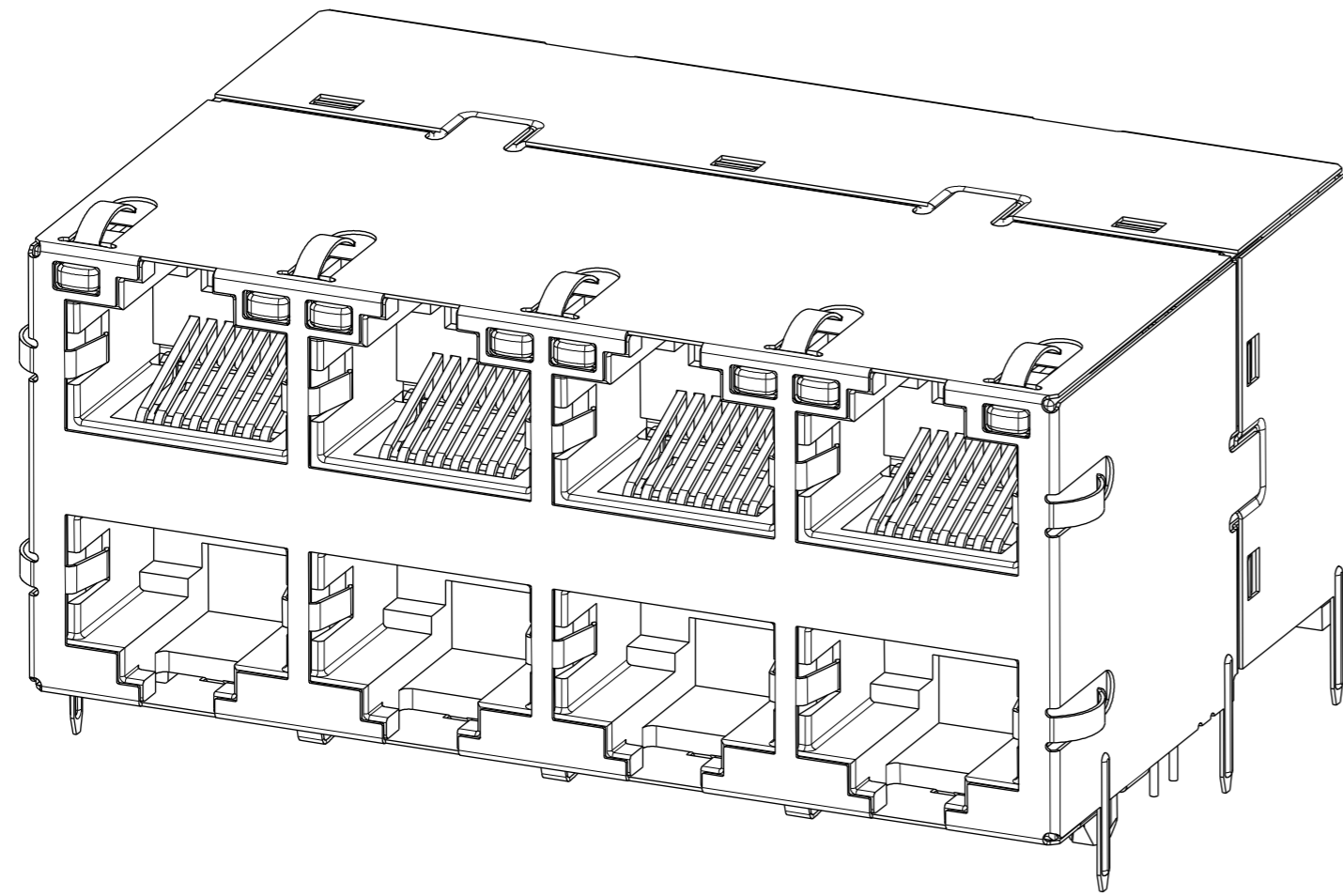


THIS DRAWING AND THE SUBJECT MATTER SHOWN THEREON ARE CONFIDENTIAL AND THE PROPERTY OF BEL/STEWART/TRP CONNECTOR AND SHALL NOT BE REPRODUCED, COPIED, OR USED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF TRP CONNECTOR.

