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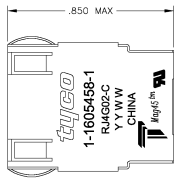
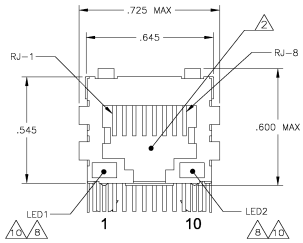
LOC	CHRT
AA	22

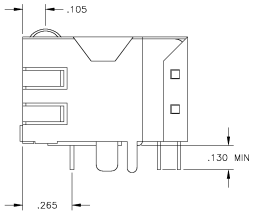
REVISIONS

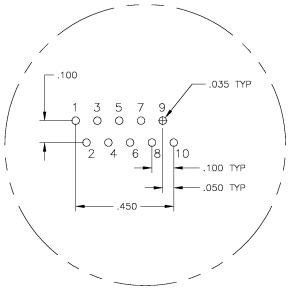
P	LTR	DESCRIPTION	DATE	DRN	APVD
	O	RELEASED PER EC 0515-0053-03	07FEB2003	DD	EL

MECHANICAL:

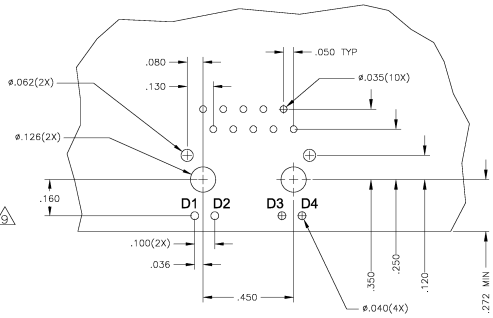




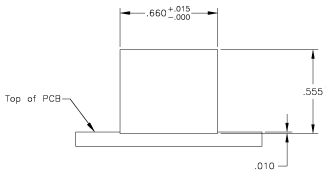




Pin Designations

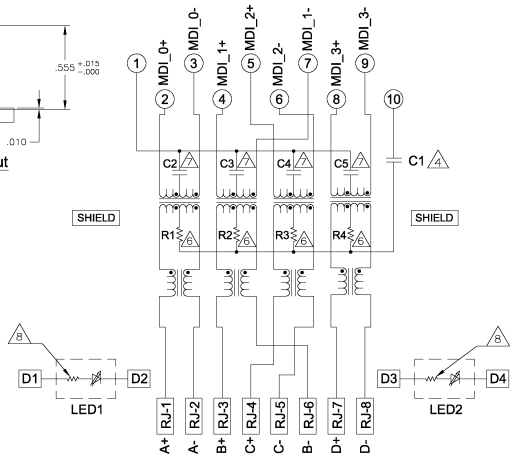


Suggested PCB Layout
(Component Side)



Suggested Panel Cutout

4G02 GIGABIT MAGNETIC CIRCUIT 3 9



1 MATERIALS:
HOUSING - THERMOPLASTIC PET POLYESTER FLAMMABILITY RATING UL 94V-0.
SHIELD - .010" THICK, C26800 BRASS PREPLATED WITH 80-150µinch SEMI-BRIGHT NICKEL; POST-DIPPED WITH 100µinch MIN TIN-LEAD.
MOD JACK CONTACTS - .0157" x .018", PHOSPHOR BRONZE, 50µinch MIN OVERALL NICKEL UNDERPLATE, WITH SELECT 50µinch MIN HARD GOLD FINISH PLATE.
SOLDERTAILS WITH 50µinch MIN TIN-LEAD FINISH PLATE.
LIGHT EMITTING DIODE(LED) - DIFFUSED EPOXY LENS, .020" x .020" CARBON STEEL WIREFRAME LEADS PREPLATED WITH 90µinch SILVER OVER 40µinch NICKEL UNDERPLATE OVER 80µinch COPPER UNDERPLATE; POST-PLATED WITH 300µinch THICK TIN-LEAD.

