

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

Ruggedized



- ⚙️ Compliant with IEEE 802.ab for 1000Base-T
- ⚙️ 350µH OCL with 8mA bias at extended temperatures
- ⚙️ Two Operating and Storage Temperature Versions Available:  
Standard: -40°C to +85°C  
Extended: -55°C to +125°C
- ⚙️ 245°C peak reflow temperature for RoHS versions
- ⚙️ Moisture Sensitivity Level: 3

## Electrical Specifications @ 25°C – Operating Temperature – 40°C to +85°C

Part Number 1,2	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)
		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-5009F	-1.2	-18	-12	-12	-10	-43	-37	-31	-30	-25	-18	-40	-35	-30	1500
1000B-5012F	-1	-18	-12	-12	-10	-43	-37	-33	-43	-37	-33	-43	-37	-33	1500
1000B-5014F	-1.4	-16	-12	-12	-10	-43	-37	-33	-45	-40	-35	-43	-37	-33	1500
1000B-5016F*	-1.2	-18	-12	-12	-10	-43	-37	-31	-30	-23	-17	-40	-35	-30	1500

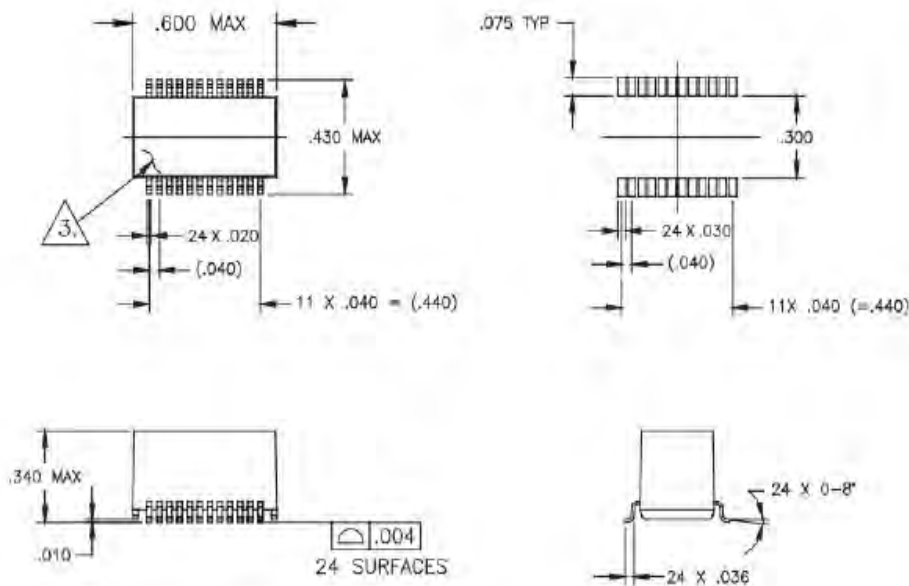
Note: 1. Add suffix X for extended temperature version; i.e. 1000B-5009F becomes 1000B-5009FX. (\*1000B-5016F does not offer X-Version)

