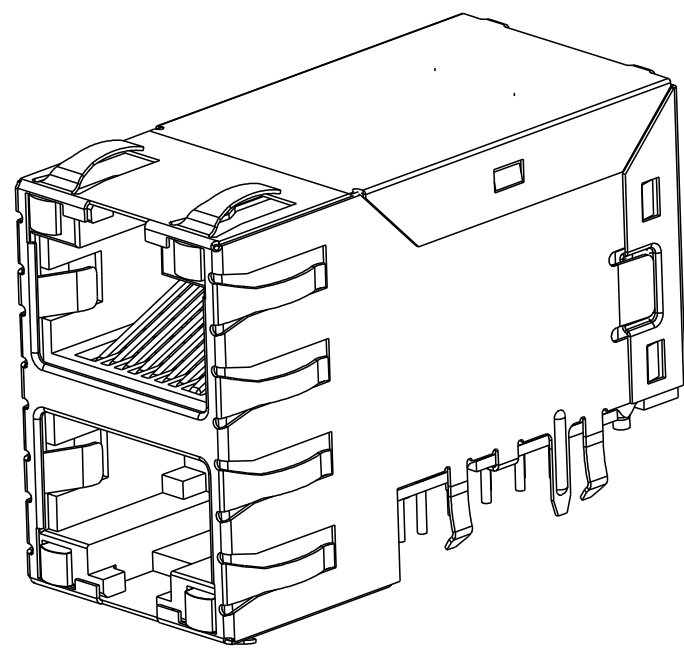
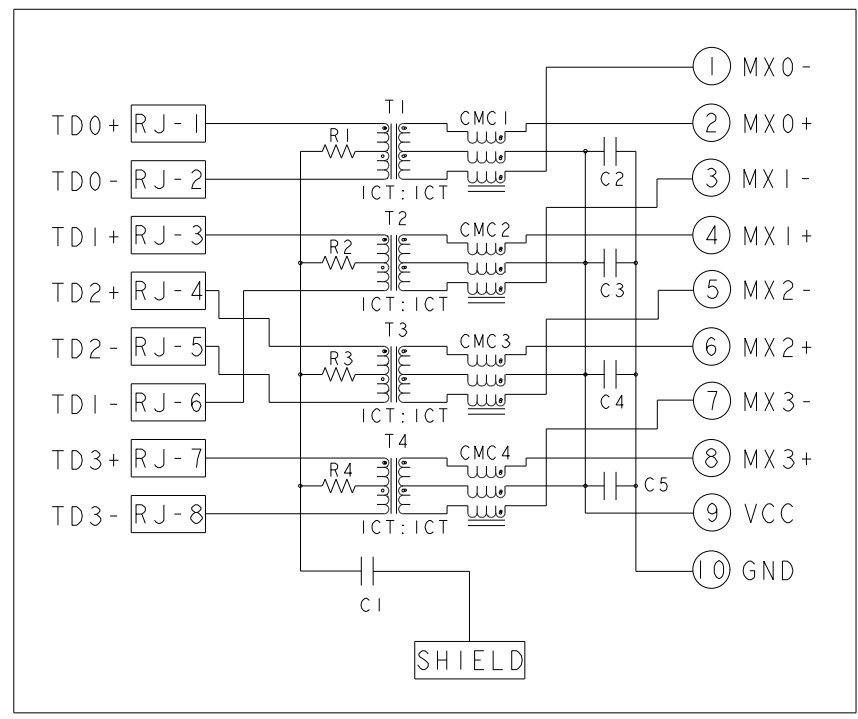


LOC	DIST	REVISIONS					
		P	LYR	DESCRIPTION	DATE	DWN	APPR
		A		NEW RELEASE	27MAY2009	RO	KZ
		B		ECO-10-025821	23JAN2011	THS	KZ



### S8G31 GIGABIT CIRCUIT $\Delta\Delta$

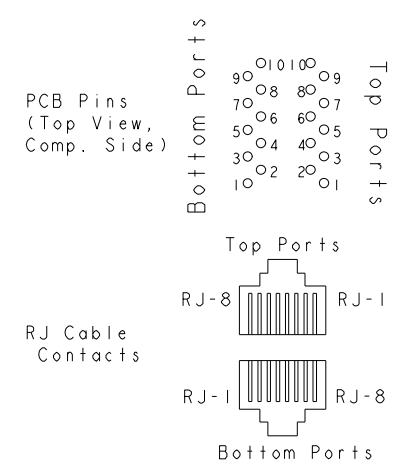
Top and Bottom Ports



C1 = 1000pF, 2kV  
 C2-C5 = 470pF, 10%, 50V  
 R1-R4 = 75ohms, 1/16W

### Pin Designations

(Repeat for each vertical pair of ports.)



