



# 10/100/1000BASE-T Magnetics

## Dual Port, Surface Mount Module

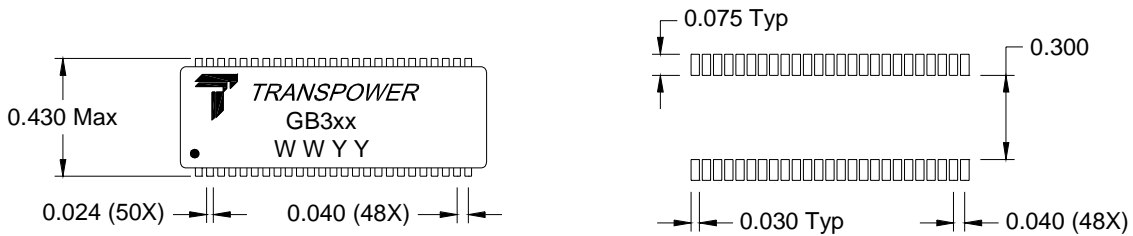
GB3xxx, Rev. B

30 Jul 01

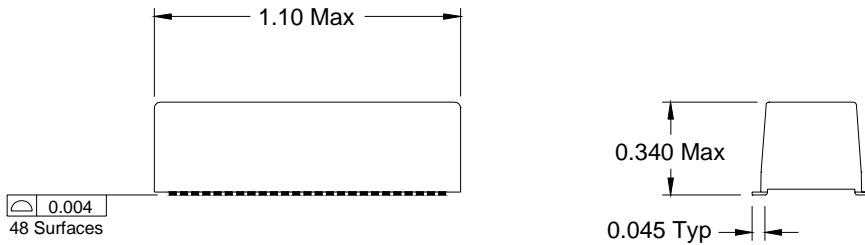
### Preliminary

#### Standard Features:

- Dual port interface for gigabit applications
- Unique package dimensions allow mounting directly behind stacked or ganged connectors for simplified trace routing and PCB layout.
- Compliant with IEEE 802.3 and ANSI X3.263 Standards
- Surface mount package designed for reflow process (240°C peak)



#### Suggested Pad Layout



3001

### 1000BASE-T ELECTRICAL CHARACTERISTICS @ 25°C

Inductance: 350uH Min with 8mA DC Bias, 0°C - 70°C (each transformer)  
 Rise time (10 - 90%): 2.5 nSec typical  
 LED Forward Current: 5 mA typical @ 3.3 VDC  
 Dielectric Isolation: 1500 Vrms minimum

Frequency	Insertion Loss (dB MAX) *	Return Loss (dB MIN)	Crosstalk Attenuation (dB MIN)	CMRR (dB MIN)
.100 MHz - .999 MHz	1.0	18.0	43.0	46.0
1.0 MHz - 15.0 MHz	0.3	18.0	35.0	46.0
15.1 MHz - 60.0 MHz	0.6	18.0	26.0	46.0
60.1 MHz - 80.0 MHz	1.1	15.0	24.0	42.0
80.1 MHz - 100.0 MHz	1.1	12.0	24.0	42.0

\* Indicated Insertion Loss refers to magnetic circuitry only.

2900



# 10/100/1000BASE-T Magnetics

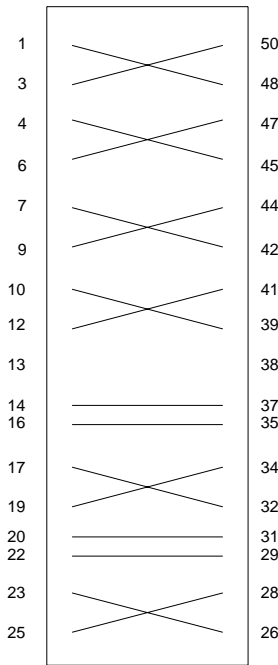
## Dual Port, Surface Mount Module

GB3xxx, Rev. B

30 Jul 01

("xxx" equals one of the circuit numbers in the table below the schematic.)

