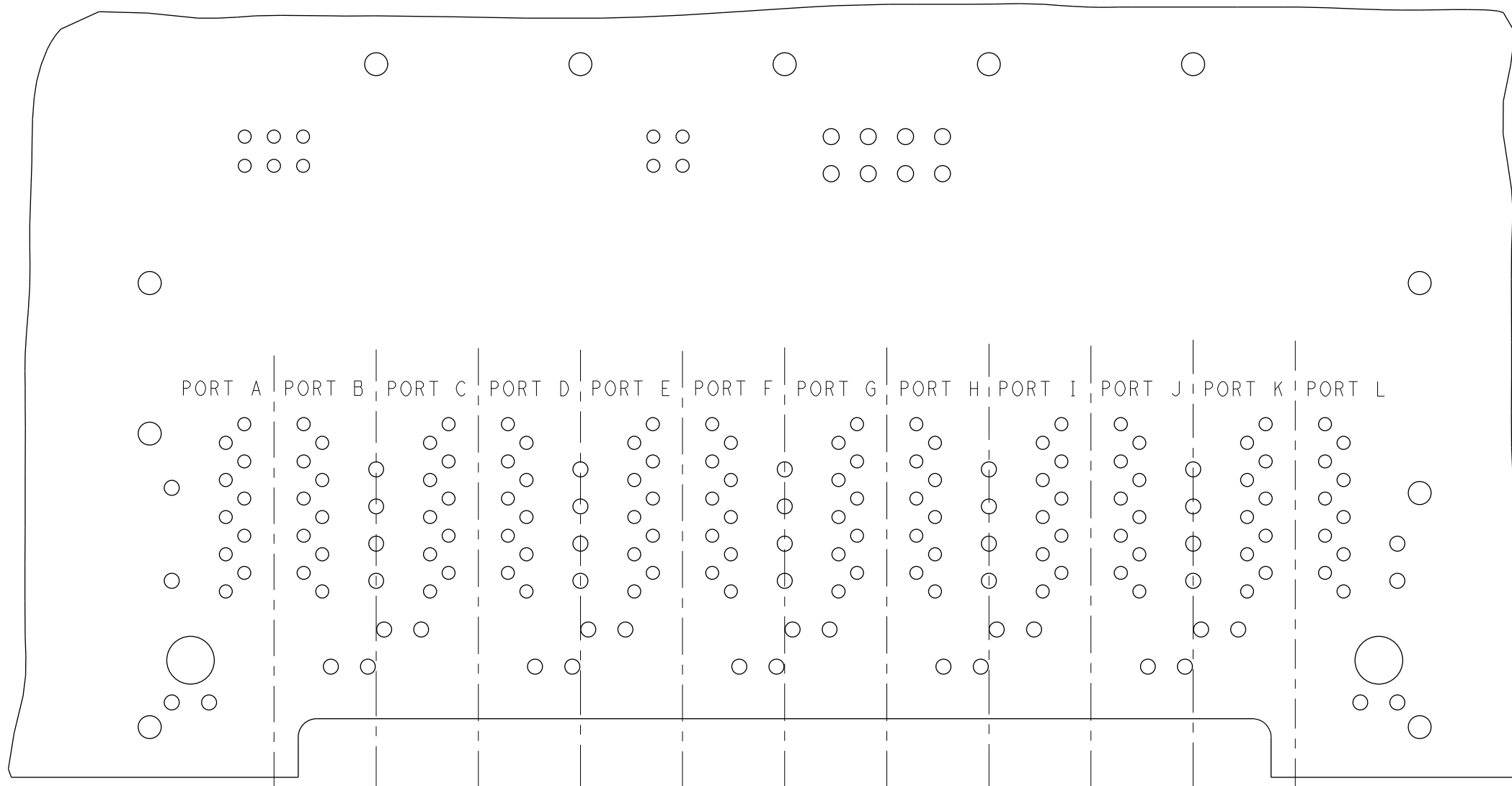
CUSTOMER PANEL

SUGGESTED PANEL CUTOUT DIMENSIONS

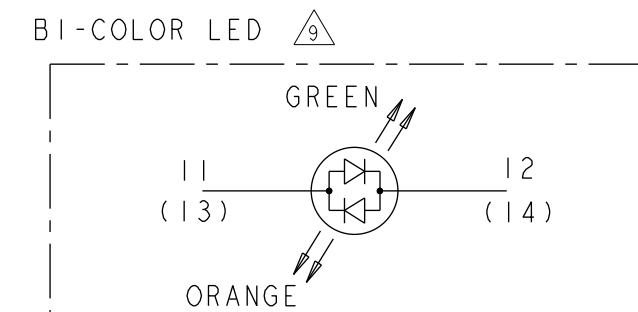
| | | | | | |
|---|--|------------------------|--|---|--|
| THIS DRAWING IS A CONTROLLED DOCUMENT. | | DWN: TOMMY REN/11/2020 | |  trp CONNECTOR a bel group DONGGUAN CHINA | |
| DIMENSIONS: mm | | CHK: TONY YUAN | | | |
| TOLERANCES UNLESS OTHERWISE SPECIFIED: | | APPD: KEITH ZHU | | DESC: 2X6 S9HG48A CIRCUIT WITH LEDS WITH LTC CONTROLLER | |
| 0 PLC ±0.25 1 PLC ±0.25 2 PLC ±0.25 3 PLC ± 4 PLC ± ANGLES ± APPLICATION SPEC - | | MODEL NAME: MAGJACK | | SIZE: A1 | |
| PRODUCT SPEC: 108-104008 | | STOCK PoE PLUS | | DRAWING NO: C=1840994 | |
| | | CUSTOMER DRAWING | | RESTRICTED TO: - | |
| | | SCALE: NTS | | SHEET 4 OF 6 REV E | |




LED HOLE DESIGNATIONS
VIEWED FROM COMPONENT SIDE



PORT ASSIGNMENT
COMPONENT SIDE VIEW



| | | | | |
|---|--|---|--|---|
| THIS DRAWING IS A CONTROLLED DOCUMENT. | | DWN: TOMMY REN/YI LIU 20NOV2010 | |  trp CONNECTOR a bel group DONGGUAN CHINA |
| DIMENSIONS: mm | | CHK: TONY YUAN 20NOV2010 | | |