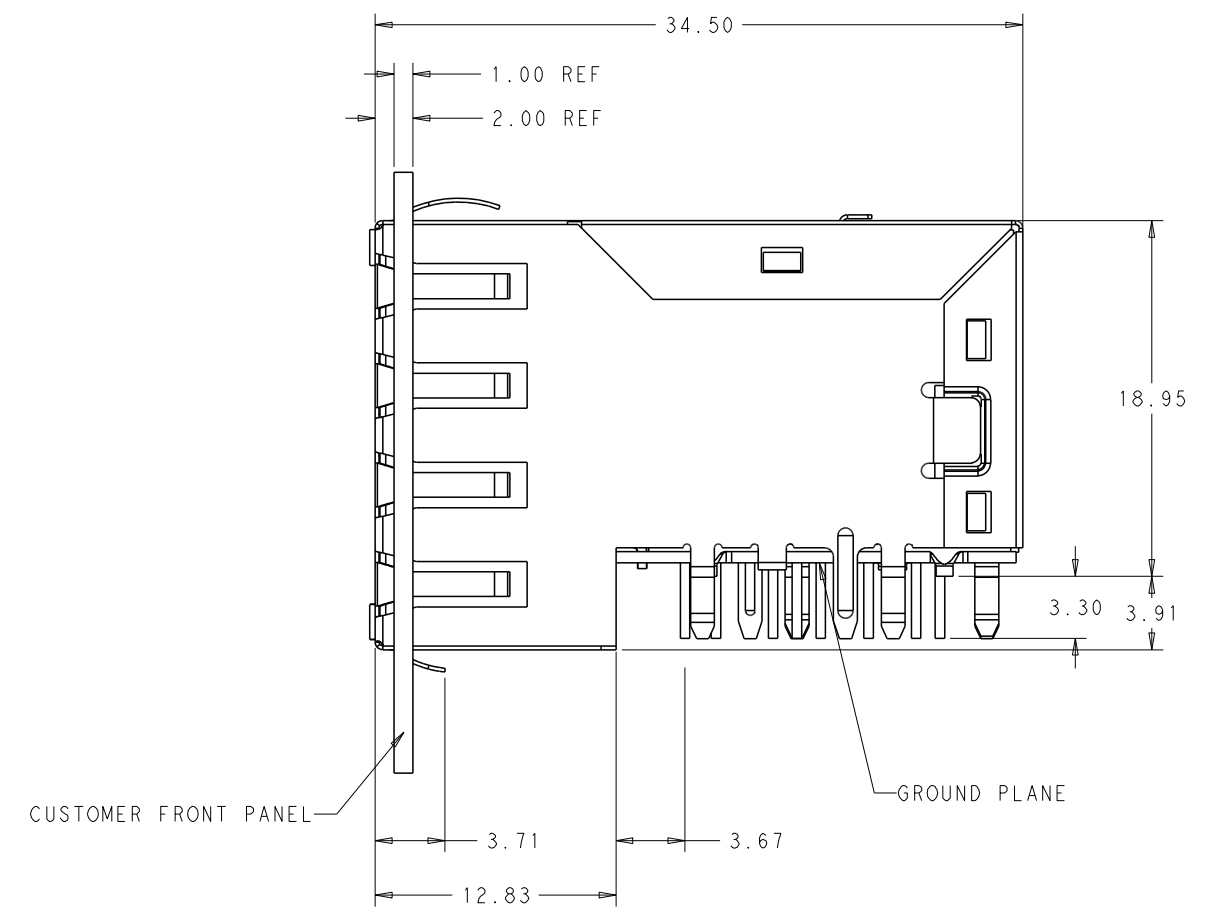
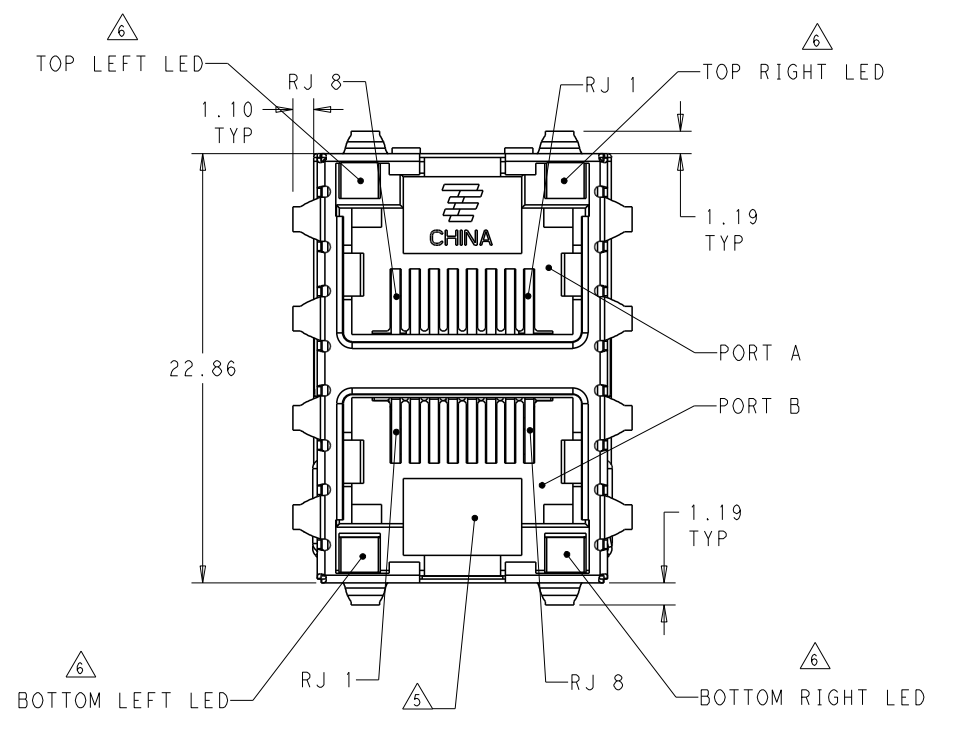
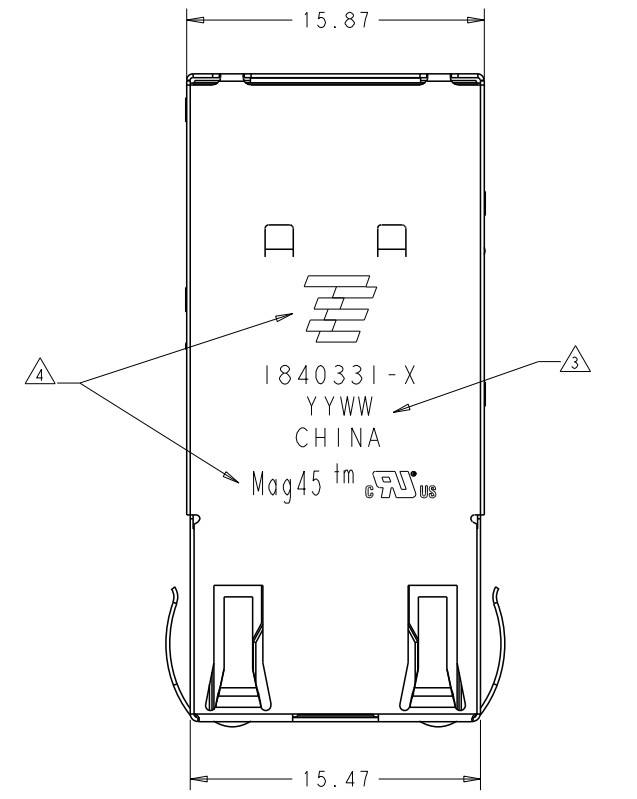
- MATERIALS:
  - HOUSING: THERMOPLASTIC, BLACK, FLAMMABILITY RATING UL 94V-0.
  - SHIELD: BRASS, PREPLATED WITH 0.76um MIN SEMI-BRIGHT NICKEL, POST DIPPED WITH 2.54um MIN SAC SOLDER ON SOLDER TAILS.
  - CONTACTS: PHOSPHOR BRONZE, PLATED WITH 1.27um MIN OVERALL NICKEL UNDERPLATE, SELECTIVE 1.27um MIN 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.