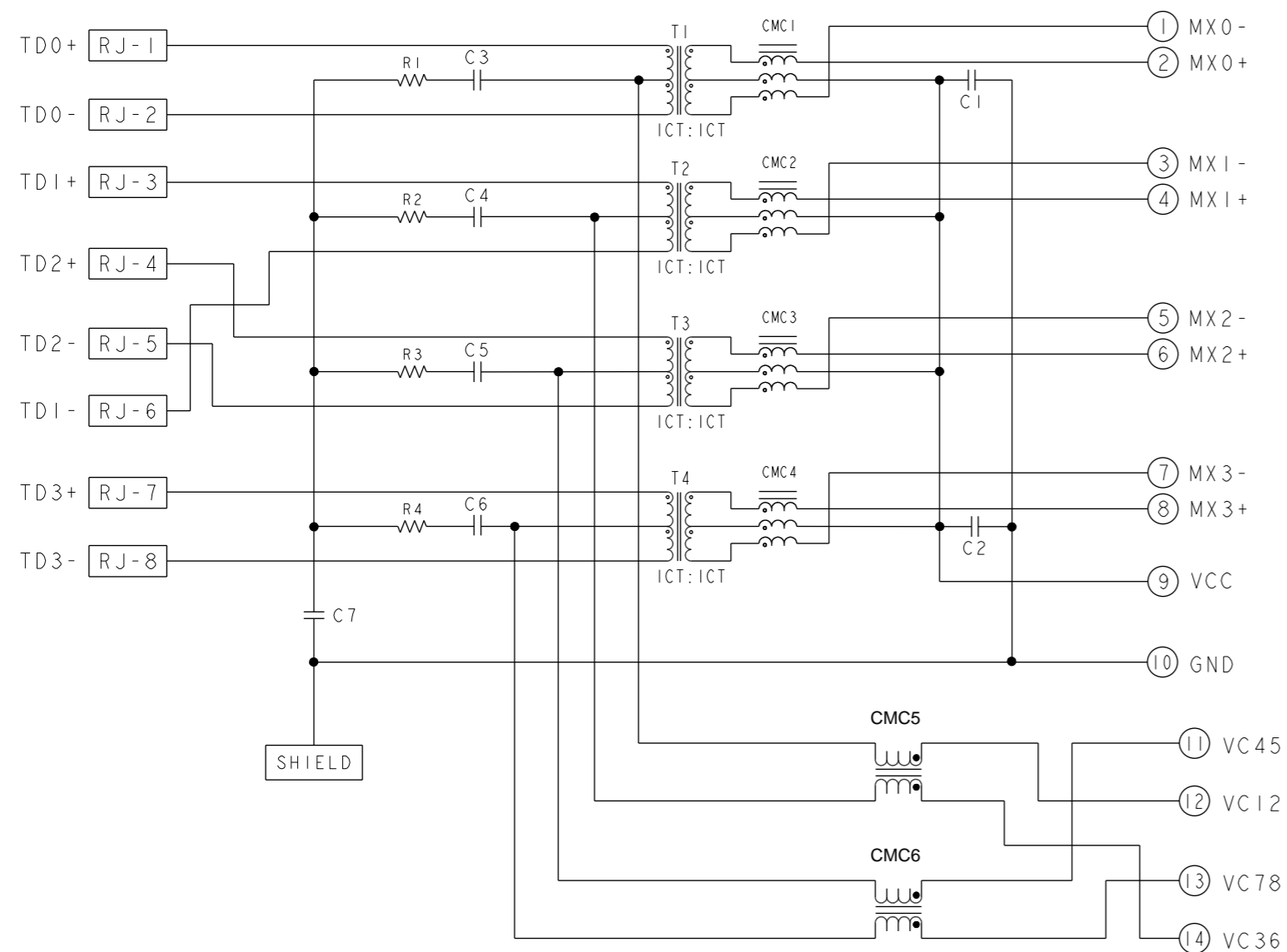
PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING US PATENTS:  
 5736910 5939955 6425781 6428361 6554638 6840817 7123117  
 7429195 7717749 7808751 6217391 6149050 7924130

REVISIONS				
P	LYR	DESCRIPTION	DATE	APPD
2		SEE FINAL SHEET	29JUN2021	RL TY



S9HFG12ET 5G 4PPOE CIRCUIT

TOP AND BOTTOM PORTS



C1-C2 = 10nF, 50V, X7R, CAPACITORS  
 C3-C6 = 22nF, 100V, CAPACITORS  
 C7 = 1000pF, 2kV, CAPACITOR  
 R1-R4 = 75 Ohms, 1/16W, RESISTORS

