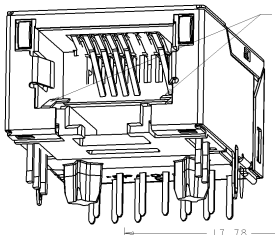
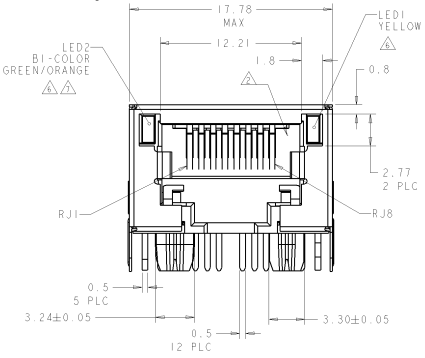
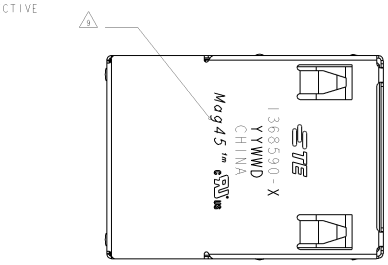
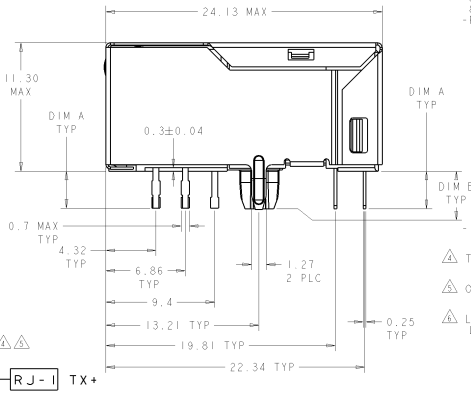
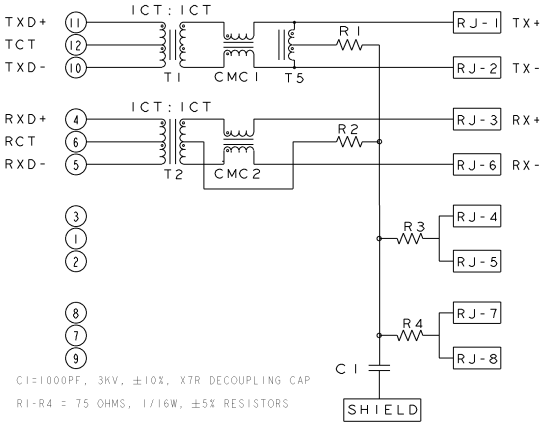






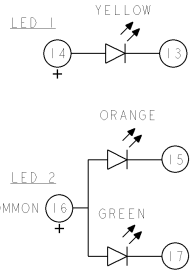


814 10/100 BASE-T CIRCUIT



C1=1000PF, 3KV, ±10%, X7R DECOUPLING CAP

R1-R4 = 75 OHMS, 1/16W, ±5% RESISTORS



REVISIONS					
LTR	DESCRIPTION	DATE	DWN	APVD
A	PER ECO-07-004765	31MAR2007	TF	TX
B	PER ECO-08-013010	23OCT2008	TF	TX
C	ECO-11-014530	02JUL2011	PP	LJ

1. MATERIALS:
-HOUSING: HIGH TEMPERATURE NYLON, BLACK, UL 94V-0.
-SHIELD: 0.20±0.02mm THICK, BRASS PREPLATED WITH 0.76 µm MIN SEMI-BRIGHT NICKEL; POST-DIPPED WITH 2µm MIN SAC 305 ALLOY LEAD FREE SOLDER (TIN PRIMARY, 3% SILVER, 0.5% COPPER)
-CONTACT TAILS: 0.25mm THICK, PHOSPHOR BRONZE, 1.27 µm MIN OVERALL NICKEL UNDERPLATE, 3µm MIN TIN PLATE.
-MOD JACK CONTACTS: 0.25mm THICK, PHOSPHOR BRONZE, 1.27 µm MIN OVERALL NICKEL UNDERPLATE, WITH 0.76µm MIN LOCALIZED GOLD PLATE AT PLUG INTERFACE
-LIGHT EMITTING DIODE (LED): DIFFUSED EPOXY LENS, CARBON STEEL WIREFRAME PREPLATED WITH 2.03 µm SILVER PLATE OVER 1.02 µm NICKEL OVER 1.02 µm COPPER UNDERPLATES; LEADS POST-PLATED WITH 3.05 µm TIN.
-LIGHT PIPE: POLYETHER SULFONE