- MAGNETICS
  - APPLICATION: 10/100/1000 BASE-T
  - IMPEDANCE: 100 Ohms
  - TURNS RATIO (CHIP:CABLE): 1:1 ALL FOUR PAIRS
  - OPEN CIRCUIT INDUCTANCE (OCL): 350uH MIN @100kHz, 0.1VRMS, 8mADC BIAS FROM 0 °C TO 70 °C, ALL FOUR PAIRS
  - 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: 2250VDC (MAX) FOR 60 SECONDS WITH A RISE TIME OF 500V/SEC AND WITH ALL PORTS CONNECTED.

- PART NUMBER, DATE CODE AND COUNTRY OF ORIGIN ARE LOCATED IN THE APPROXIMATE AREA SHOWN. DATE CODE: YY IS YEAR, WW IS WORK WEEK, D IS DAY OF WEEK, WITH SUNDAY=1.
- TYCO ELECTRONICS LOGO AND AGENCY APPROVAL LOGO ARE LOCATED IN THE APPROXIMATE AREA SHOWN.
- RJ45 CAVITIES CONFORM TO FCC RULES AND REGULATION PART 68 SUBPART F.
- LEDs ARE DRIVEN WITH CONSTANT CURRENT AT APPROX. 20mA.
  - DOMINANT WAVELENGTH ( $\lambda_D$ )
  - 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
- INDICATED MAGNETIC CONNECTIONS ARE SYMMETRICAL AND SUPPORT AUTO-MDI/MDIX.
- OPERATING TEMPERATURE: FROM 0 °C TO 70 °C
- THE PARTS ARE RECOMMENDED FOR WAVE SOLDERING PROCESS, PEAK TEMPERATURE 260 °C MAX. 10 SECONDS MAX.

