

# 10/100/1000BASE-T SINGLE & DUAL-PORT TRANSFORMER MODULES

Military / Aerospace Grade



-  Compliant with IEEE 802.3ab for 1000Base-T
-  350μH OCL with 8mA bias at extended temperatures
-  Storage temperature: -55°C to +125°C
-  Operating temperature:
  - 1000B-5001/5002/5003: -40°C to +85°C
  - 1000B-5001X/5002X/5003X: -55°C to +125°C
-  IC grade transfer-molded package withstands 235°C peak temperature profile RoHS version withstands 245°C
-  MSL: 3

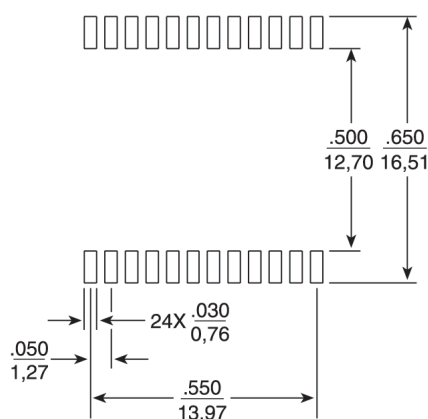
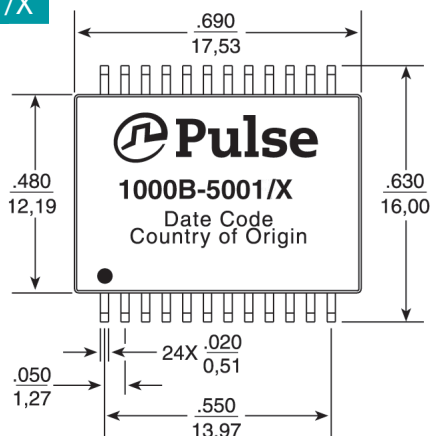
## Electrical Specifications @ 25°C

| Part Number <sup>2</sup> | Insertion Loss (dB Min) | Return Loss (dB Max) |        |        |         | Crosstalk (dB Max) |        |         | CM to CM Rejection Ratio (dB Max) |        |         | DM to CM Rejection Ratio (dB Max) |        |         | HiPot (Vrms MIN) |
|--------------------------|-------------------------|----------------------|--------|--------|---------|--------------------|--------|---------|-----------------------------------|--------|---------|-----------------------------------|--------|---------|------------------|
|                          | 0.1-100 Mhz             | 30 Mhz               | 60 Mhz | 80 Mhz | 100 Mhz | 30 Mhz             | 60 Mhz | 100 Mhz | 30 Mhz                            | 60 Mhz | 100 Mhz | 30 Mhz                            | 60 Mhz | 100 Mhz | @60HZ (1MIN)     |
| 1000B-5001               | -1.20                   | -18                  | -12    | -10    | -10     | -43                | -37    | -33     | -40                               | -35    | -30     | -43                               | -37    | -33     | 1500             |
| 1000B-5001X              | -1.40                   | -18                  | -12    | -10    | -8      | -43                | -37    | -33     | -40                               | -35    | -30     | -43                               | -37    | -33     | 1500             |
| 1000B-5002               | -1.20                   | -18                  | -14    | -12    | -10     | -43                | -37    | -33     | -40                               | -35    | -30     | -43                               | -37    | -33     | 1500             |
| 1000B-5002X              | -1.20                   | -18                  | -14    | -12    | -10     | -43                | -37    | -33     | -40                               | -35    | -30     | -43                               | -37    | -33     | 1500             |
| 1000B-5003               | -1.20                   | -18                  | -14    | -11    | -9      | -43                | -37    | -33     | -40                               | -35    | -30     | -43                               | -37    | -33     | 1500             |

Note: 1. Add suffix NL for RoHS compliant part; i.e. 1000B-5001 becomes 1000B-5001NL. 2. For Tape and Reel Packaging, add "T" suffix at the end of the part number; i.e. 1000B-5001XT.