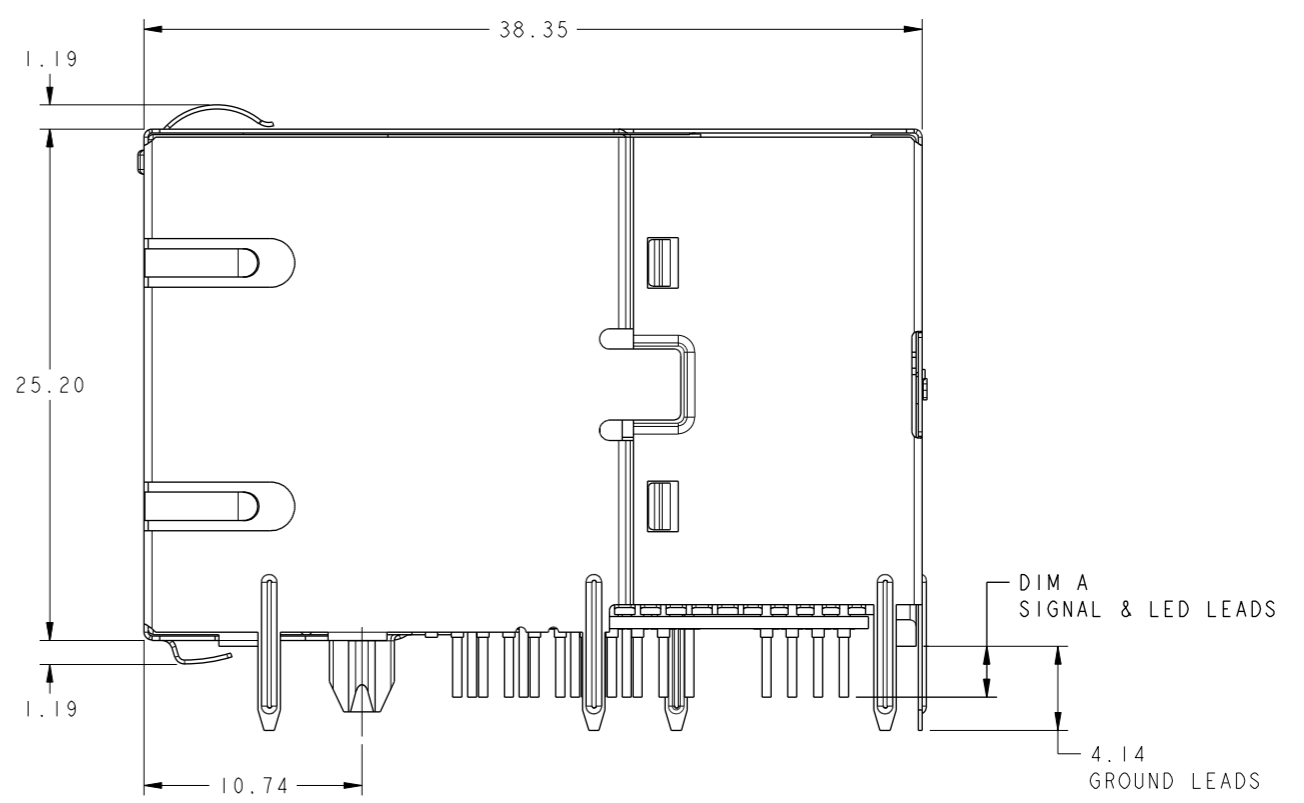
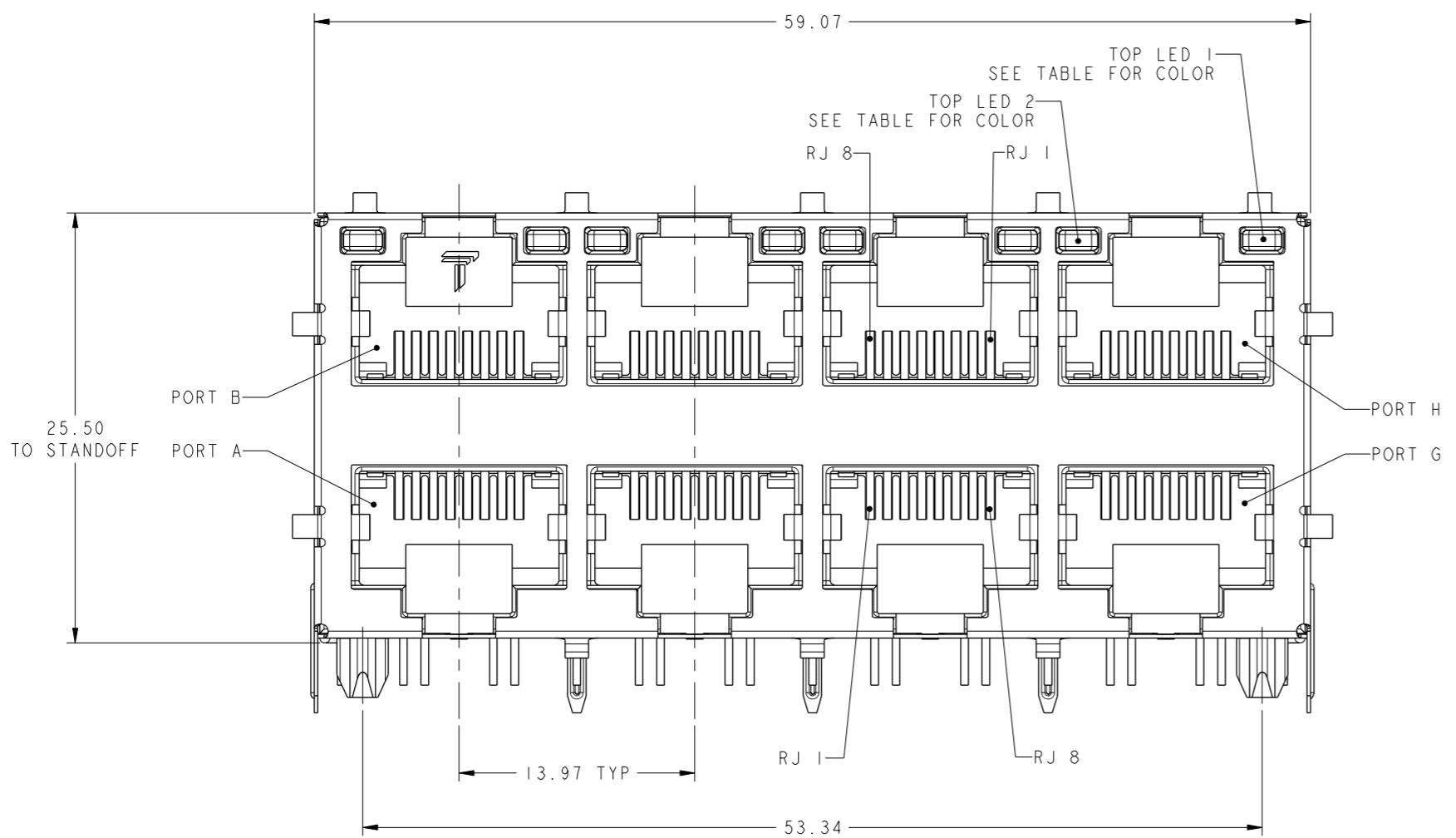
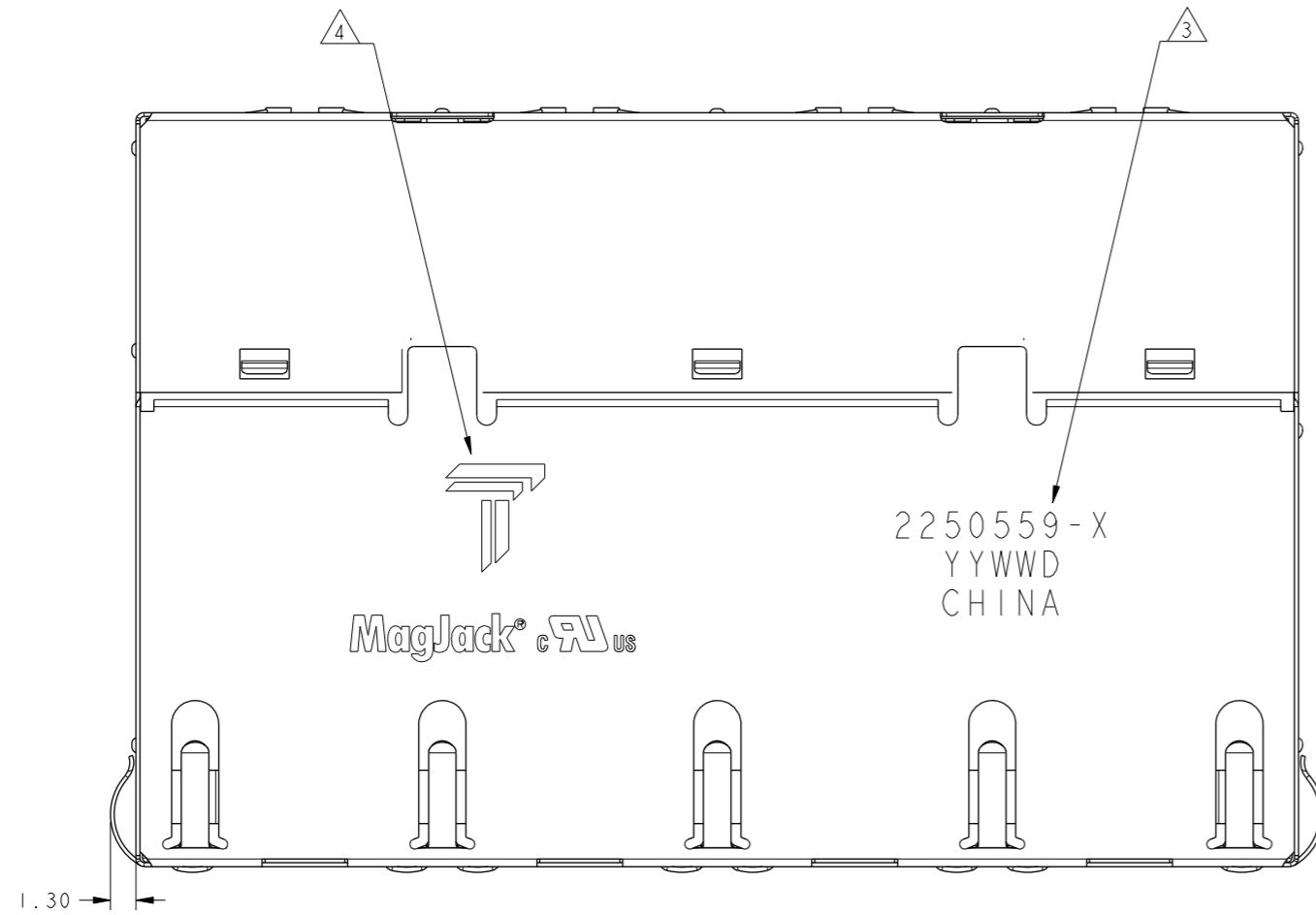
1. MATERIALS:  
 PLASTIC HOUSING: BLACK, THERMOPLASTIC FLAMMABILITY RATING UL 94V-0  
 SHIELD: BRASS, PREPLATED WITH 0.76um MIN SEMI-BRIGHT NICKEL,  
 POST DIPPED WITH 2.54um MIN SAC SOLDER OR PURE TIN SOLDER DIP  
 ON SOLDER TAILS,  
 CONTACTS: PHOSPHOR BRONZE, 1.27um MIN OVERALL NICKEL  
 UNDERPLATE WITH SELECT 1.27um MIN GOLD AT MATING INTERFACE AND  
 2.54um MIN MATTE TIN ON SOLDER TAILS.  
 LED: DIFFUSED EPOXY LENS, CARBON STEEL LEAD FRAME TAILS OF LED  
 ARE PREPLATED WITH 2.03um MIN SILVER OVER 1.02um MIN NICKEL  
 UNDERPLATE OVER 1.02um MIN COPPER UNDERPLATE. POST-PLATED WITH  
 2.54um MIN MATTE TIN AND/OR SAC SOLDER DIP OR PURE TIN SOLDER DIP