2. Add suffix NL for RoHS compliant part; i.e. 1000B-5012F becomes 1000B-5012FNL.

3. For Tape & Reel Packaging, add "T" suffix at the end of the part number; i.e. 1000B-5014FT

## Mechanicals

### 1000B-5009F/X



Weight ..... 0.75 grams  
Tape and Reel ..... 250/reel  
Tube ..... 15/tube

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

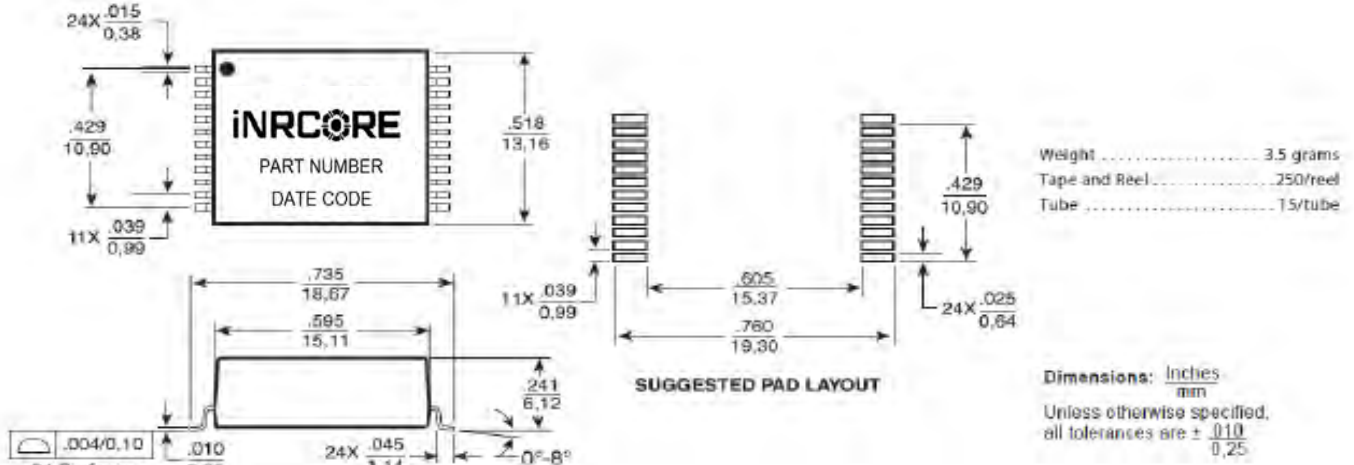


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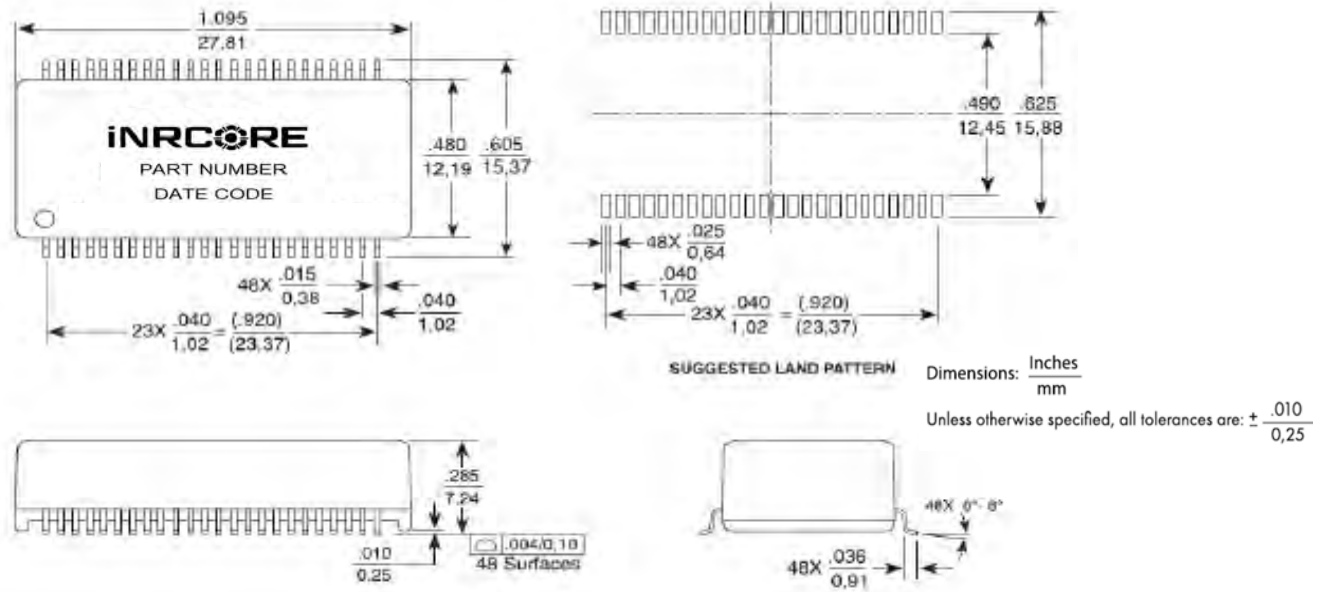
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## 1000B-5012/X