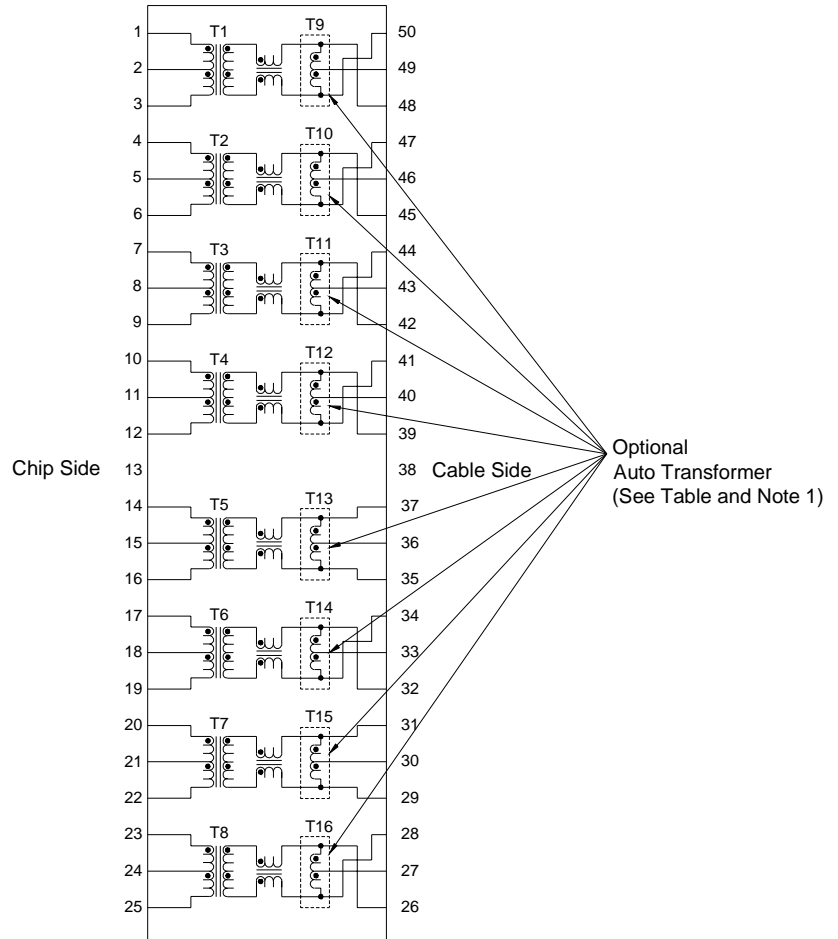
### GB3xxx Signal Routing Legend



signal polarity changes

signal polarity does not change

### GB3xxx Schematic



### Part Number Table

Part Number	Shunt Auto Transformer
GB3G01	No
GB3G04	Yes

Notes: <sup>3001</sup>  
 1. The cable sides of T1 - T8 are center tapped and terminated when there is no auto transformer.

See pages 3 & 4 for alternate signal routings.



# 10/100/1000BASE-T Magnetics

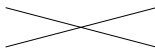
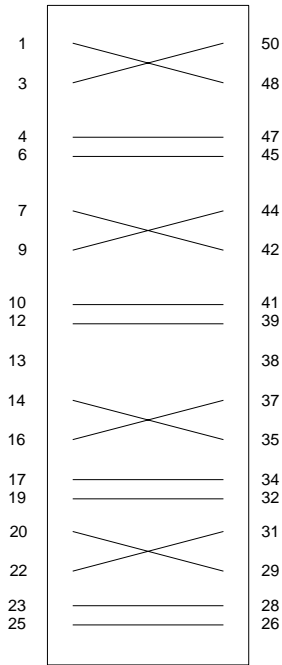
## Dual Port, Surface Mount Module

GB3xxx, Rev. B

30 Jul 01

("xxx" equals one of the circuit numbers in the table below the schematic.)