2. RJ45 JACK CAVITY CONFORMS TO FCC RULES AND REGULATIONS PART 68, SUB-PART F.

3. MAGNETICS:
-APPLICATION: 10/100 BASE-T
-IMPEDANCE: 100 OHMS
-TURNS RATIO (CHIP:CABLE): TX 1:1; RX: 1:1
-OPEN CIRCUIT INDUCTANCE (OCL): 350µH (MIN) @100KHz,0.1 VRMS 8 mA DC BIAS FROM 0°C TO 70°C, TX AND RX
-PERFORMANCE @25°C:

FREQUENCY	RETURN LOSS (dB MIN) CIRCUIT IMPEDANCE = 100 OHMS ±15%
0.5 MHz-30 MHz	18
30.1 MHz-60 MHz	18-20 log(f/30) f IS FREQUENCY IN MHz
60.1 MHz-80 MHz	12

FREQUENCY	INSERTION LOSS (dB MAX)	COMMON MODE REJECTION RATIO (dB MIN)	CROSSTALK ATTENUATION (dB MIN)
0.5 MHz-40 MHz	1.1	30	35
40.1 MHz-100 MHz			33-20log(f/50) f IS FREQUENCY IN MHz]

-ISOLATION VOLTAGE: COMPLIES WITH IEEE802.3.2002, PARA 23.5.1.1, ITEM a AND b.

4. THE MAGNETICS ARE ASYMMETRICAL, AND DO NOT SUPPORT AUTO-MDIX.

5. OPERATING TEMPERATURE: FROM 0°C TO +70°C.

6. LED IS DRIVEN WITH CONSTANT CURRENT AT APPROX 20mA.
LED COLOR: DOMINANT WAVELENGTH (λD): GREEN 568 nm TYP. at IF=20mA
FORWARD VOLTAGE (VF): GREEN 2.2V TYP. at IF=20mA
DOMINANT WAVELENGTH (λD): YELLOW 588 nm TYP. at IF=20mA
FORWARD VOLTAGE (VF): YELLOW 2.1V TYP. at IF=20mA
DOMINANT WAVELENGTH (λD): ORANGE 605 nm TYP. at IF=20mA
FORWARD VOLTAGE (VF): ORANGE 2.1V TYP. at IF=20mA

7. LED 2 WILL EMULATE "YELLOW" LIGHT WHEN BOTH GREEN AND ORANGE DIODES ARE DRIVEN AT CONSTANT CURRENT (20mA RECOMMENDED) TO INDICATE THE THIRD COLOR STATE.

8. RJ45 MOD PLUG SELECTIVE - THIS CONNECTOR UTILIZES STAINLESS STEEL SPRING MEMBER WHICH PREVENTS THE INSERTION OF A RJ11 (6 POSITION) PLUG INTO THE JACK PORT, WHILE ALLOWING A RJ45 (8 POSITION) PLUG TO MATE FREELY.

WARNING: THIS FEATURE WAS DEVELOPED FOR TYPICAL PLUG INSERTION FORCES. EXCESSIVE INSERTION FORCE MAY OVERCOME THE SELECTIVE FEATURES AND DAMAGE THE CONNECTOR.

9. TE CONNECTIVITY LOGO,PART NUMBER,DATE CODE,COUNTRY OF ORIGIN,AGENCY APPROVAL MARKING LOGO LOCATED IN THE APPROXIMATE AREA SHOWN. DATE CODE YY IS YEAR,WW IS WORK WEEK,D IS DAY OF WEEK,WITH SUNDAY=1

10. THESE PARTS ARE COMPLIANT WITH BOTH WAVE SOLDERING PROCESS PEAK SOLDERING TEMPERATURE 260°C MAX, 10 SECONDS MAX; AND IR REFLOW SOLDERING PROCESS PEAK SOLDERING TEMPERATURE 260°C MAX DURATION TIME 10 SECONDS MAX , OVER 230°C WITHIN 40-60 SECONDS.

11. 1368590-1 SHOWN UNLESS OTHERWISE NOTED

1.8	1.8	1368590-3
1.50	1.50	1368590-2
3.3	3.18	1368590-1
DIM B	DIM A	PART NO.

THIS DRAWING IS A CONTROLLED DOCUMENT.

DIMENSIONS: mm

TOLERANCES (UNLESS OTHERWISE SPECIFIED): X PLC ±-, X PLC ±0.25, XX PLC ±0.13, X PLC ±-, ANGLES ±-

MATERIAL: SEE 1

FINISH: SEE 1

DWN: TOMER YU 25JUL2005
CHK: TEDDY XIONG 25JUL2005
APVD: TEDDY XIONG 25JUL2005
PRODUCT SPEC: 108-2207
APPLICATION SPEC: 114-
WEIGHT: -