## Mechanical

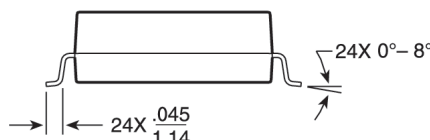
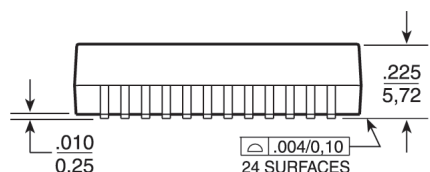
### 1000B-5001/X



Weight ..... 3.0 grams  
Tape and Reel ..... 300/reel  
Tube ..... 25/tube

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
Unless otherwise specified,  
all tolerances are  $\pm \frac{.010}{0,25}$

### SUGGESTED PAD LAYOUT

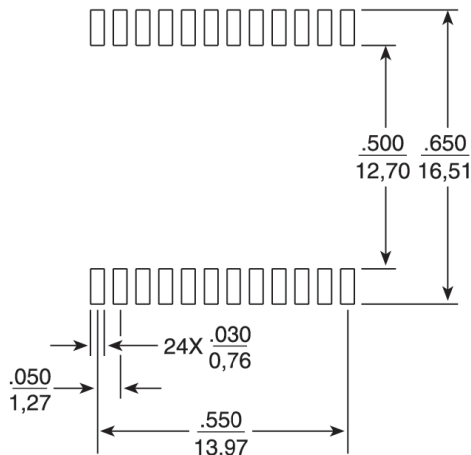
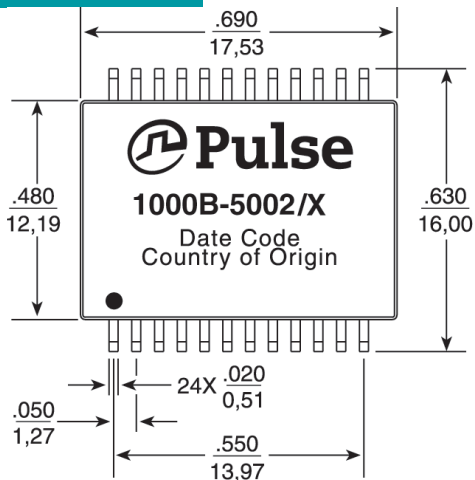


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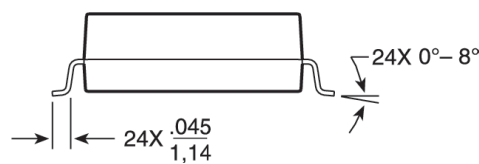
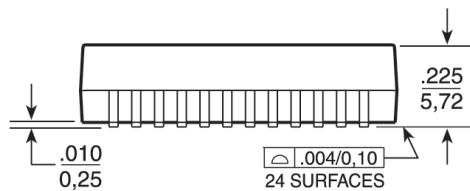


## 1000B-5002/X

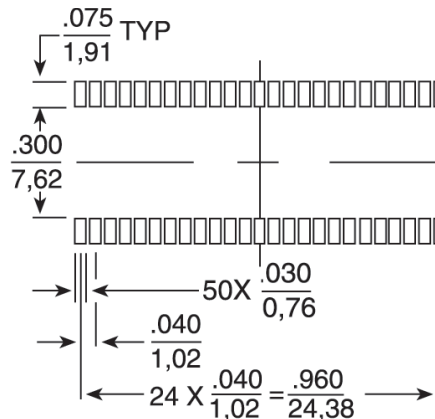
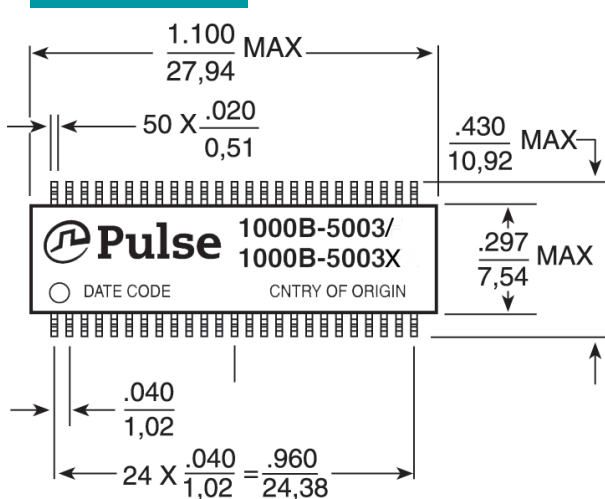