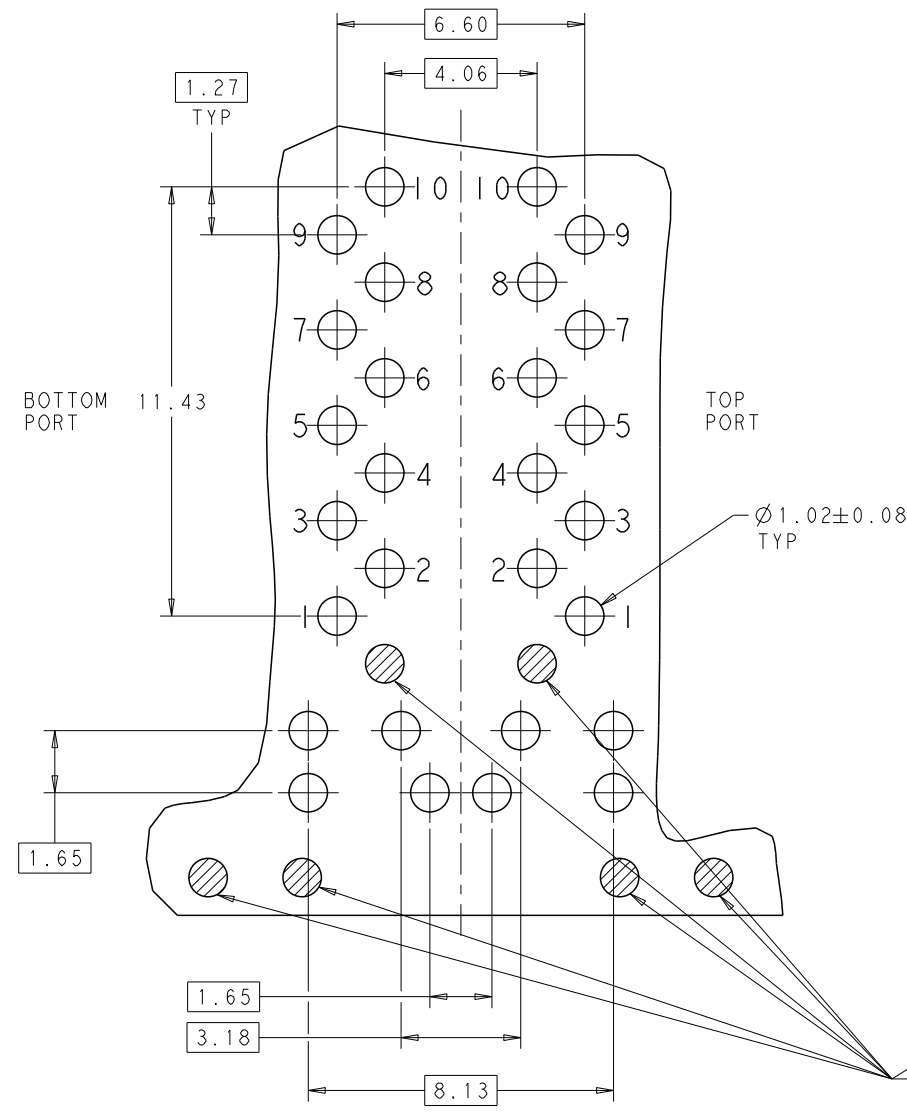
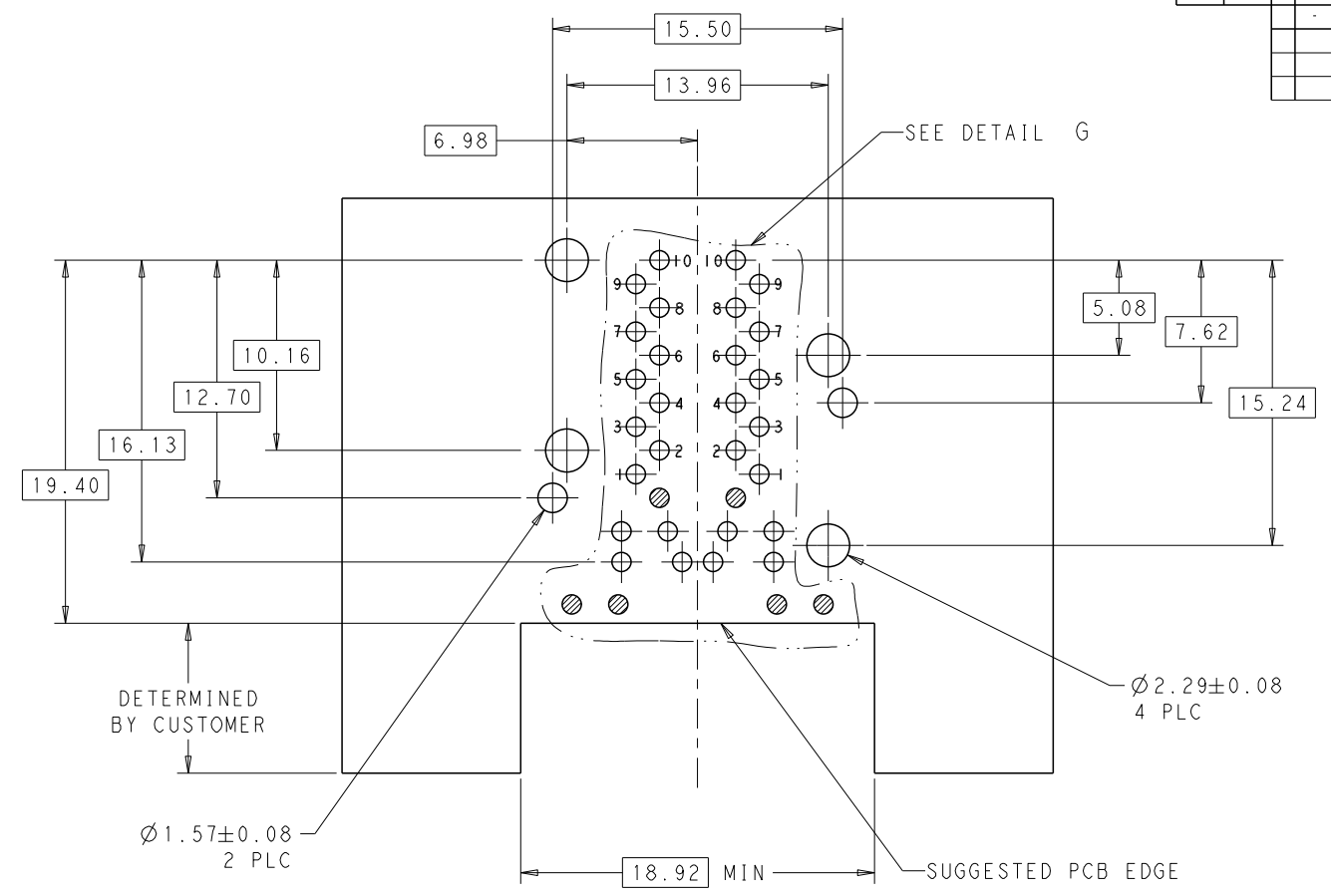
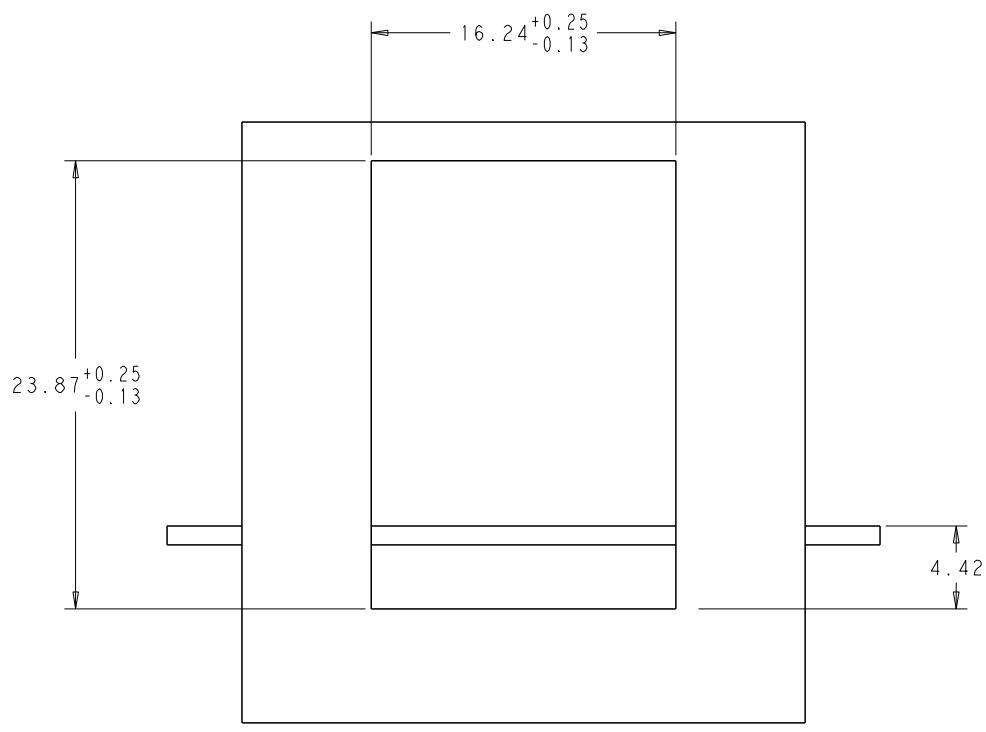
GREEN		YELLOW		GREEN		YELLOW		1840350-2
TOP LEFT LED		TOP RIGHT LED		BOTTOM LEFT LED		BOTTOM RIGHT LED		PART NUMBER
DWN		27MAY2009		DWN		27MAY2009		Tyco Electronics Changping China
CHK		RICHARD QIAN		CHK		SEAN HE		
APPR		LI JUN RAO		APPR		LI JUN RAO		NAME MAG45(TM) MODULE JACK, 2X1 OFFSET S8G31 GIGABIT CIRCUIT, WITH LED 10 PIN VERTICAL
DIMENSIONS:		TOLERANCES UNLESS OTHERWISE SPECIFIED:		PRODUCT SPEC		APPLICATION SPEC		
mm		0 PLC ±		1 PLC ±		2 PLC ±		SIZE
		3 PLC ±0.25		4 PLC ±		ANGLES ±		CAGE CODE
MATERIAL		FINISH		WEIGHT		SCALE		DRAWING NO
						5:1		RESTRICTED TO
						A1		100779
						C=1840350		REV B
						CUSTOMER DRAWING		SHEET 1 OF 4

