

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

Military / Aerospace Grade



- Compliant with IEEE 802.ab for 1000Base-T
- 350μH OCL with 8mA bias at extended temperatures
- Operating and storage temperature:
  - 1000B-5001F/5002F/5003F: -40°C to +85°C**
  - 1000B-5001FX/5002FX/5003FX: -55°C to +125°C**
- IC grade transfer-molded package withstands 235°C peak temperature profile RoHS version withstands 245°C
- MSL: 3**

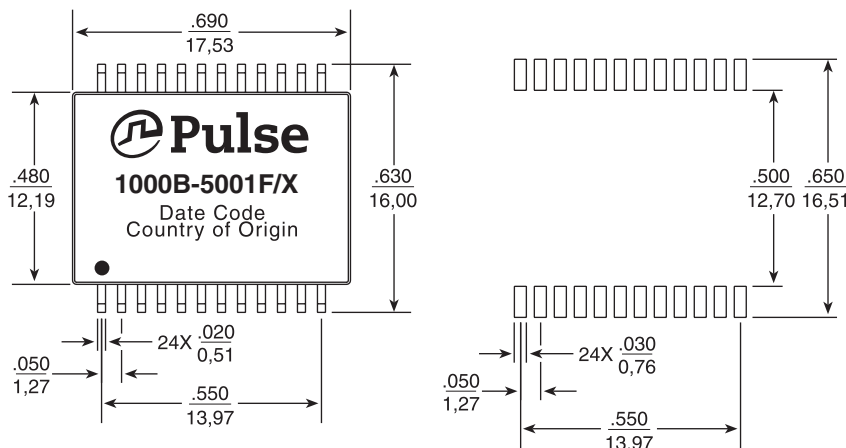
## Electrical Specifications @ 25°C

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)		
		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
<b>1000B-5001F</b>	-1.20	-18	-12	-10	-10	-43	-37	-33	-40	-35	-30	-43	-37	-33
<b>1000B-5001FX</b>	-1.40	-18	-12	-10	-8	-43	-37	-33	-40	-35	-30	-43	-37	-33
<b>1000B-5002F</b>	-1.20	-18	-14	-12	-10	-43	-37	-33	-40	-35	-30	-43	-37	-33
<b>1000B-5002FX</b>	-1.20	-18	-14	-12	-10	-43	-37	-33	-40	-35	-30	-43	-37	-33
<b>1000B-5003F</b>	-1.20	-18	-14	-11	-9	-43	-37	-33	-40	-35	-30	-43	-37	-33
<b>1000B-5003FX</b>	-1.20	-18	-14	-11	-9	-43	-37	-33	-40	-35	-30	-43	-37	-33

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

## Mechanical

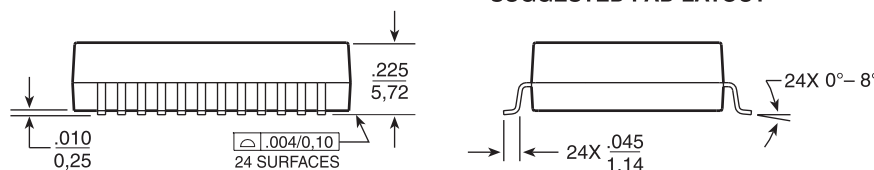
### 1000B-5001F/X



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

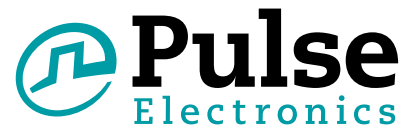
Dimensions: Inches  
 mm  
 Unless otherwise specified,  
 all tolerances are ± .010  
 0,25