Weight ..... 2.6 grams  
Tape and Reel ..... 300/reel  
Tube ..... 25/tube

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
Unless otherwise specified,  
all tolerances are  $\pm \frac{.010}{0.25}$

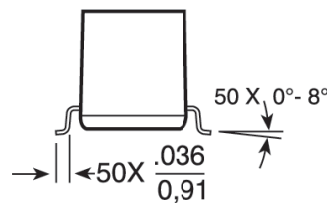
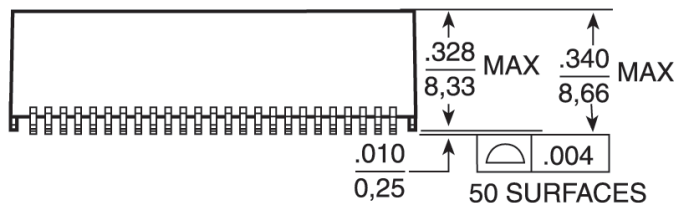


## 1000B-5003/X



Weight ..... 3.5 grams  
Tape and Reel ..... 250/reel  
Tube ..... 15/tube

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
Unless otherwise specified,  
all tolerances are  $\pm \frac{.010}{0.25}$



# 10/100/1000BASE-T SINGLE & DUAL-PORT TRANSFORMER MODULES

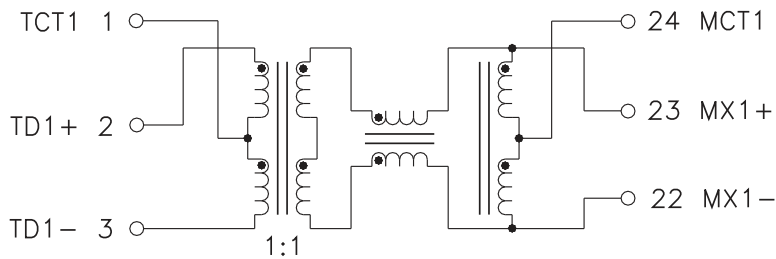
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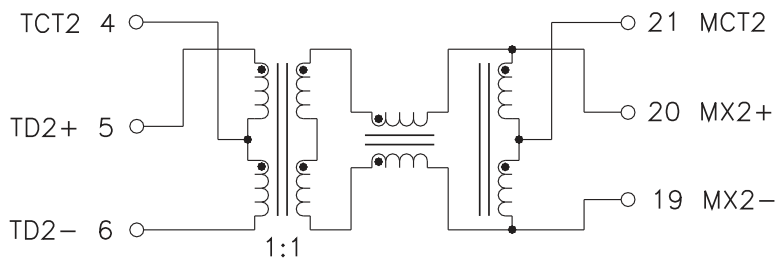
## Electrical Schematic

