

# 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-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

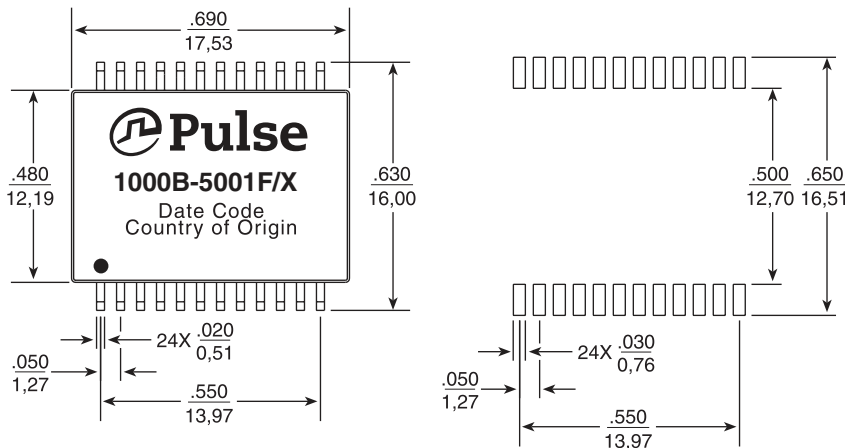
## Electrical Specifications @ 25°C

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)			HiPot (Vrms MIN) @60HZ (1MIN)
		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	
1000B-5001F	-1.20	-18	-12	-10	-10	-43	-37	-33	-40	-35	-30	-43	-37	-33	1500
1000B-5001FX	-1.40	-18	-12	-10	-8	-43	-37	-33	-40	-35	-30	-43	-37	-33	1500
1000B-5002F	-1.20	-18	-14	-12	-10	-43	-37	-33	-40	-35	-30	-43	-37	-33	1500
1000B-5002FX	-1.20	-18	-14	-12	-10	-43	-37	-33	-40	-35	-30	-43	-37	-33	1500
1000B-5003F	-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-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