### SUGGESTED PAD LAYOUT

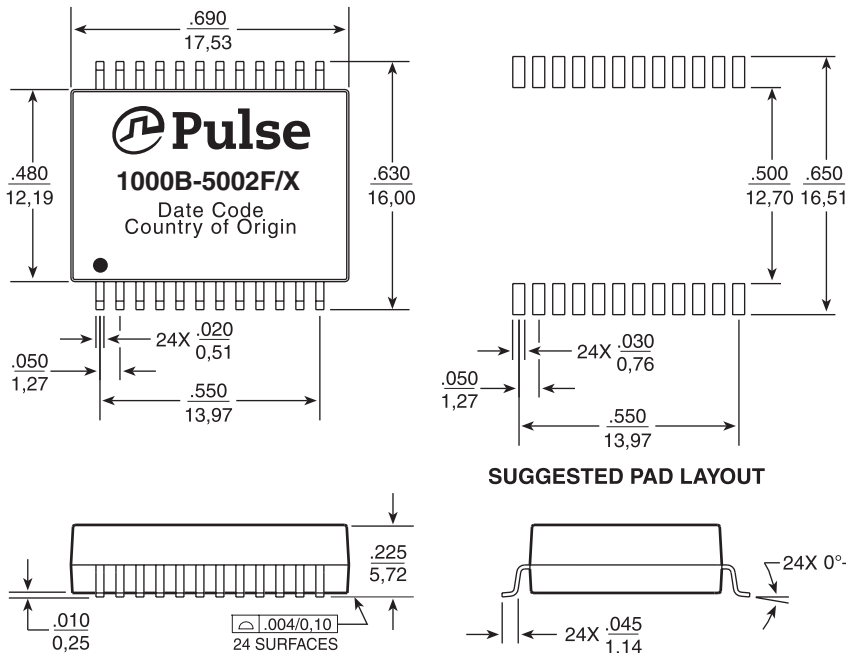


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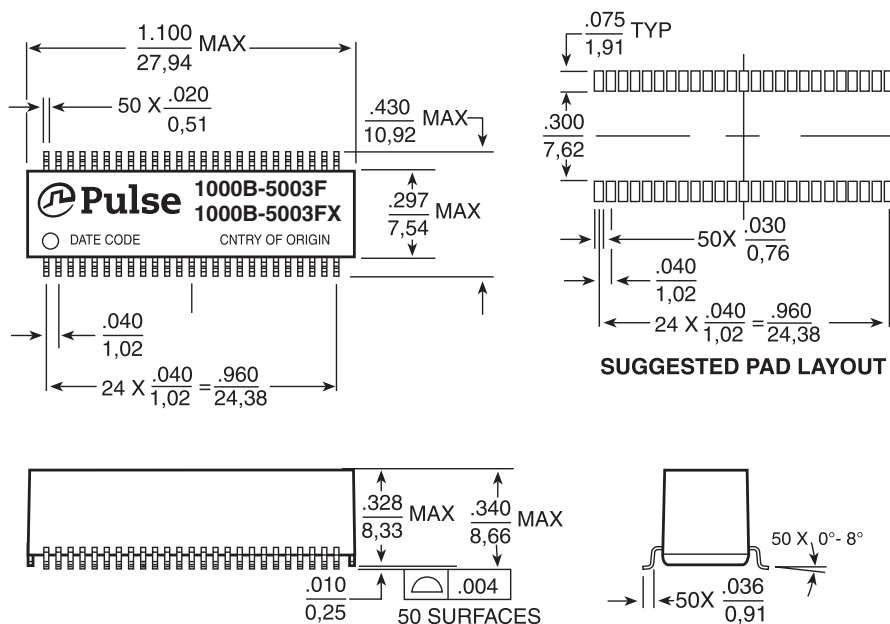
## 1000B-5002F/X



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-5003F/X

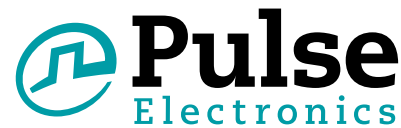


Weight ..... 3.5 grams  
 Tape and Reel ..... 250/reel  
 Tube ..... .15/tube

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

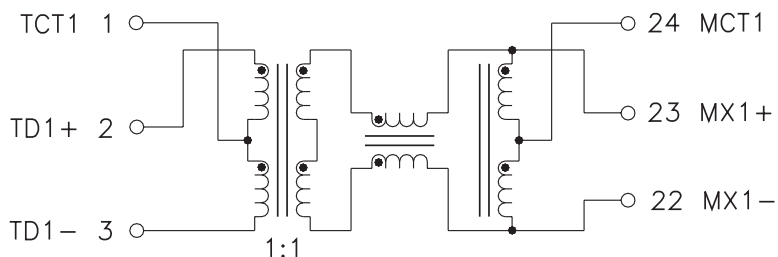
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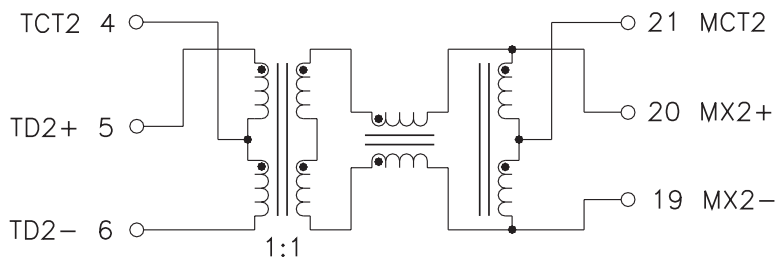
## Electrical Schematic