### GB3xxx-1 Signal Routing Legend

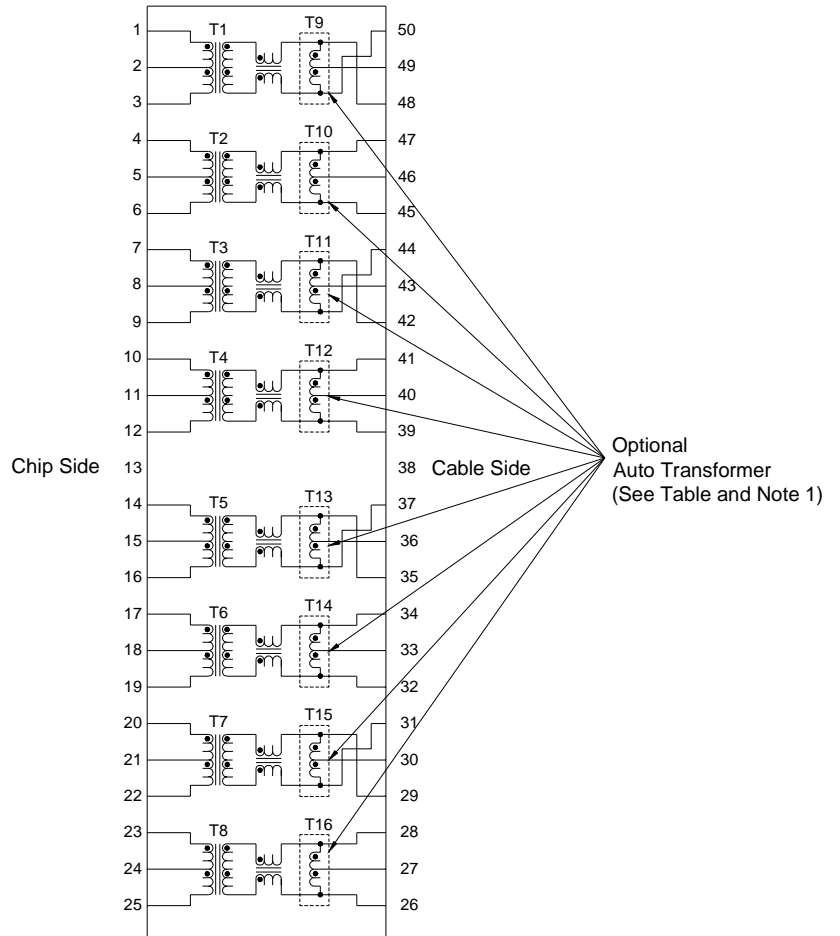


signal polarity changes



signal polarity does not change

### GB3xxx-1 Schematic



### Part Number Table

Part Number	Shunt Auto Transformer
GB3G01-1	No
GB3G04-1	Yes

Notes: 3001  
 1. The cable sides of T1 - T8 are center tapped and terminated when there is no auto transformer.