| TOLERANCES UNLESS OTHERWISE SPECIFIED: | | APPD: KEITH ZHU 20NOV2010 | | DESC: 2X6 S9HG48A CIRCUIT WITH LEDS WITH LTC CONTROLLER SIZE: A1 CAGE CODE: - DRAWING NO: C=1840994 RESTRICTED TO: - |
| 0 PLC ±0.25 1 PLC ±0.25 2 PLC ±0.25 3 PLC ± 4 PLC ± ANGLES ± APPLICATION SPEC - | | MODEL NAME: MAGJACK STACK PoE PLUS CUSTOMER DRAWING | | |
| PRODUCT SPEC: 108-104008 | | SCALE: NTS | | SHEET 5 OF 6 REV E |

TRANSMISSION PERFORMANCE AT 25°C

| | INSERTION LOSS [dB max.] | RETURN LOSS [dB min.] | CROSSTALK NEXT [dB min.] |
|-----------------|--------------------------|-----------------------|--------------------------|
| FREQUENCY [MHz] | LIMITS | LIMITS | LIMITS |
| 1.0-9.9 | $-(0.4+0.1*\log(F))$ | -27 | $-(66-21*\log(F))$ |
| 10.0-49.9 | $-(0.5+0.3*\log(F/10))$ | $-(27-17*\log(F/10))$ | $-(45-16*\log(F/10))$ |
| 50.0-79.9 | $-(1+1.4*\log(F/80))$ | $-(27-17*\log(F/10))$ | $-(25-30*\log(F/100))$ |
| 80.0-99.9 | $-(1.3+3*\log(F/100))$ | $-(27-17*\log(F/10))$ | $-(25-30*\log(F/100))$ |
| 100.0-200 | $-(4+9*\log(F/200))$ | $-(1-30*\log(F/200))$ | $-(20-16.5*\log(F/200))$ |