1000B-5001/X

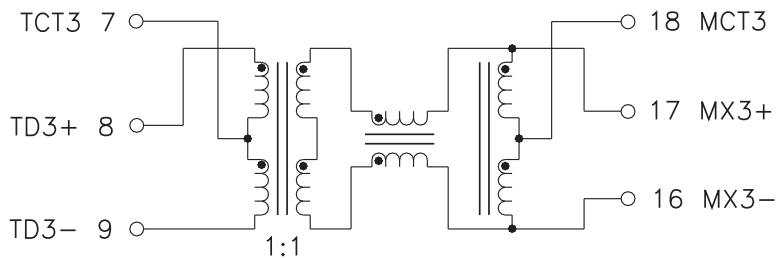
### CHANNEL 1



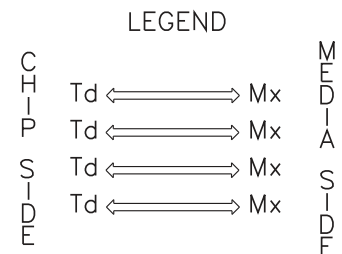
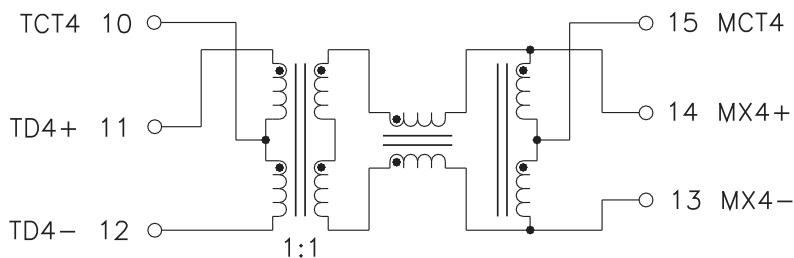
### CHANNEL 2



### CHANNEL 3



### CHANNEL 4



ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT

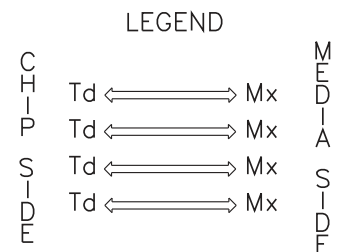
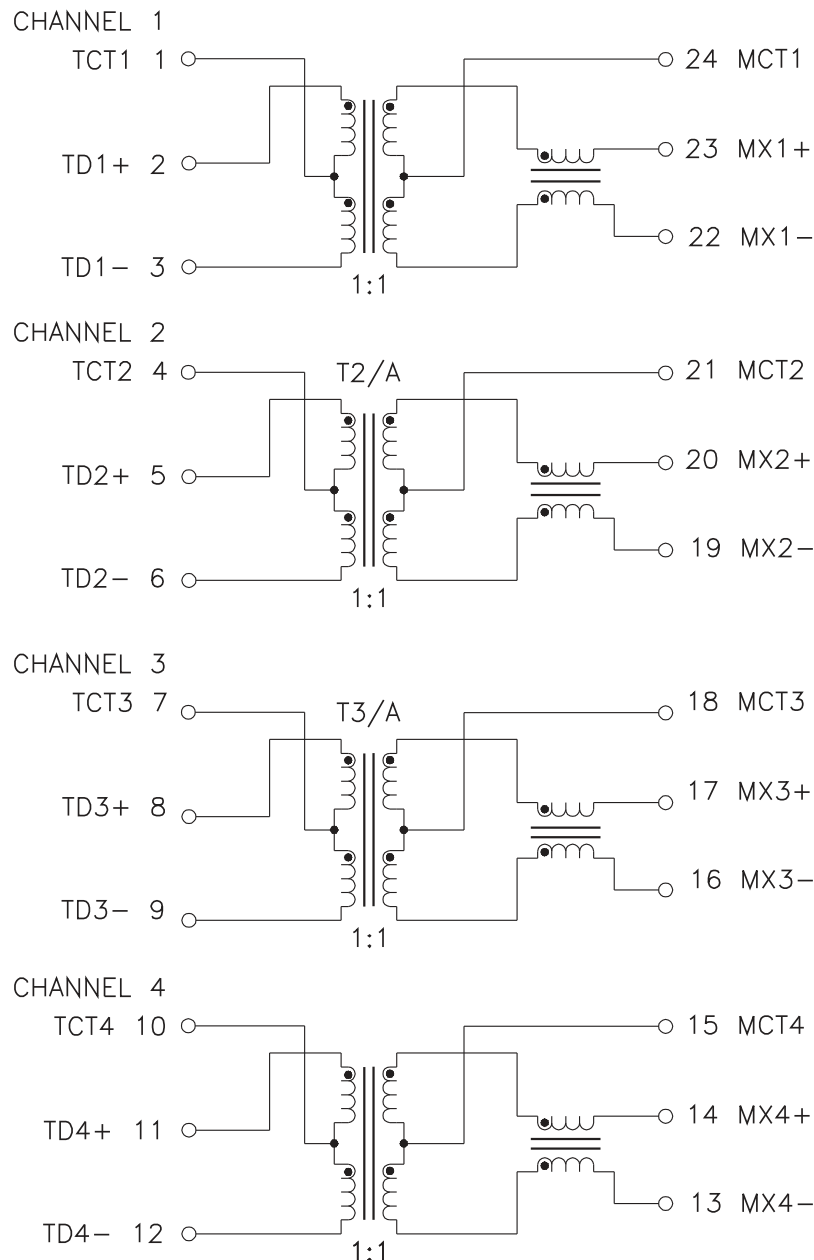
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## Electrical Schematic