2. MAGNETICS  
 APPLICATION: 5G BASE-T, 4PPOE  
 IMPEDANCE: 100 OHMS  
 TURNS RATIO (CHIP:CABLE): 1:1 ALL FOUR PAIRS  
 OPEN CIRCUIT INDUCTANCE (OCL):  
 ALL CHANNELS 120uH MIN @ 100kHz, 0.1 VRMS WITH 19mA DC BIAS  
 ALL CHANNELS 160uH MIN @ 100kHz, 0.1 VRMS WITH 8mA DC BIAS  
 ALL FOUR PAIRS BI-DIRECTIONAL  
 POE CURRENT: 600mA DC  
 PERFORMANCE @ 25°C (WHERE f IS FREQUENCY IN MHz):  
 (a) INSERTION LOSS (MIN)  
 1MHz TO 200MHz = -0.8 dB  
 200MHz TO 250MHz = -1.4 dB  
 (b) RETURN LOSS (MAX)  
 1MHz TO 40MHz = -18 dB  
 40MHz TO 250MHz = -18+10\*LOG10(f/40) dB  
 (c) CROSSTALK ATTENUATION (MAX)  
 1MHz TO 250MHz = -20dB  
 (d) COMMON MODE REJECTION (MAX)  
 1MHz TO 250MHz = -20dB  
 250MHz TO 500MHz = -20+25\*LOG10(f/250)  
 ISOLATION VOLTAGE: 2250VDC(MAX) FOR 60 SECONDS WITH A RISE TIME OF  
 500V/SEC AND WITH ALL PORTS CONNECTED.