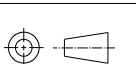
| CM-DM [dB min.] | |
|-----------------|----------------------------|
| FREQUENCY [MHz] | LIMITS |
| 1.0-9.9 | $-(48-12*\log(F))$ |
| 10.0-49.9 | $-(36-21*\log(F/10))$ |
| 50.0-79.9 | $-(18-11*\log(F/100))$ |
| 80.0-99.9 | $-(18-11*\log(F/100))$ |
| 100.0-199.9 | $-(8.7-15.5*\log(F/400))$ |
| 200.0-399.9 | $-(8.7-15.5*\log(F/400))$ |
| 400.0-1000.0 | $-(4.5-10.5*\log(F/1000))$ |

| DM-CM [dB min.] | |
|-----------------|------------------------|
| FREQUENCY [MHz] | LIMITS |
| 1.0-9.9 | $-(54.5-14.5*\log(F))$ |
| 10.0-49.9 | -25 |
| 50.0-79.9 | -25 |
| 80.0-99.9 | -25 |
| 100.0-199.9 | $-(9-23*\log(F/500))$ |
| 200.0-499.9 | $-(9-23*\log(F/500))$ |
| 500.0-1000 | $-(6-10*\log(F/1000))$ |

| CMR [dB min.] | |
|-----------------|--------------------------|
| FREQUENCY [MHz] | LIMITS |
| 1.0-9.9 | $-(57-23*\log(F))$ |
| 10.0-19.9 | $-(57-23*\log(F))$ |
| 20.0-79.9 | -27 |
| 80.0-99.9 | $-(27-14.5*\log(F/80))$ |
| 100.0-199.9 | $-(27-14.5*\log(F/80))$ |
| 200.0-399.9 | $-(21.5-39*\log(F/200))$ |
| 400.0-1000.0 | -10 |

TRANSMISSION PERFORMANCE AT 25°C

| | POWER SOURCE CMR [dB Min.] |
|-----------------|----------------------------|
| FREQUENCY [MHz] | TYPICAL |
| 1.0-9.9 | $-2-7*\log(F)$ |
| 10.0-19.9 | $-9.1-11.3*\log(F/20)$ |
| 20.0-49.9 | $-12.5-16.9*\log(F/20)$ |
| 50.0-79.9 | $-19.2-19.7*\log(F/50)$ |
| 80.0-99.9 | $-23.2-6.9*\log(F/80)$ |
| 100.0-199.9 | $-23.9+12.6*\log(F/100)$ |
| 200.0-399.0 | $-20.1+12.6*\log(F/200)$ |
| 400.0-899.0 | $-16.3+37.5*\log(F/400)$ |
| 900.0-1000 | $-3.1-94*\log(F/900)$ |

| | | | | |
|---|--|---|--|---|
| THIS DRAWING IS A CONTROLLED DOCUMENT. | | DWN: TOMMY REN/YI LIU 20NOV2010 |  trp CONNECTOR <small>a bel group</small> | DONGGUAN CHINA |
| | | CHK: TONY YUAN 20NOV2010 | | |
| DIMENSIONS: mm | | APPD: KEITH ZHU 20NOV2010 | MODEL NAME | DESC: 2X6 S9HG48A CIRCUIT WITH LEDS WITH LTC CONTROLLER |
|  | | 0 PLC ±0.25 1 PLC ±0.25 2 PLC ±0.25 3 PLC ± 4 PLC ± ANGLES ± APPLICATION SPEC | | MAGJACK STACK PoE PLUS SIZE: A1 CAGE CODE: 1840994 DRAWING NO: 108-104008 RESTRICTED TO: |
| PRODUCT SPEC: 108-104008 | | CUSTOMER DRAWING | | SCALE: NTS SHEET 6 OF 6 REV E |