1000B-5002/X



ALL CHANNELS ARE  
IN PHASE BETWEEN  
INPUT AND OUTPUT

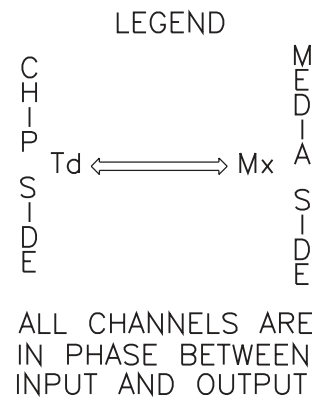
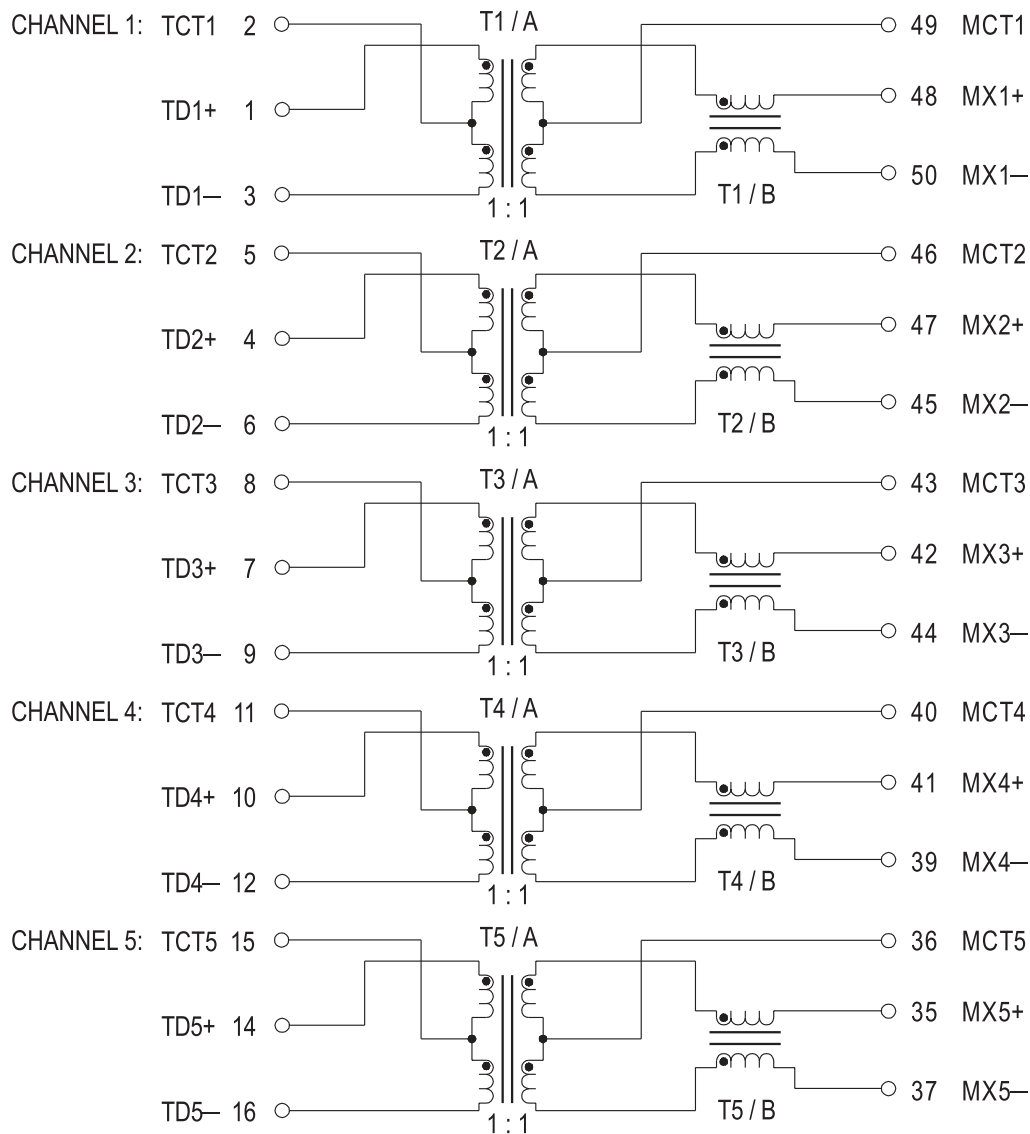
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## Electrical Schematic