LOC		DIST		REVISIONS			
P	LYR	DESCRIPTION	DATE	DWN	APFD		
-	-	SEE SHEET 1	-	-	-	-	-

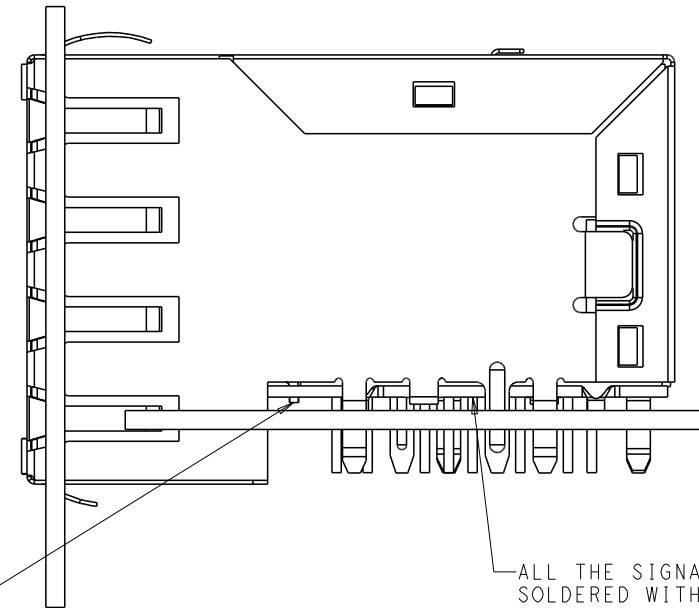


<small>THIS DRAWING IS A CONTROLLED DOCUMENT FOR THE ELECTRONICS CORPORATION                  IT IS SUBJECT TO CHANGE AND THE COMPANY HAS THE RIGHT TO REVISE THE DRAWING WITHOUT NOTICE                  SHOULD BE CONTACTED FOR THE LATEST REVISION.</small>		DWN 27MAY2009 RICHARD QIAN CDR 27MAY2009 APFD LI JUN RAO 27MAY2009	Tyco Electronics Changping China
DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ± 1 PLC ± 2 PLC ± 3 PLC ±0.25 4 PLC ± ANGLES ±	NAME MAG45(TM) MODULE JACK, 2X1 OFFSET PRODUCT SPEC S8G31 GIGABIT CIRCUIT, WITH LED APPLICATION SPEC 10 PIN VERTICAL 108-104004	SIZE A1 CAGE CODE 100779 DRAWING NO C=1840350 RESTRICTED TO -
MATERIAL	FINISH	WEIGHT	SCALE 5:1 SHEET 2 OF 4 REV B
CUSTOMER DRAWING			

LOC	DIST	REVISIONS	DATE	DWN	APPD
-	-	SEE SHEET 1	-	-	-



RECOMMENDED PC BOARD LAYOUT  
VIEWED FROM COMPONENT SIDE



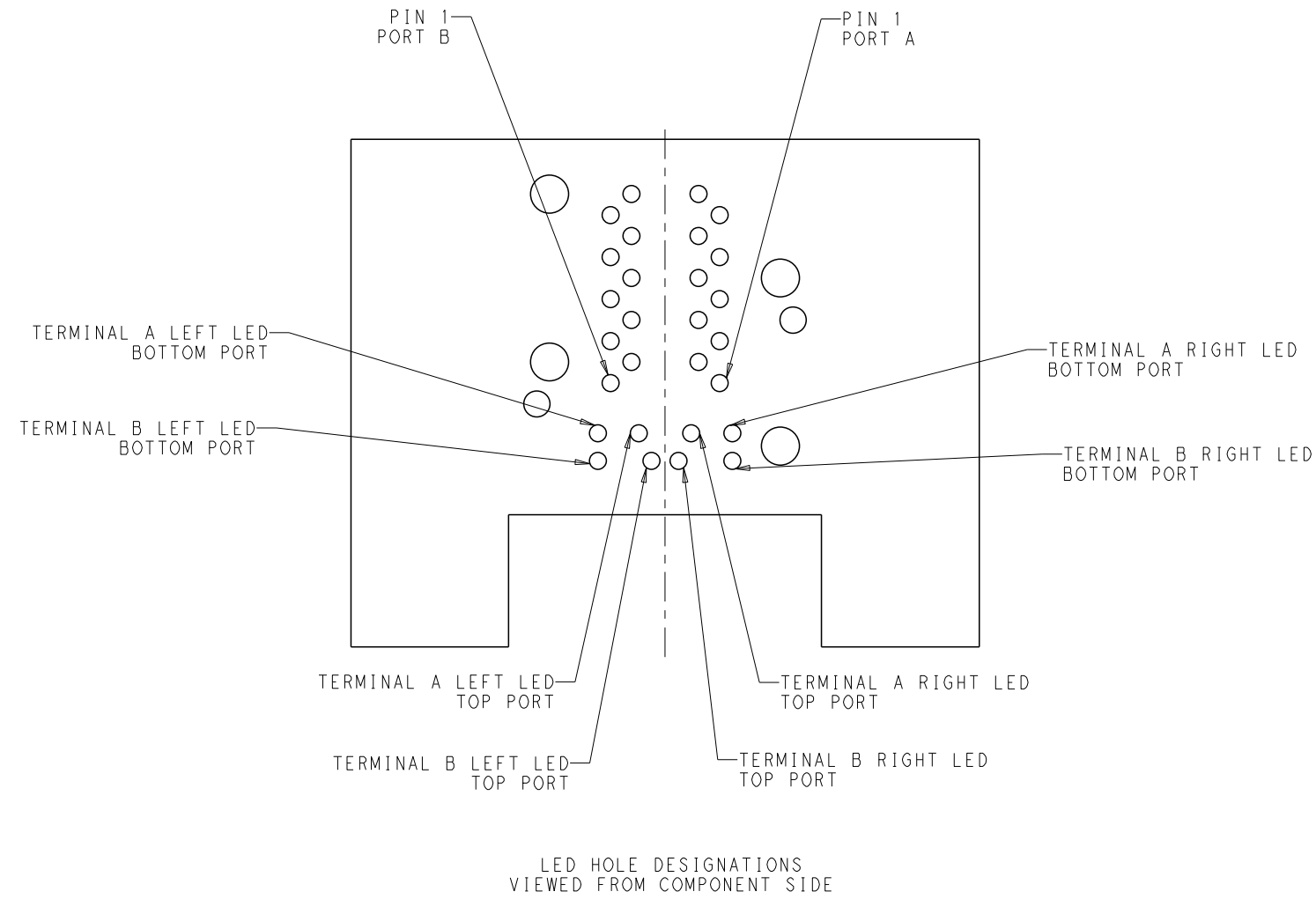
PIN 0#: BOTTOM LED'S PIN ON MODULAR JACK AND BOTTOM PCB ARE STUB PINS WITH LENGTH SIMILAR TO PCB STANDOFF HEIGHT. PRECAUTIONS SHOULD BE TAKEN IN PCB DESIGN TO GUARD AGAINST SHORTING TRACES TO STUB PINS.