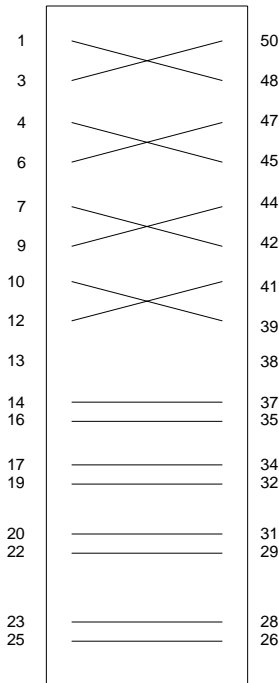
# 10/100/1000BASE-T Magnetics

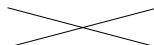
## Dual Port, Surface Mount Module

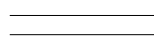
GB3xxx, Rev. B

30 Jul 01

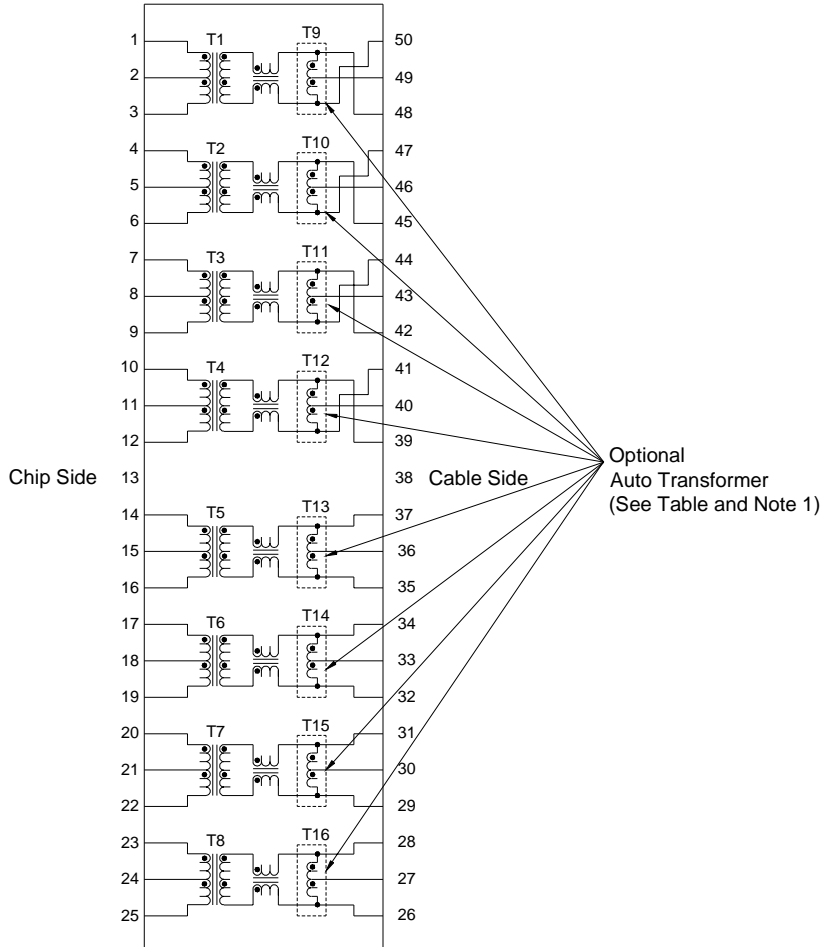
### GB3xxx-2 Signal Routing Legend



 signal polarity changes

 signal polarity does not change

### GB3xxx-2 Schematic



### Part Number Table

Part Number	Shunt Auto Transformer
GB3G01-2	No
GB3G04-2	Yes

Notes: 3001  
 1. The cable sides of T1 - T8 are center tapped and terminated when there is no auto transformer.

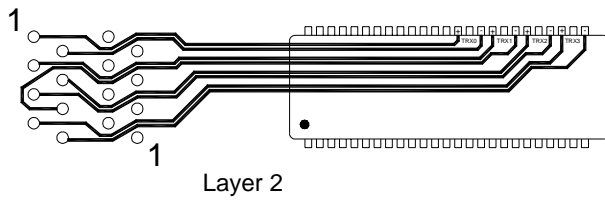
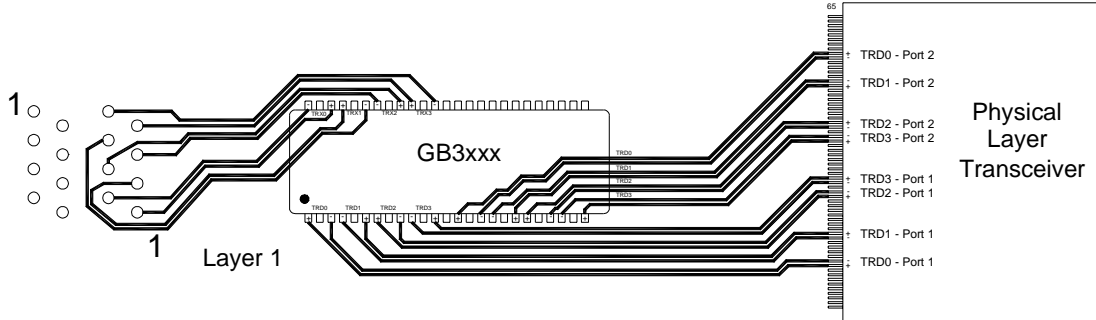