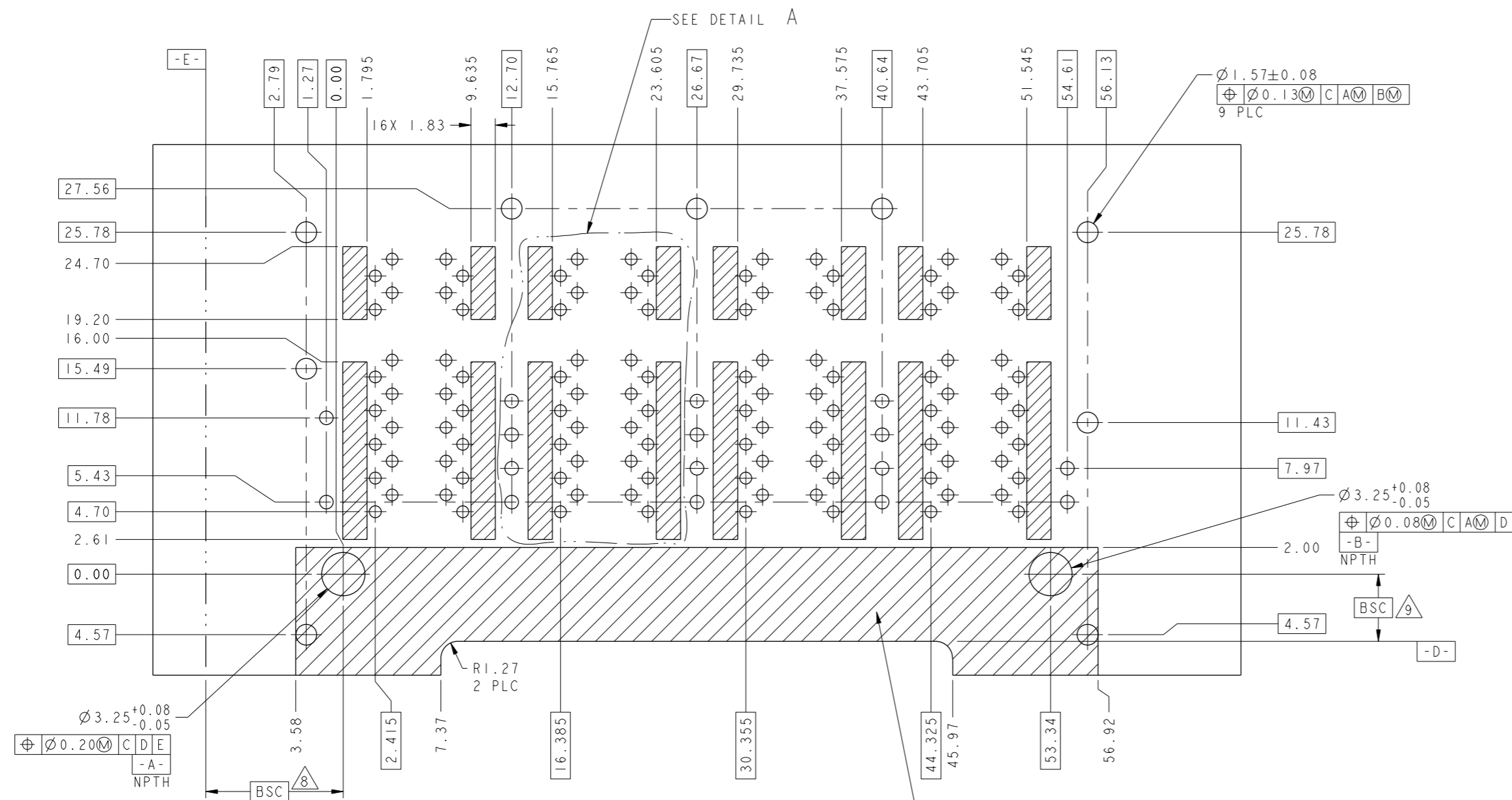
3. PART NUMBER, DATE CODE AND COUNTRY OF ORIGIN ARE LOCATED IN APPROXIMATE AREA SHOWN.  
 DATE CODE: YYWD WHERE "YY" IS YEAR, "WW" IS WORK WEEK, "D" IS DAY OF WEEK, WITH SUNDAY = 1
4. TRP CONNECTOR LOGO AND AGENCY APPROVAL LOGO ARE LOCATED IN APPROXIMATE AREA SHOWN.
5. OPERATING TEMP: FROM -40°C TO 85°C.
6. RJ45 CAVITY CONFORMS TO FCC RULES AND REGULATION PART 68 SUBPART F.
7. INDICATED MAGNETIC CONNECTIONS ARE SYMMETRICAL AND SUPPORT AUTO-MDI/MDIX.
8. DATUM AND BASIC DIMENSION ESTABLISHED BY CUSTOMER.
9. BASIC DIMENSION ESTABLISHED BY CUSTOMER, BUT MAY NOT BE GREATER THAN 5.08mm.
10. LEDs ARE DRIVEN WITH CONSTANT CURRENT AT APPROX 20mA  
 LED COLOR: DOMINANT WAVELENGTH (λD): GREEN 568 nm TYP. @ IF=20mA  
 FORWARD VOLTAGE (VF): GREEN 2.2V TYP. @ IF=20mA  
 DOMINANT WAVELENGTH (λD): AMBER 588 nm TYP. @ IF=20mA  
 FORWARD VOLTAGE (VF): AMBER 2.1V TYP. @ IF=20mA
11. THE PARTS ARE RECOMMENDED FOR WAVE SOLDERING PROCESS,  
 PEAK TEMPERATURE 260°C MAX, 10 SECONDS MAX.