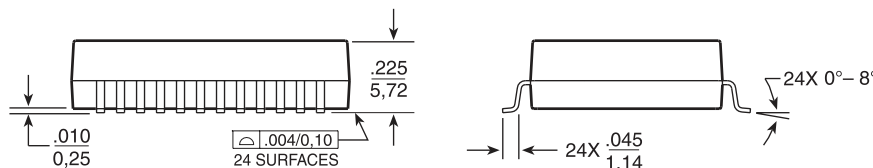
### 1000B-5001F/X



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

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

### SUGGESTED PAD LAYOUT

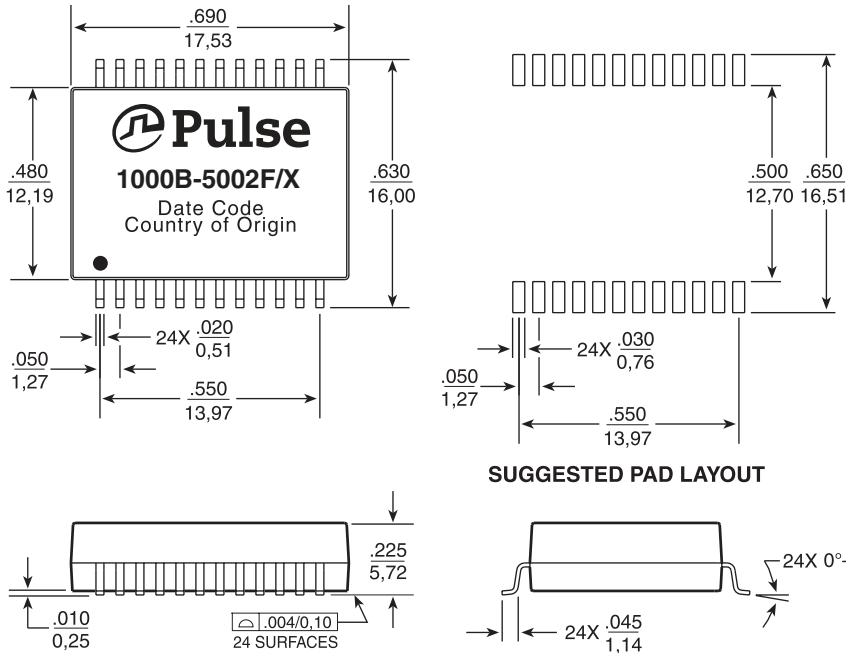


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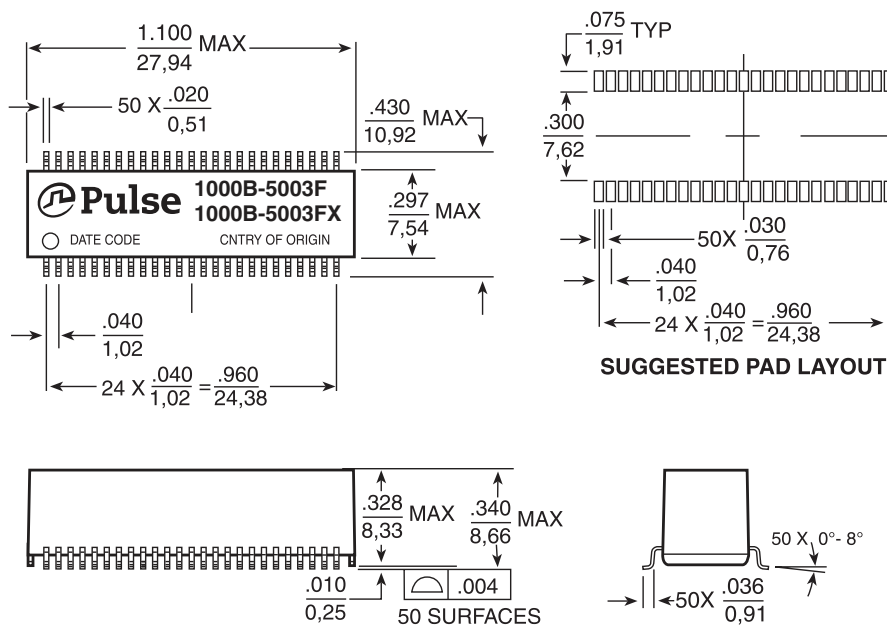
## 1000B-5002F/X



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

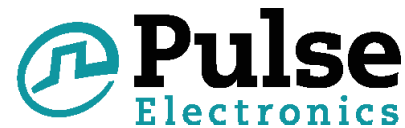


Weight ..... 3.5 grams  
Tape and Reel ..... 250/reel  
Tube ..... 15/tube

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

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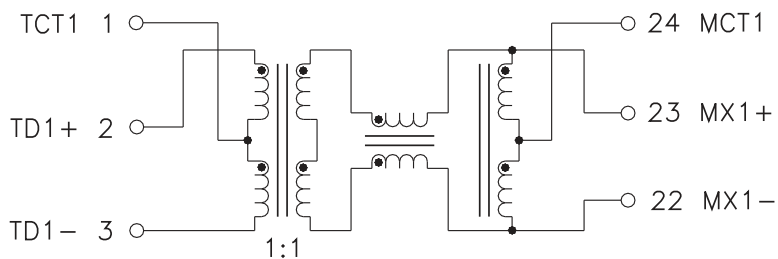
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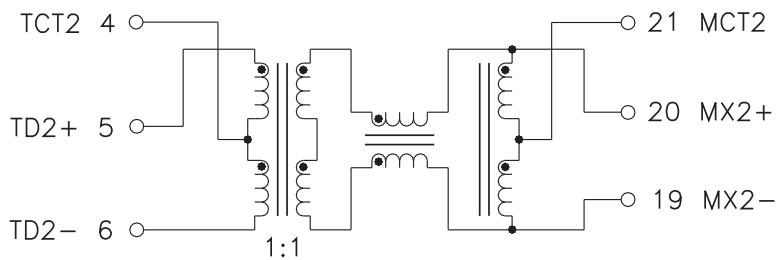
## Electrical Schematic