# 10/100/1000BASE-T Magnetics

## Dual Port, Surface Mount Module

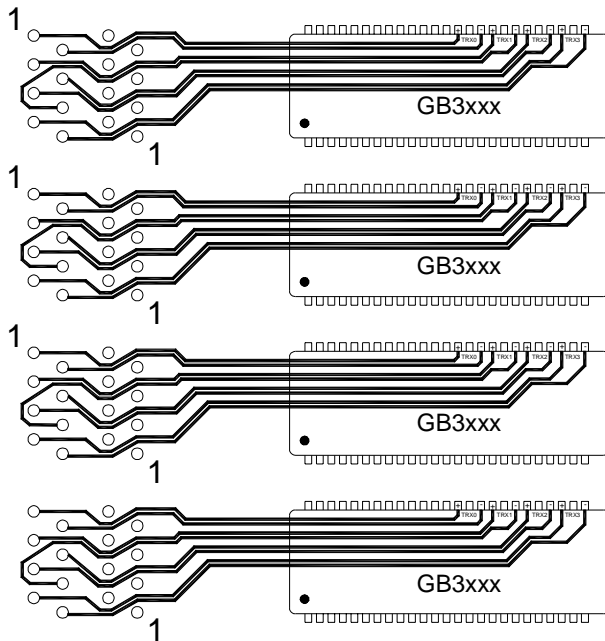
GB3xxx, Rev. B

30 Jul 01



All layers shown from component side

Typical Stacked RJ45 Two Port Application (two layers shown)



Only layer 2 is shown for clarity, both layers are required for all ports as shown above.