2.50	GREEN/AMBER	GREEN/AMBER	2250559-1
DIM A	TOP LED 2	TOP LED 1	PART NUMBER

THIS DRAWING IS A CONTROLLED DOCUMENT, AND COMPLIANT TO ASME Y14.5M		DWN: RICK LI 300C12017 CHK: TOMMY REN/BILL LIU 300C12017 APPD: TONY YUAN 300C12017	TRP CONNECTOR a bel group DONGGUAN CHINA
DIMENSIONS: mm 0 PLC ±0.25 1 PLC ±0.25 2 PLC ±0.25 3 PLC ± 4 PLC ± ANGLES ± APPLICATION SPEC	MODEL NAME: MAGJACK STACK 4PPOE SIZE: A1 SCALE: NTS SHEET: 1 of 5 REV: 2	DESC: 2X4 S9HFG12ET 5G 4PPOE CIRCUIT, W/ TOP LED CAGE CODE: DRAWING NO: C=2250559 RESTRICTED TO:	
PRODUCT SPEC: 108-104017 DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED:	MODEL NAME: MAGJACK STACK 4PPOE SIZE: A1 SCALE: NTS SHEET: 1 of 5 REV: 2	CUSTOMER DRAWING



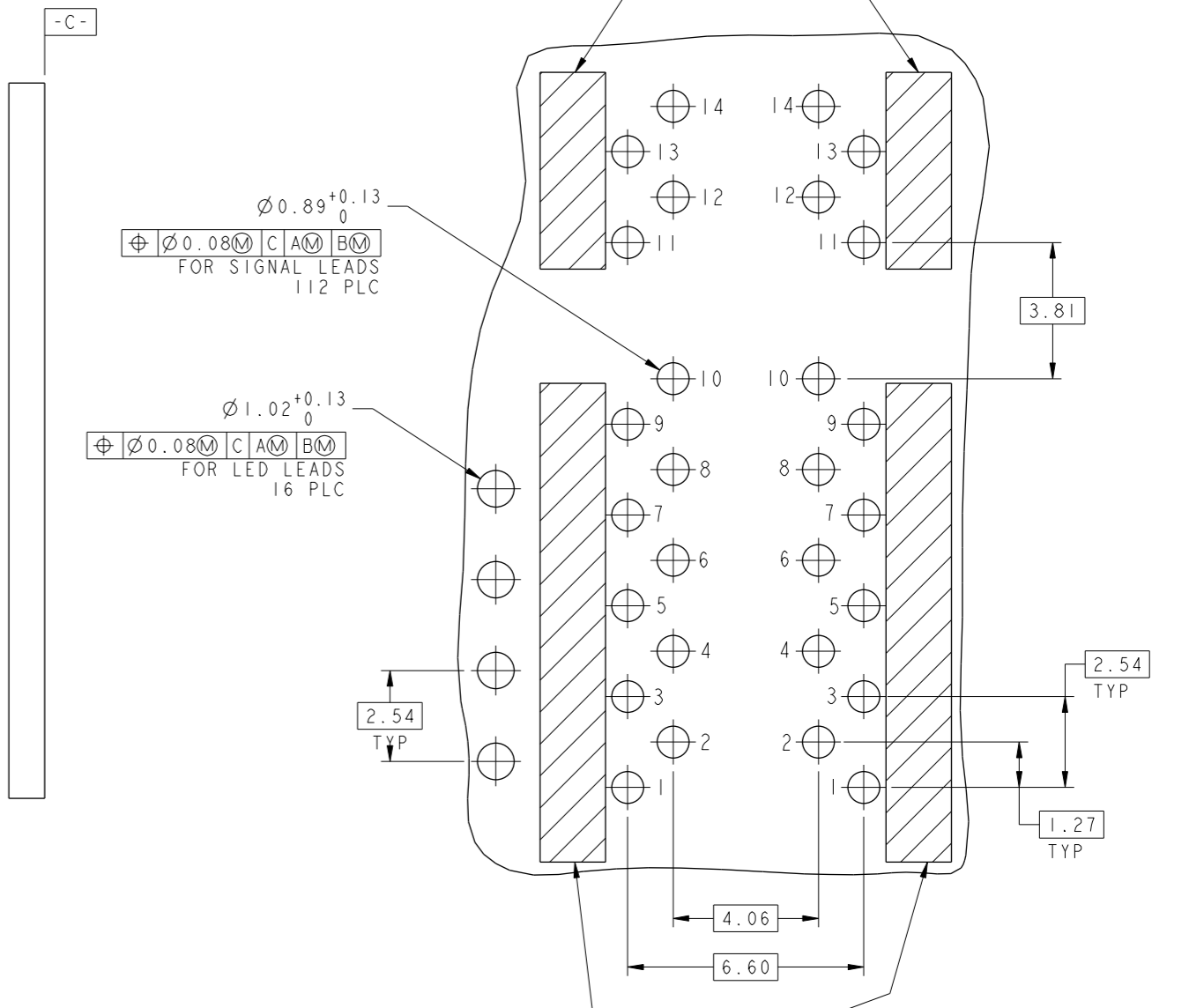
THIS DRAWING IS A CONTROLLED DOCUMENT AND COMPLIANT TO ASME Y14.5M		DWN: RICK LI 300C12017 CHK: TOMMY REN/BILL LIU 300C12017 APPR: TONY YUAN 300C12017	trp CONNECTOR a bel group DONGGUAN CHINA
DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ±0.25 1 PLC ±0.25 2 PLC ±0.25 3 PLC ± 4 PLC ± ANGLES ± APPLICATION SPEC -	MODEL NAME: MAGJACK STACK 4PPOE	
PRODUCT SPEC: 108-104017		CUSTOMER DRAWING SCALE: NTS SHEET: 2 OF 5 REV: 2	