## 1000B-5014F/X

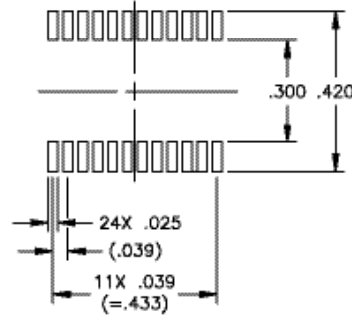
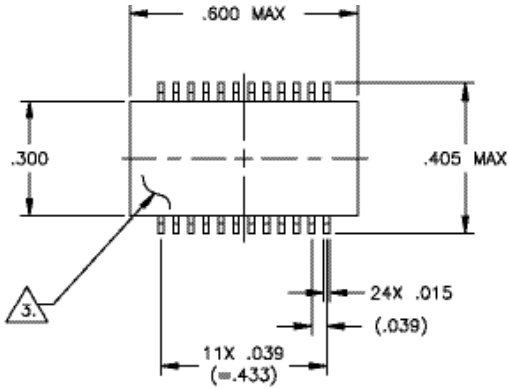


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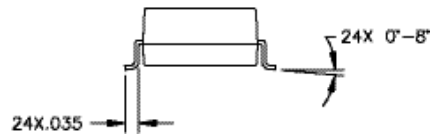
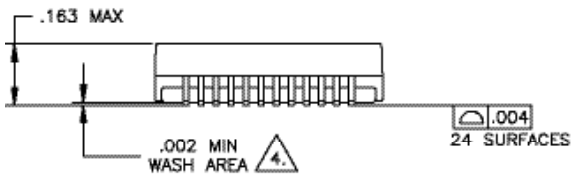
1000B-5016F



Weight ..... 0.75 grams  
Tape and Reel ..... 700/reel  
Tube ..... 30/tube

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

SUGGESTED LAND PATTERN



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

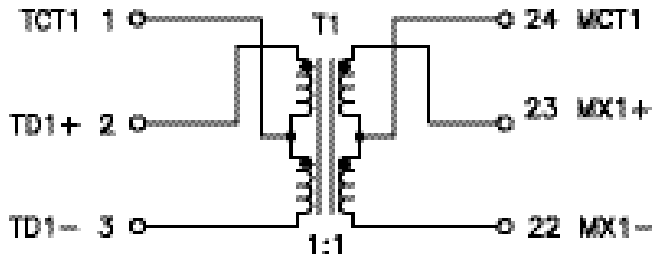
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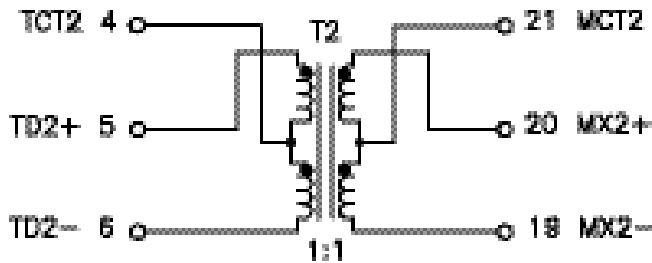
## Electrical Schematics