### 1000B-5001F/X

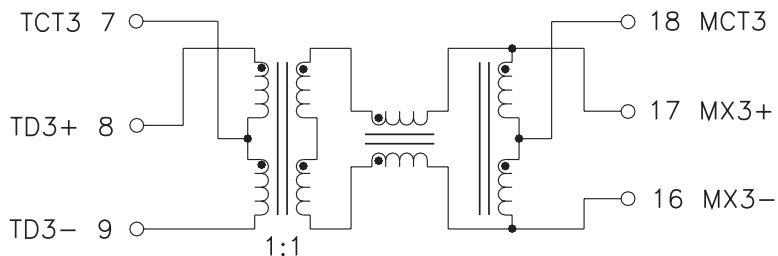
CHANNEL 1



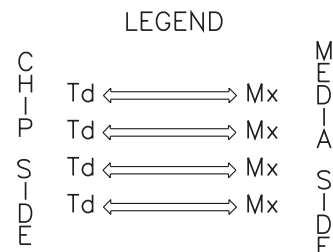
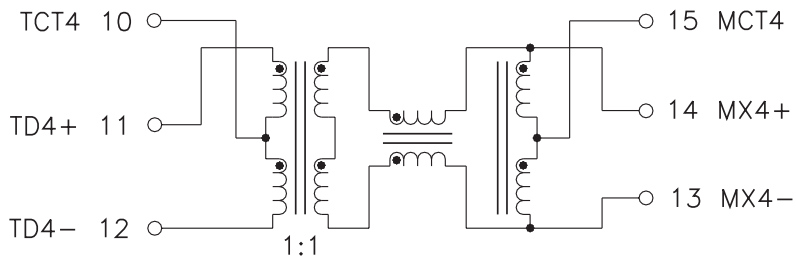
CHANNEL 2