1000B-5001F/X

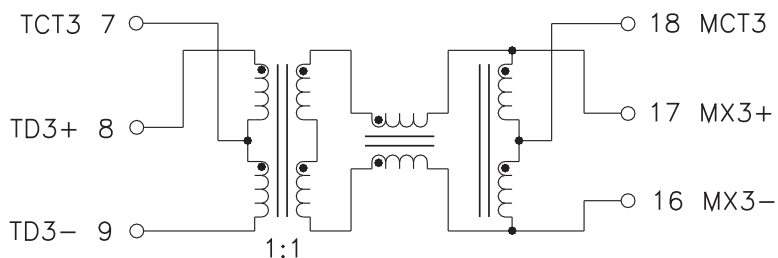
CHANNEL 1



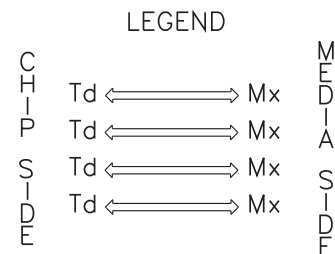
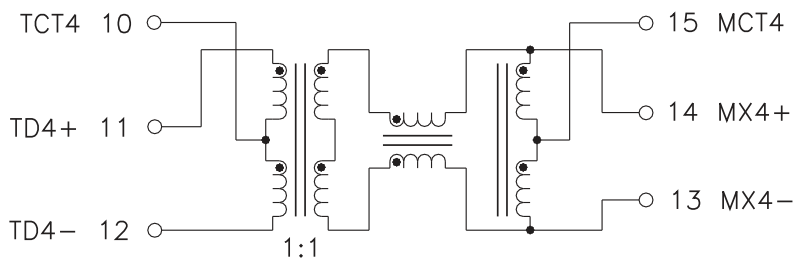
CHANNEL 2



CHANNEL 3



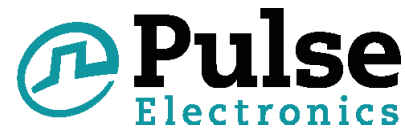
CHANNEL 4



ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT

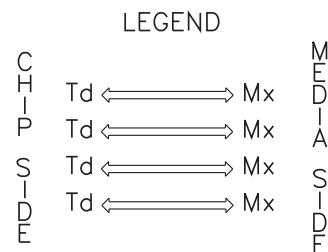
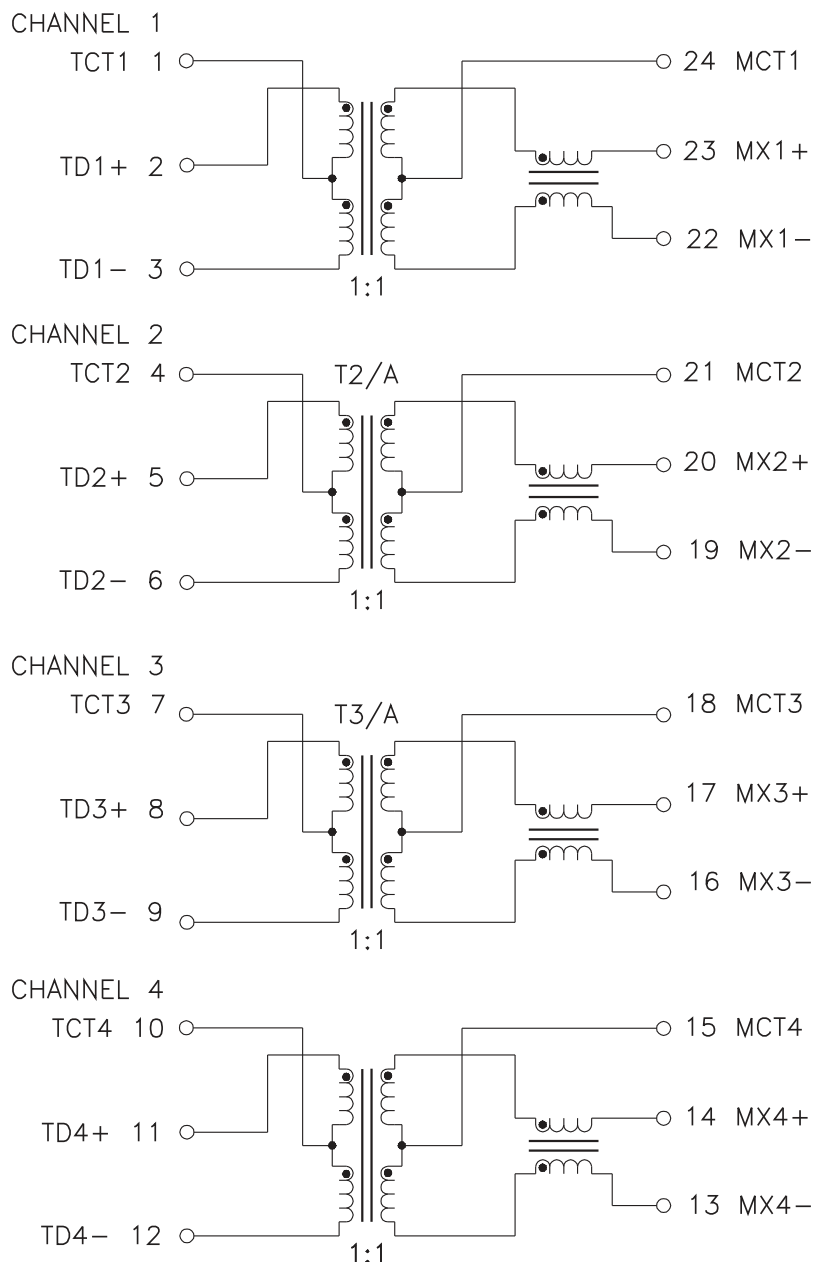
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## Electrical Schematic