**RECOMMENDED PCB LAYOUT COMPONENT SIDE VIEW**

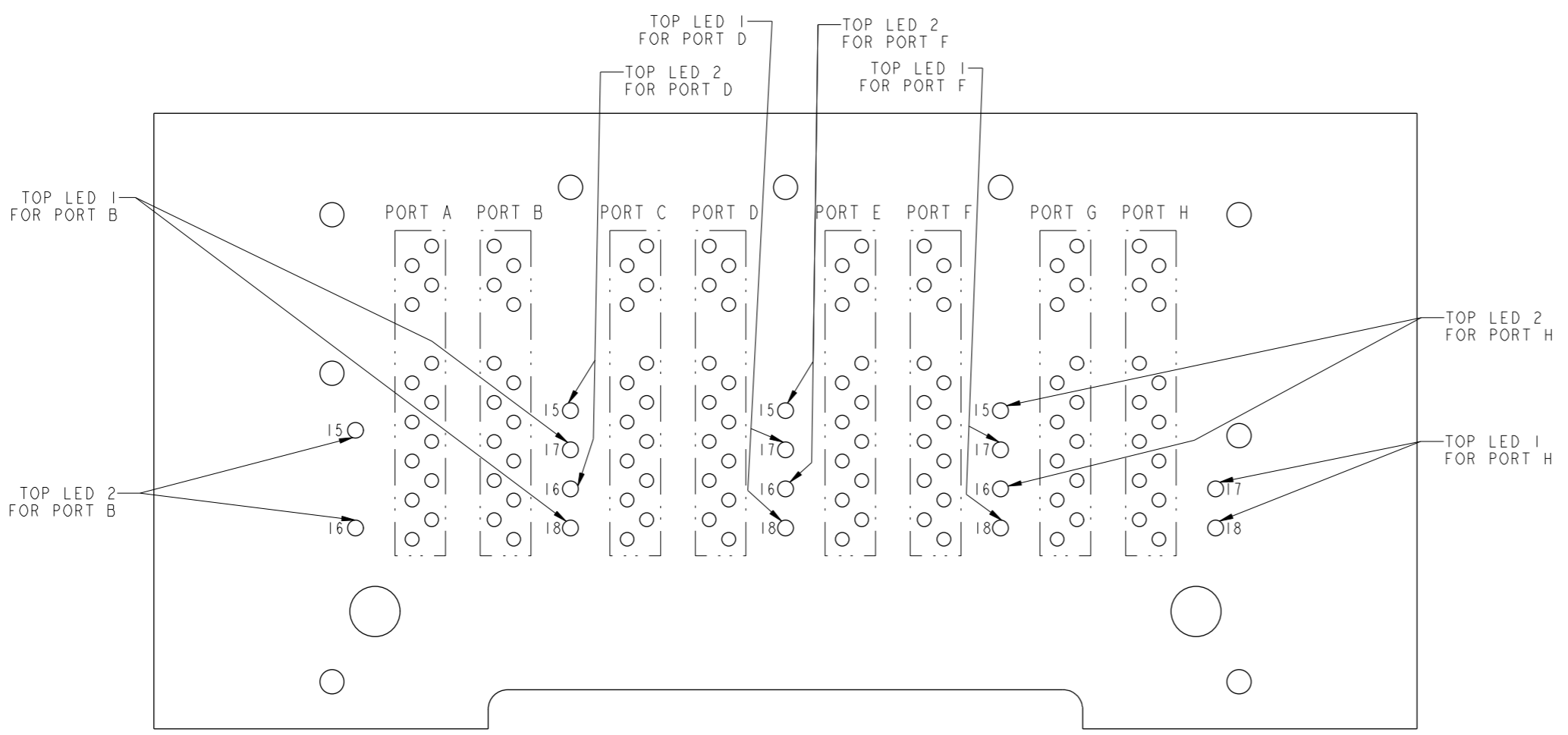
IT IS RECOMMENDED THAT SHADED AREA OF CUSTOMER PC BOARD BE CLEAR OF ANY VIA HOLE, COMPONENT AND CIRCUIT TRACE.

POE STUB PINS AREA. IT IS RECOMMENDED THAT ANY VIA HOLES, TRACES WHICH HAVE EQUAL POTENTIAL AS THE PHY SIDE SIGNALS OR GROUND SHOULD HAVE ENOUGH CLEARANCE FROM THE SHADED AREA FOR ISOLATION VOLTAGE.