1000B-5009F/X

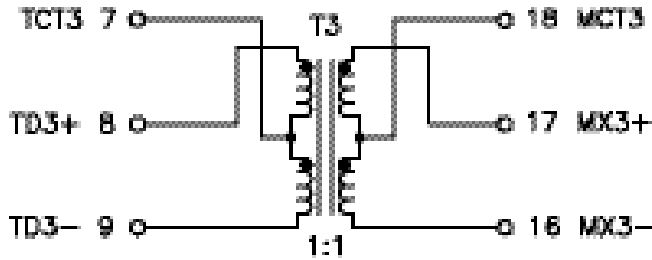
CHANNEL 1



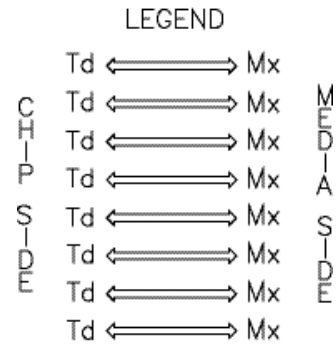
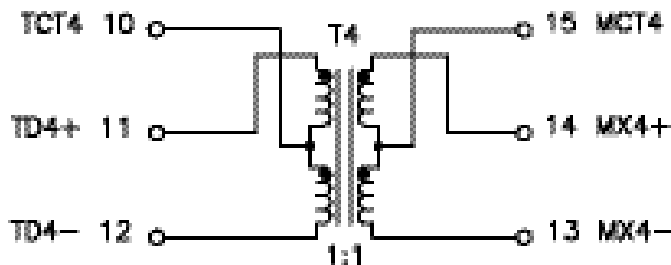
CHANNEL 2