1000B-5002F/X



ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT

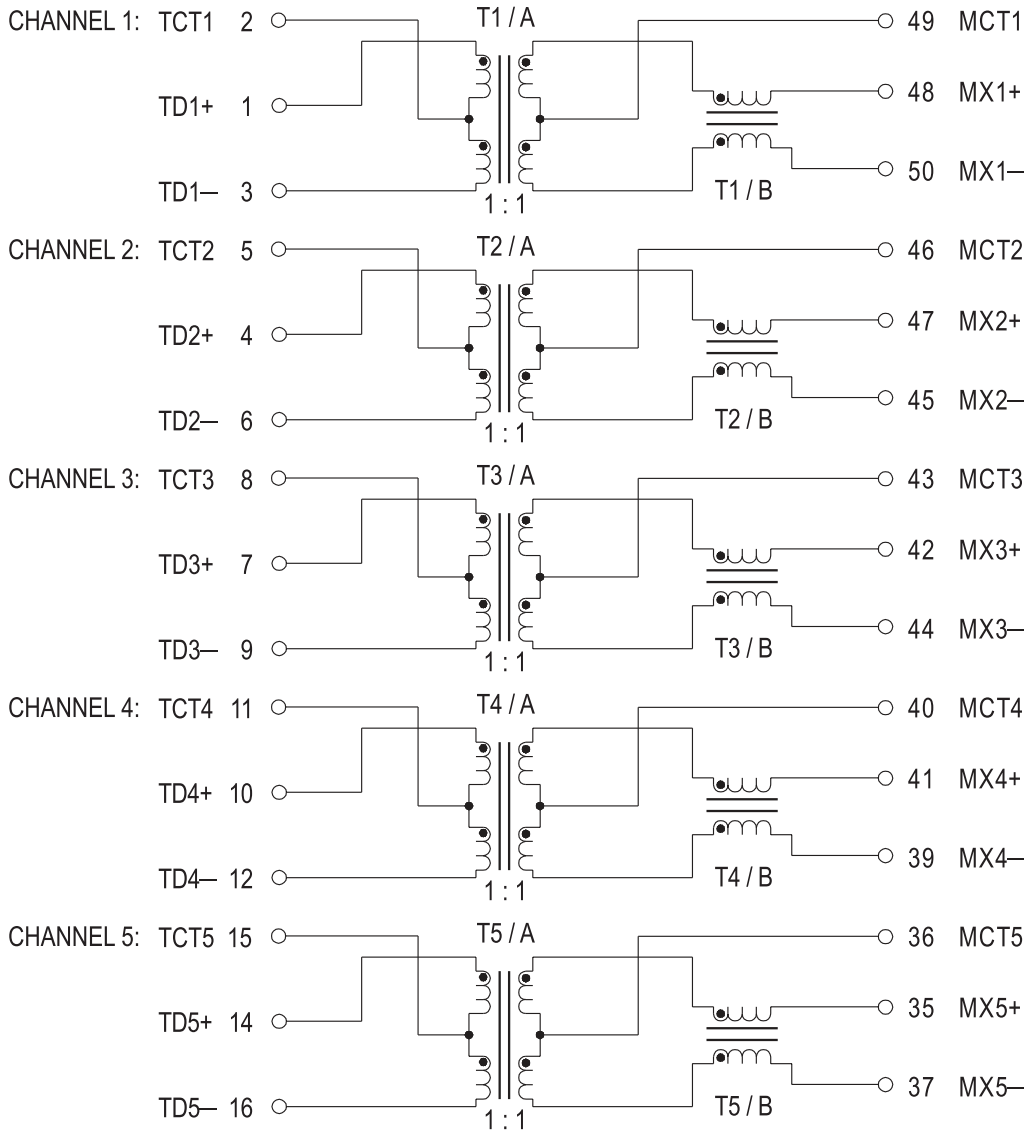
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## Electrical Schematic