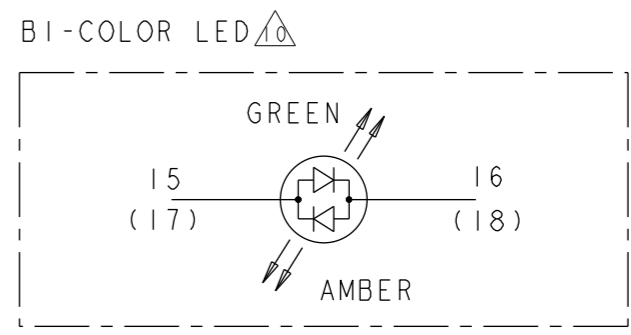


**DETAIL A SCALE 8:1**

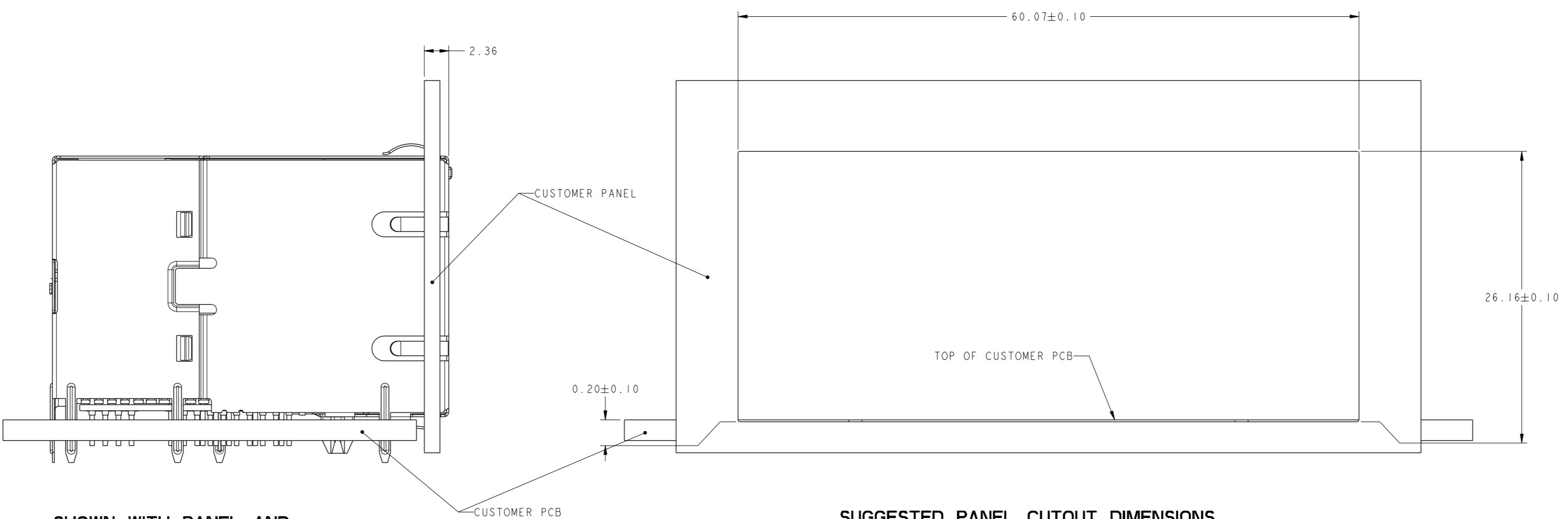
PHY SIDE STUB PINS AREA. IT IS RECOMMENDED THAT ANY VIA HOLES, TRACES WHICH HAVE EQUAL POTENTIAL AS THE CABLE SIDE SIGNAL OR POE SIGNAL SHOULD HAVE ENOUGH CLEARANCE FROM THE SHADED AREA FOR ISOLATION VOLTAGE.



**PORT ASSIGNMENT & LED HOLE DESIGNATIONS COMPONENT SIDE VIEW**



THIS DRAWING IS A CONTROLLED DOCUMENT. AND COMPLIANT TO ASME Y14.5M		DNW: RICK LI 300C12017	 DONGGUAN CHINA
DIMENSIONS: mm		CHK: TOMMY REN/BILL LIU 300C12017	
TOLERANCES UNLESS OTHERWISE SPECIFIED:		APPV: TONY YUAN 300C12017	
0 PLC ±0.25 1 PLC ±0.25 2 PLC ±0.25 3 PLC ±0.25 4 PLC ±0.25 ANGLES ± APPLICATION SPEC	MODEL NAME: MAGJACK STACK 4PPOE DESC: 2X4 S9HFG12ET 5G 4PPOE CIRCUIT, W/ TOP LED SIZE: A1 SCALE: NTS	RESTRICTED TO:	SHEET 3 OF 5 REV 2




SHOWN WITH PANEL AND CUSTOMER PCB ASSEMBLY

SUGGESTED PANEL CUTOUT DIMENSIONS

THIS DRAWING IS A CONTROLLED DOCUMENT. AND COMPLIANT TO ASME Y14.5M		DWN: RICK LI 300C12017 CHK: TOMMY REN/BILL LIU 300C12017 APPR: TONY YUAN 300C12017	DONGGUAN CHINA
DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ±0.25 1 PLC ±0.25 2 PLC ±0.25 3 PLC ± 4 PLC ± ANGLES ± APPLICATION SPEC -	MODEL NAME: MAGJACK STACK 4PPOE DESC: 2X4 S9HFG12ET 5G 4PPOE CIRCUIT, W/ TOP LED	
PRODUCT SPEC: 108-104017		SIZE: A1 CAGE CODE: C=2250559 DRAWING NO: CUSTOMER DRAWING	RESTRICTED TO: SCALE: NTS SHEET: 4 OF 5 REV: 2

2250559					STOCK DISPOSITION			
2X4 S9HFG12ET 5G 4PPOE CIRCUIT, W/ TOP LED					A: CONTINUE AS IS		D: USE OLD FIRST	
					B: REWORK		E: PARTS TO CONFORM	
					C: SCRAP			
REVISION HISTORY								
DATE	REV	CHANGES	REASON	APPROVAL	INVENTORY (A,B,C,D,E,F)	WORK IN PROCESS (A,B,C,F)	SUPPLIER ORDERS (A,E,F)	OPEN CUST ORDERS (A,E,F)
30OCT2017	1	-	INITIAL RELEASE	TY	-	-	-	-
29JUN2021	2	CHANGE MAGNETIC SPEC, CHANGE THE PANEL LOCATION, ADD KEEP OUT ZONE FOR STUB PINS, USE LONG LED SPACER TO REPLACE THE SHORT ONE.	DESIGN UPDATE	TY	-	-	-	-

THIS DRAWING IS A CONTROLLED DOCUMENT. AND COMPLIANT TO ASME Y14.5M		DWN: RICK LI 30OCT2017		 <b>trp</b> CONNECTOR a bel group DONGGUAN CHINA	
DIMENSIONS: mm		CHK: TOMMY REN/BILL LIU 30OCT2017			
TOLERANCES UNLESS OTHERWISE SPECIFIED:		APPV: TONY YUAN 30OCT2017		MODEL NAME	
0 PLC ±0.25 1 PLC ±0.25 2 PLC ±0.25 3 PLC ± 4 PLC ± ANGLES ± APPLICATION SPEC -		MAGJACK STACK 4PPOE		DESC: 2X4 S9HFG12ET 5G 4PPOE CIRCUIT, W/ TOP LED	
PRODUCT SPEC 108-104017		CUSTOMER DRAWING		SIZE: A1 CAGE CODE: C=2250559 DRAWING NO: 5 RESTRICTED TO: NTS	
		SCALE: NTS		SHEET 5 OF 5 REV 2	