DETAIL G  
SCALE 10:1

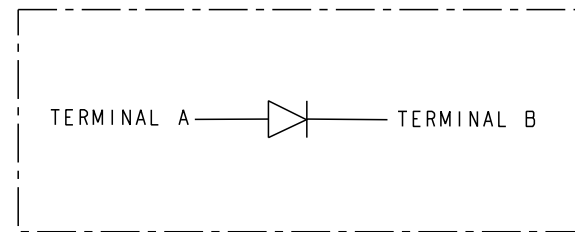
<small>THIS DRAWING IS A CONTROLLED DOCUMENT FOR THE TYCO ELECTRONICS CORPORATION. IT IS SUBJECT TO CHANGE AND THE COMPANY AND ITS CUSTOMERS ARE ADVISED THAT THE LATEST REVISION SHOULD BE CONTACTED FOR THE LATEST REVISION.</small>		DWN RICHARD QIAN 27MAY2009 CDR SEAN HE 27MAY2009 APD LI JUN RAO 27MAY2009	Tyco Electronics Changping China
DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ± 1 PLC ± 2 PLC ± 3 PLC ±0.25 4 PLC ± ANGLES ±	NAME MAG45(TM) MODULE JACK, 2X1 OFFSET S8G31 GIGABIT CIRCUIT, WITH LED 10 PIN VERTICAL PRODUCT SPEC 108-104004 APPLICATION SPEC	SIZE A1 CAGE CODE 100779 DRAWING NO C=1840350 RESTRICTED TO
MATERIAL	FINISH	WEIGHT	SCALE 5:1 SHEET 3 OF 4 REV B
CUSTOMER DRAWING			

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LOC	DIST	REVISIONS					
		P	LYR	DESCRIPTION	DATE	DWN	APPR
-	-	-	-	SEE SHEET 1	-	-	-



SINGLE COLOR LED



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DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ± 1 PLC ± 2 PLC ± 3 PLC ±0.25 4 PLC ± ANGLES ±	NAME MAG45(TM) MODULE JACK, 2X1 OFFSET S8G31 GIGABIT CIRCUIT, WITH LED 10 PIN VERTICAL SIZE A1 CAGE CODE 100779 DRAWING NO C=1840350	RESTRICTED TO REV B
MATERIAL FINISH	WEIGHT SCALE 5:1	CUSTOMER DRAWING	SHEET 4 OF 4