1000B-5003F/X



LEGEND

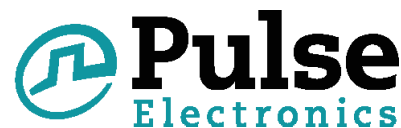
CHIP SIDE ← Td ↔ Mx MEDIAN SIDE

ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT

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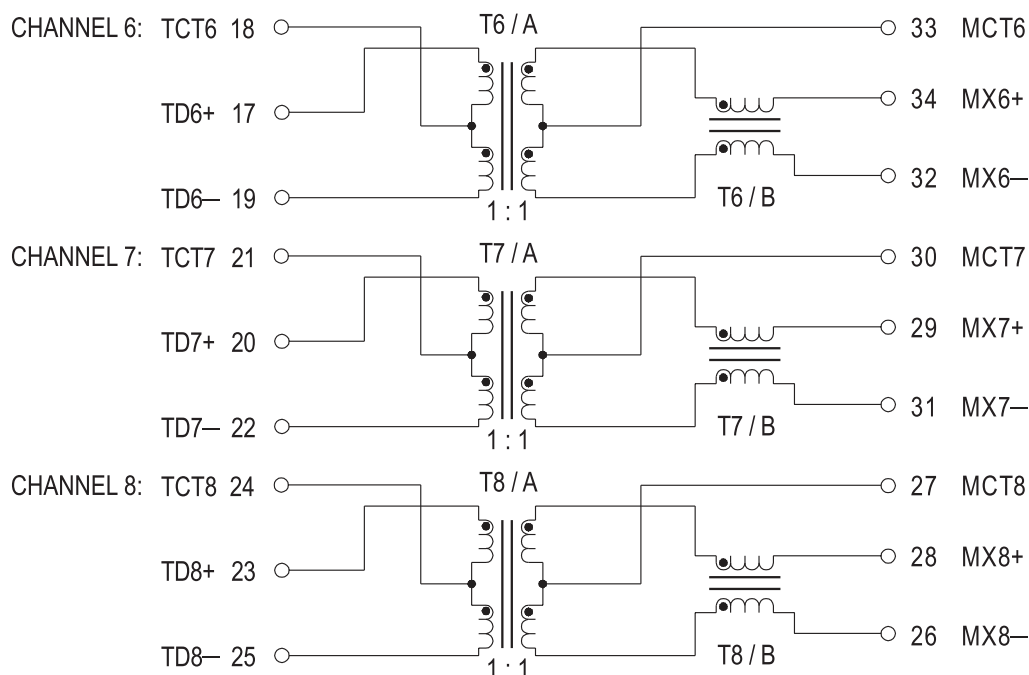
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## Electrical Schematic

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



LEGEND

C H I P
S I D E

 Td  $\longleftrightarrow$  Mx
 
M E D I A
S I D E

ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT

### For More Information

**Pulse Worldwide Headquarters**  
Two Pearl Buck Court  
Bristol, PA 19007  
U.S.A.

Tel: 215 781 6400  
Fax: 215 781 6403

**Pulse Europe**  
Einsteinstrasse 1  
D-71083 Herrenberg  
Germany

Tel: 49 7032 7806 0  
Fax: 49 7032 7806 135

**Pulse China Headquarters**  
B402, Shenzhen Academy  
of Aerospace Technology  
10th Kejinan Road  
Nanshan District  
Shenzhen, PR China  
518057

Tel: 86 755 33966678  
Fax: 86 755 33966700

**Pulse North China**  
Room 2704/2705  
Super Ocean Finance Ctr.  
2067 Yan An Road West  
Shanghai 200336  
China

Tel: 86 21 62787060  
Fax: 86 2162786973

**Pulse South Asia**  
135 Joo Seng Road  
#03-02  
PM Industrial Bldg.  
Singapore 368363

Tel: 65 6287 8998  
Fax: 65 6287 8998

**Pulse North Asia**  
3F, No. 198  
Zhongyuan Road  
Zhongli City  
Taoyuan County 320  
Taiwan R. O. C.

Tel: 886 3 4356768  
Fax: 886 3 4356823 (Pulse)  
Fax: 886 3 4356820 (FRE)

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