TE Connectivity

NAME: 1X1 MAG45(TM), MODULAR JACK, 814 SERIES 10/100 CIRCUIT SHIELDED, LEDS, TAB DOWN

SIZE: A | CAGE CODE: 00779 | DRAWING NO: C-1368590 | RESTRICTED TO: -

CUSTOMER DRAWING | SCALE: NTS | SHEET 1 OF 2 | REV: C

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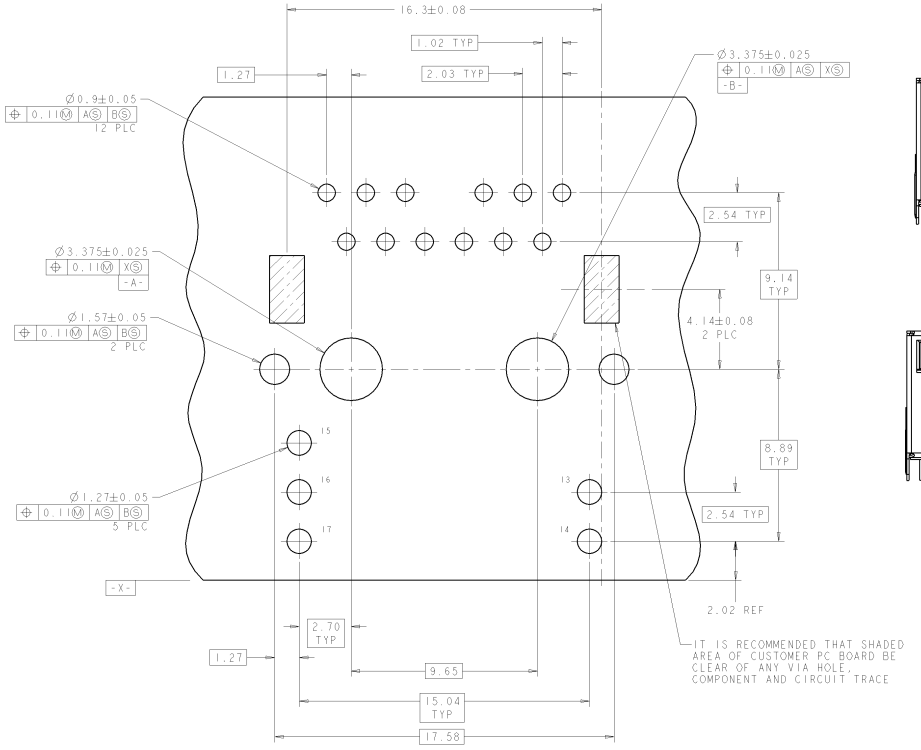
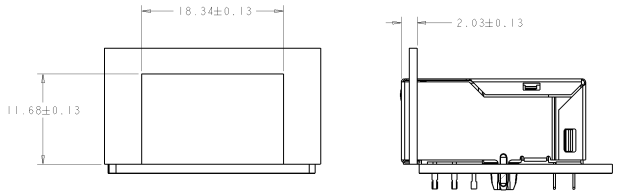
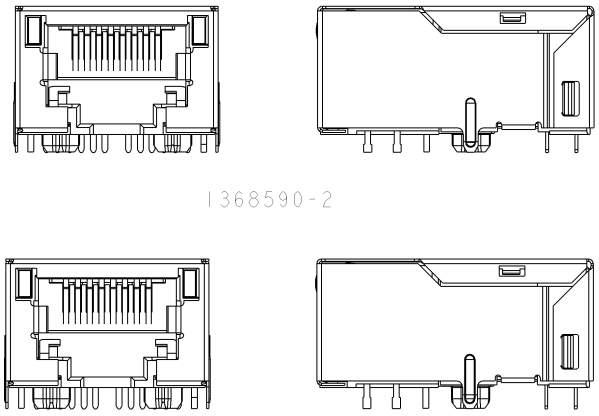


SUGGESTED PCB LAYOUT
(COMPONENT SIDE)

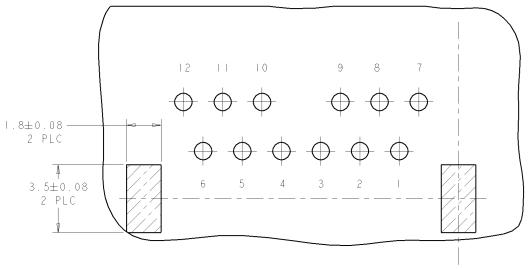


SUGGESTED PANEL OPENING



1368590-2

1368590-3



PIN DESIGNATIONS

THIS DRAWING IS A CONTROLLED DOCUMENT.

DRN	TOMER YU	25JUL2005	TE Connectivity
CHK	TEDDY XIONG	25JUL2005	
APVD	TEDDY XIONG	25JUL2005	1X1 MAG45(TM), MODULAR JACK, 8/4 SERIES 10/100 CIRCUIT, SHIELDED, LEDS, TAB DOWN
PRODUCT SPEC	-		
APPLICATION SPEC	-		SIZE A | CAGE CODE 00779 | DRAWING NO C-1368590
WEIGHT	-		CUSTOMER DRAWING
			SCALE NTS | SHEET 2 OF 2 | REV C

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