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

3 MAGNETICS:
-IMPEDANCE: 100 OHMS
-TRANSMIT OPEN CIRCUIT INDUCTANCE (OCL): 350µH (MIN) @100KHZ, 0.1 VRMS WITH 8 mA DC BIAS FOR EACH TRANSFORMER OVER T = 0° - 70°C.
-RISE TIME: 2.5 NANO-SECONDS FROM 10 TO 90 PERCENT.
-TURNS RATIO (CHIP: CABLE): TX: 1.1, RX: 1:1
PERFORMANCE:
-TRANSMIT BIDIRECTIONAL ALL 4 PAIR.
-RECEIVE BIDIRECTIONAL ALL 4 PAIR.

FREQUENCY	*INSERTION LOSS	RETURN LOSS	CROSSTALK ATTENUATION	COMMON MODE REJECTION RATIO
.100 MHZ - .999 MHZ	1.0 dB (MAX)	18.0 dB (MIN)	43.0 dB (MIN)	46.0 dB (MIN)
1.0 MHZ - 15.0 MHZ	0.4 dB (MAX)	18.0 dB (MIN)	35.0 dB (MIN)	46.0 dB (MIN)
15.1 MHZ - 30.0 MHZ	0.6 dB (MAX)	16.0 dB (MIN)	26.0 dB (MIN)	46.0 dB (MIN)
30.1 MHZ - 60.0 MHZ	0.6 dB (MAX)	16.0 dB (MIN)	24.0 dB (MIN)	42.0 dB (MIN)
60.1 MHZ - 80.0 MHZ	1.1 dB (MAX)	15.0 dB (MIN)	24.0 dB (MIN)	42.0 dB (MIN)
80.1 MHZ - 100.0 MHZ	1.1 dB (MAX)	12.0 dB (MIN)	24.0 dB (MIN)	42.0 dB (MIN)
ALL MAGNETIC ELECTRICAL CHARACTERISTICS RATED @ T=25° C *INDICATED INSERTION LOSS REFERS TO MAGNETIC CIRCUITRY ONLY				

DIELECTRIC (ISOLATION VOLTAGE) :
-2250 VDC (1 mA CUTOFF CURRENT) FOR 60 SECOND DURATION.
-ALL BRIDGED ON EITHER SIDE OF MAGNETICS PACKAGE FOR RJ-45 CONTACTS.
OPERATING TEMPERATURE: FROM 0° - +70°C.

4 C1 IS A 1000 pF, 2KV DECOUPLING CAPACITOR.

5 ALL DIMENSIONS NOMINAL UNLESS OTHERWISE NOTED.

6 R1-R4 = 75 OHMS, 1/16 W, 5% RESISTORS.

7 C2-C5 = 0.1 µF, 50V CAPACITORS.

8 LED COMPLIANT WITH IEC60825-1 SAFETY OF LASER PRODUCTS. WHEN OPERATED UP TO 20 mA. THE 250 OHM RESISTOR IS INCLUDED IN THE LED.

9 INDICATED CONNECTIONS ARE FOR NIC CONFIGURATION. THE MAGNETICS ARE SYMMETRICAL, AND SUPPORTS AUTO-MDI/MDIX.

10 LED PEAK WAVELENGTH: GREEN(λ) = 565nm.

GREEN	GREEN	1-1605458-1
LED1 8	LED2 8	PART NUMBER

RJ4G02-C	1-1605458-1
TRANSPOWER P/N	TYCO P/N
CROSS REFERENCE	

THIS DRAWING IS A CONTROLLED DOCUMENT.

DWN DL DRUMMOND 07FEB2003
CHK DL DRUMMOND 07FEB2003
APVD EC LAUBER 07FEB2003

DIMENSIONS: INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ±-, 1 PLC ±.01, 2 PLC ±.005, 3 PLC ±.003, ANGLES ±-°
MATERIAL -
FINISH -

PRODUCT SPEC 108-2100
APPLICATION SPEC -
WEIGHT -
CUSTOMER DRAWING

Tyco Electronics Corporation
Harrisburg, PA 17105-3608

NAME 1X1 MAG45(TM), MODULAR JACK (10 PIN HORIZ), 4G2 SCHEMATIC, 4G02 GIGABIT CIRCUIT, SHIELDED, DECOUPLING CAPACITOR, WITH RESISTOR LEDS

SIZE A1 | CAGE CODE 00779 | DRAWING NO C-1605458 | RESTRICTED TO -

SCALE NTS | SHEET 1 OF 1 | REV O

AMP 4895 REV 31MAR2000

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