1000B-5003/X



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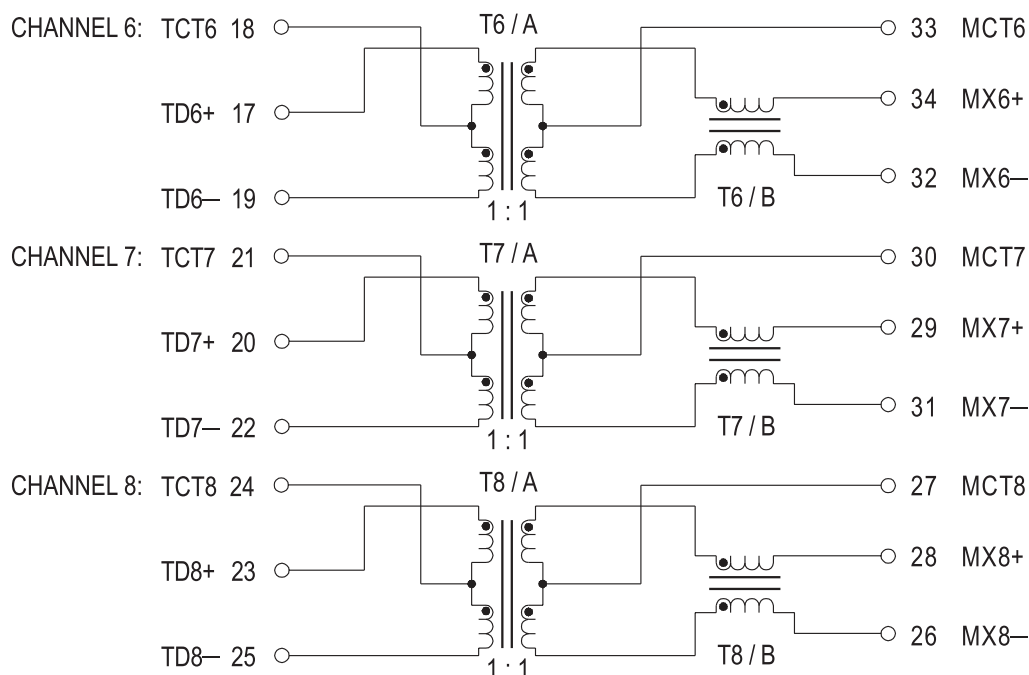
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## Electrical Schematic

1000B-5003/X (cont.)



LEGEND

CH  
P  
S  
I  
D  
E

Td  $\longleftrightarrow$  Mx

M  
E  
D  
I  
A  
S  
I  
D  
E

ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT

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