Typical Stacked RJ45 Eight Port Application

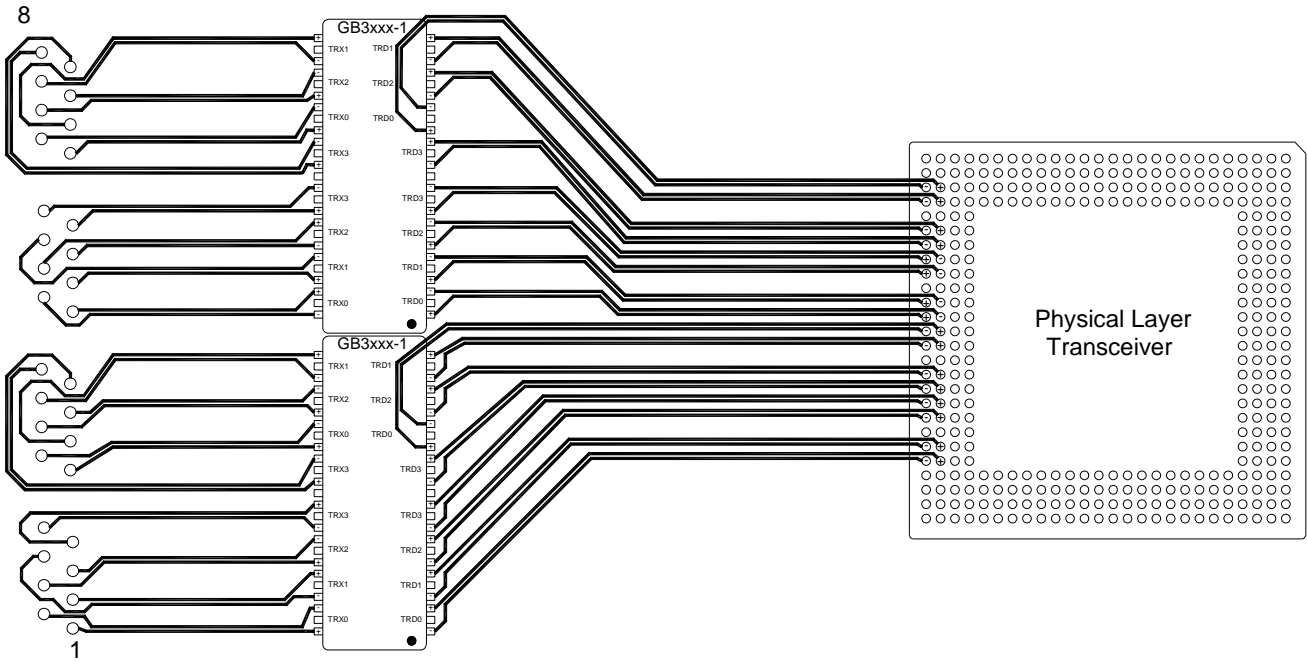


# 10/100/1000BASE-T Magnetics

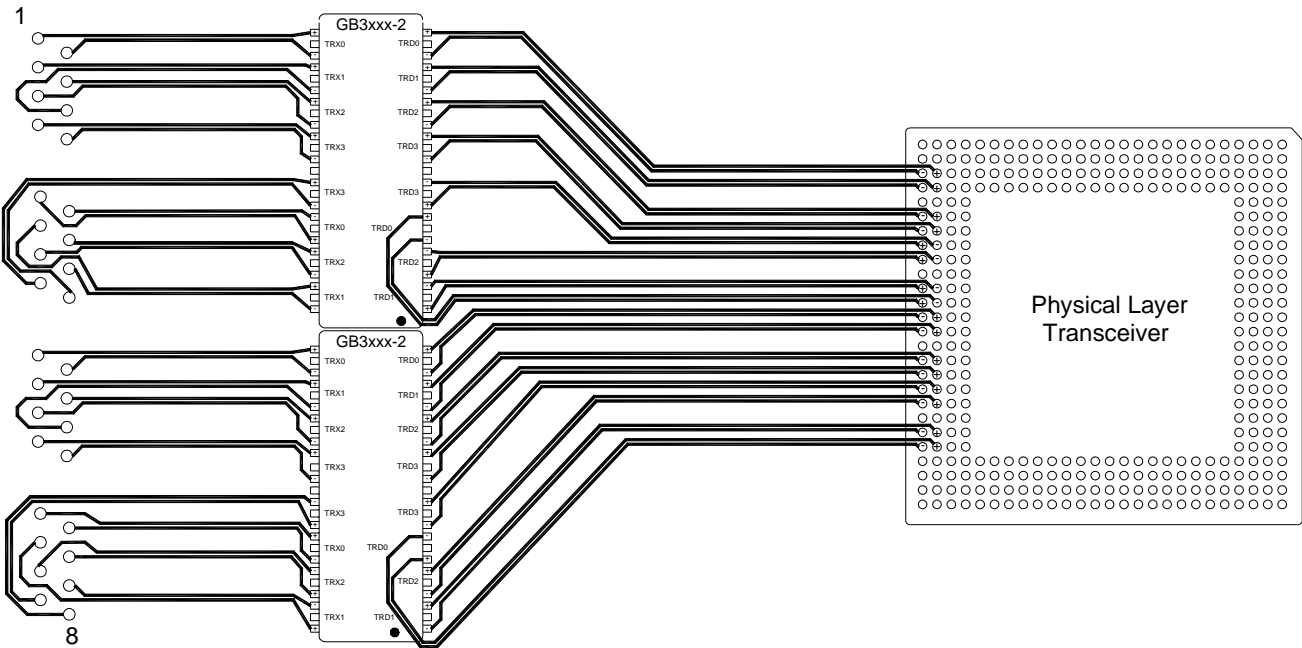
## Dual Port, Surface Mount Module

GB3xxx, Rev. B

30 Jul 01



Typical RJ45 Tab-Up Ganged Quad Port Application



Typical RJ45 Tab-Down Ganged Quad Port Application