CHANNEL 3



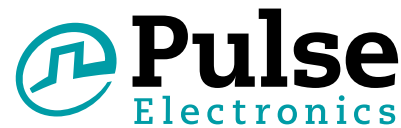
CHANNEL 4



ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT

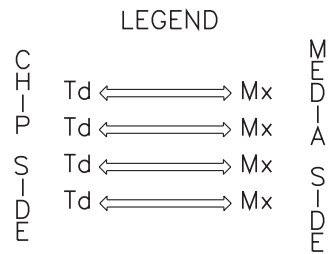
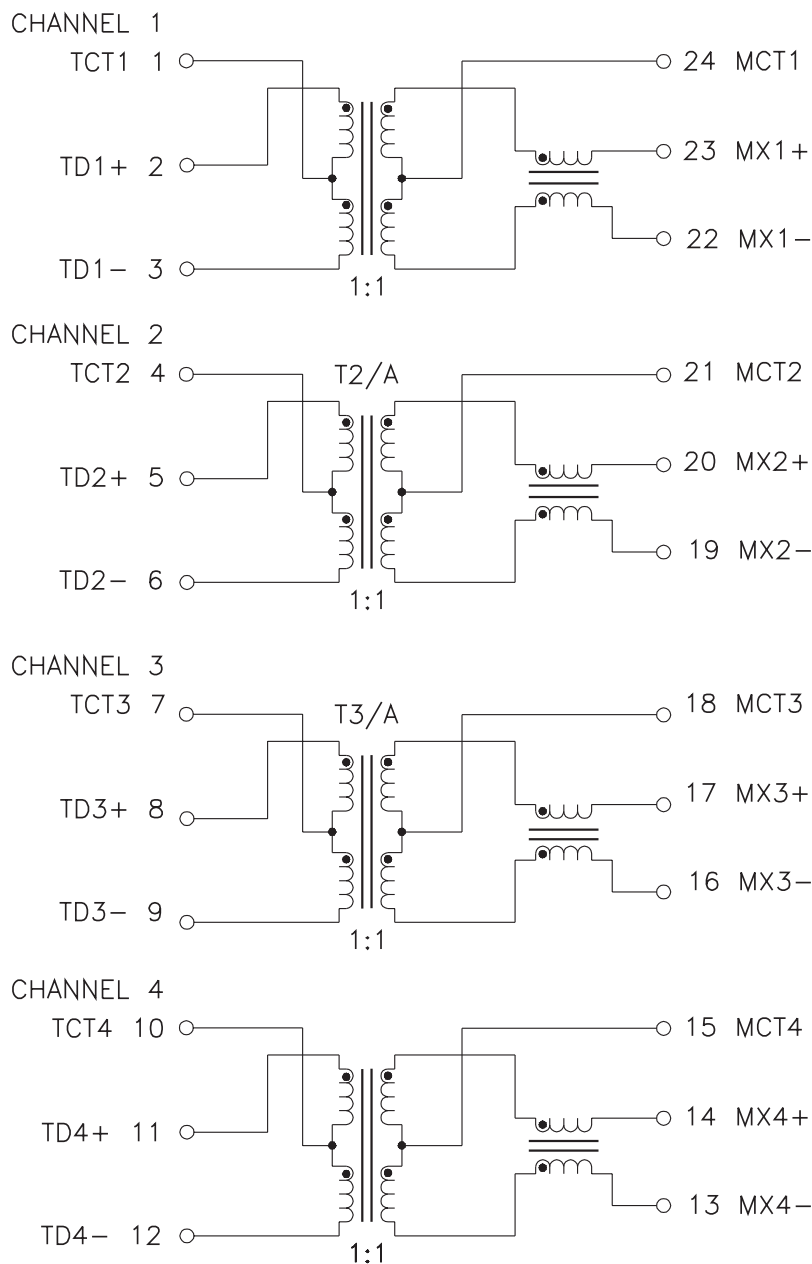
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## Electrical Schematic

1000B-5002F/X



ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT

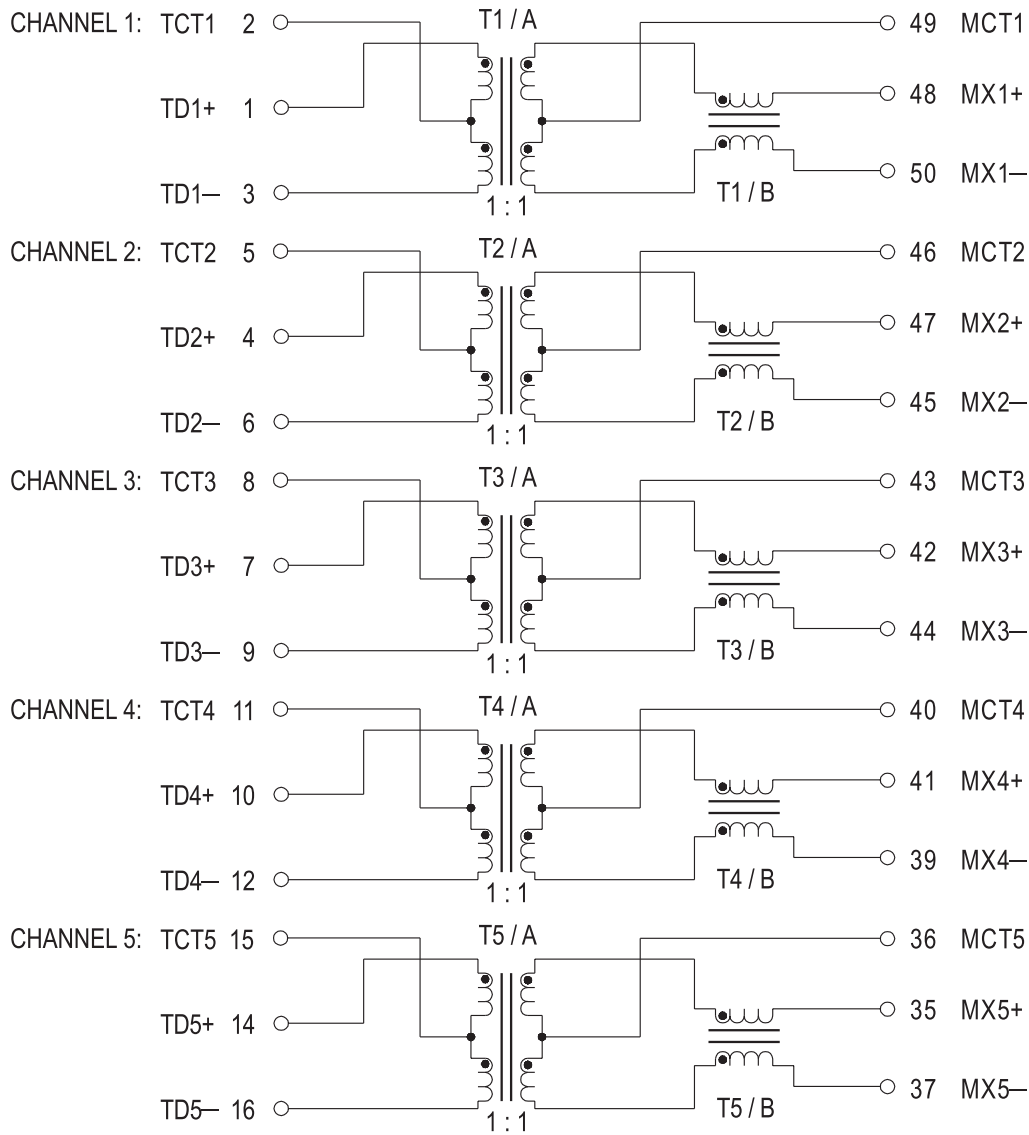
# 10/100/1000BASE-T SINGLE & DUAL-PORT TRANSFORMER MODULES

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## Electrical Schematic

1000B-5003F/X



LEGEND

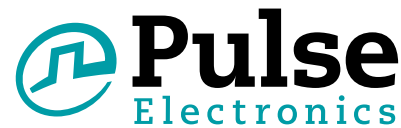
CHIP SIDE ← Td ↔ Mx MEDIA SIDE

ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT

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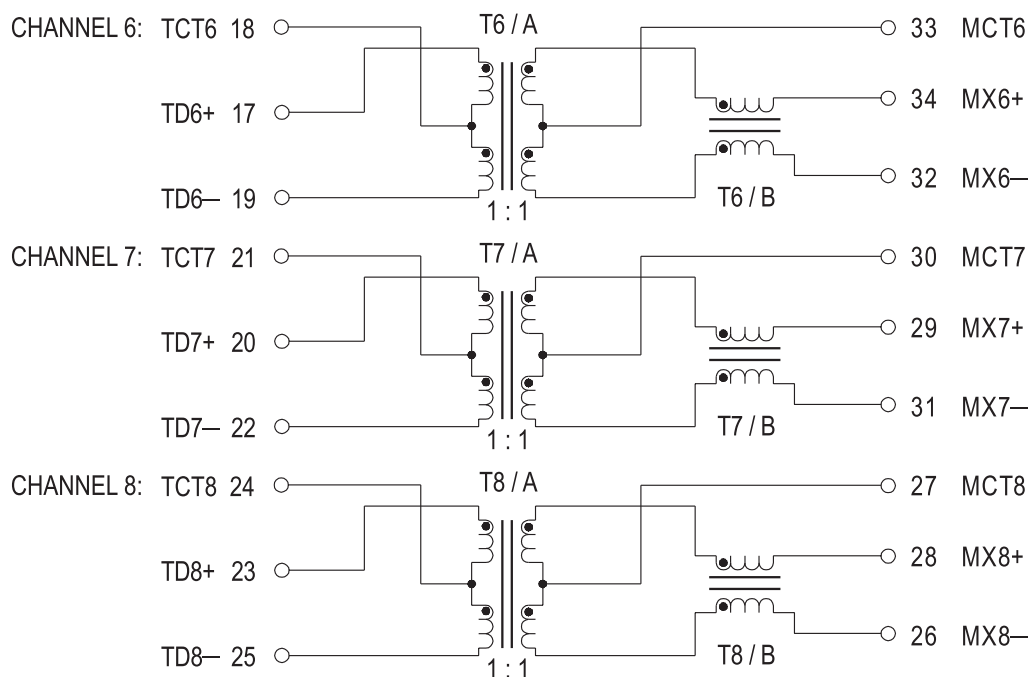
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## Electrical Schematic

### 1000B-5003F/X (cont.)



LEGEND

C H I P
S I D E

 $T_d \longleftrightarrow M_x$ 
M E D I A
S I D E

ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT

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