CHANNEL 3



CHANNEL 4



ALL CHANNELS ARE  
IN PHASE BETWEEN  
INPUT AND OUTPUT

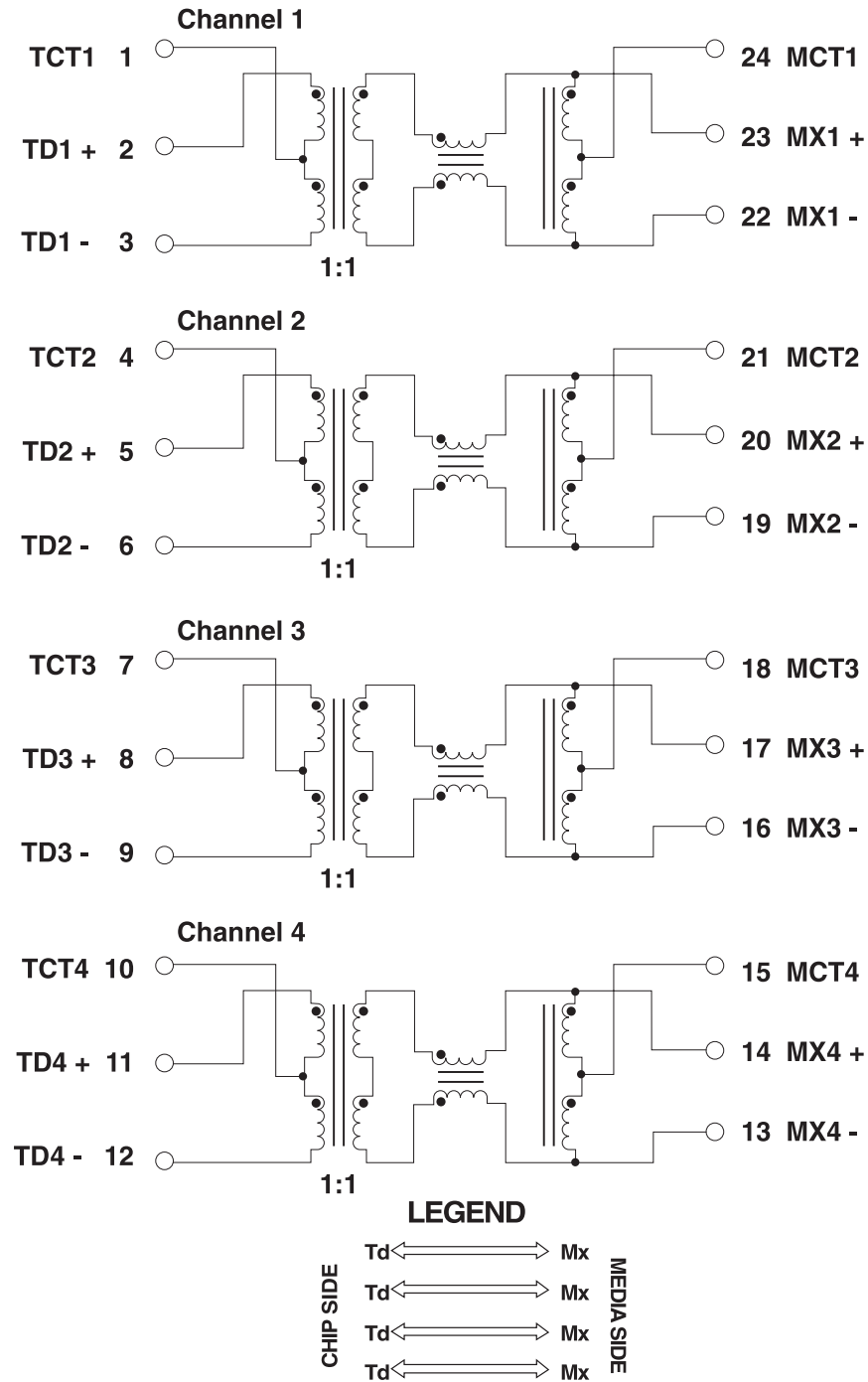


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1000B-5012F/X

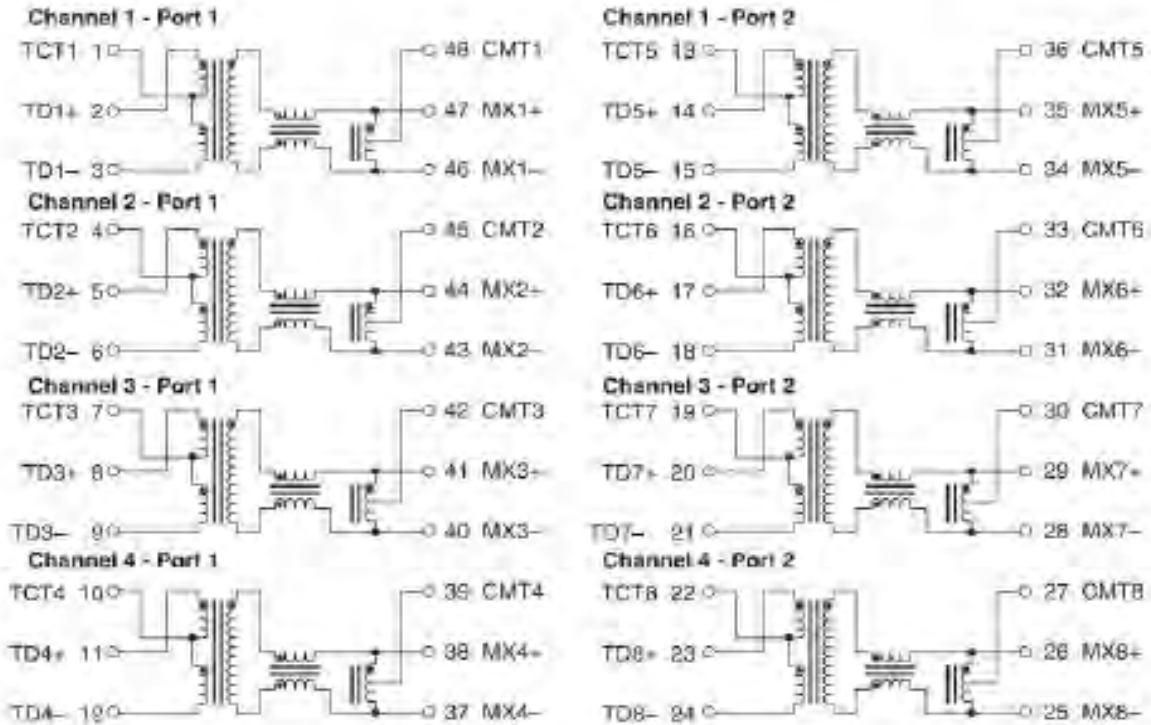


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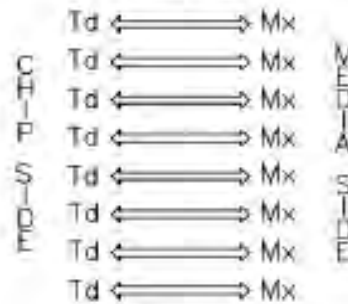
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1000B-5014F/X



### LEGEND



ALL CHANNELS ARE  
IN PHASE BETWEEN  
INPUT AND OUTPUT

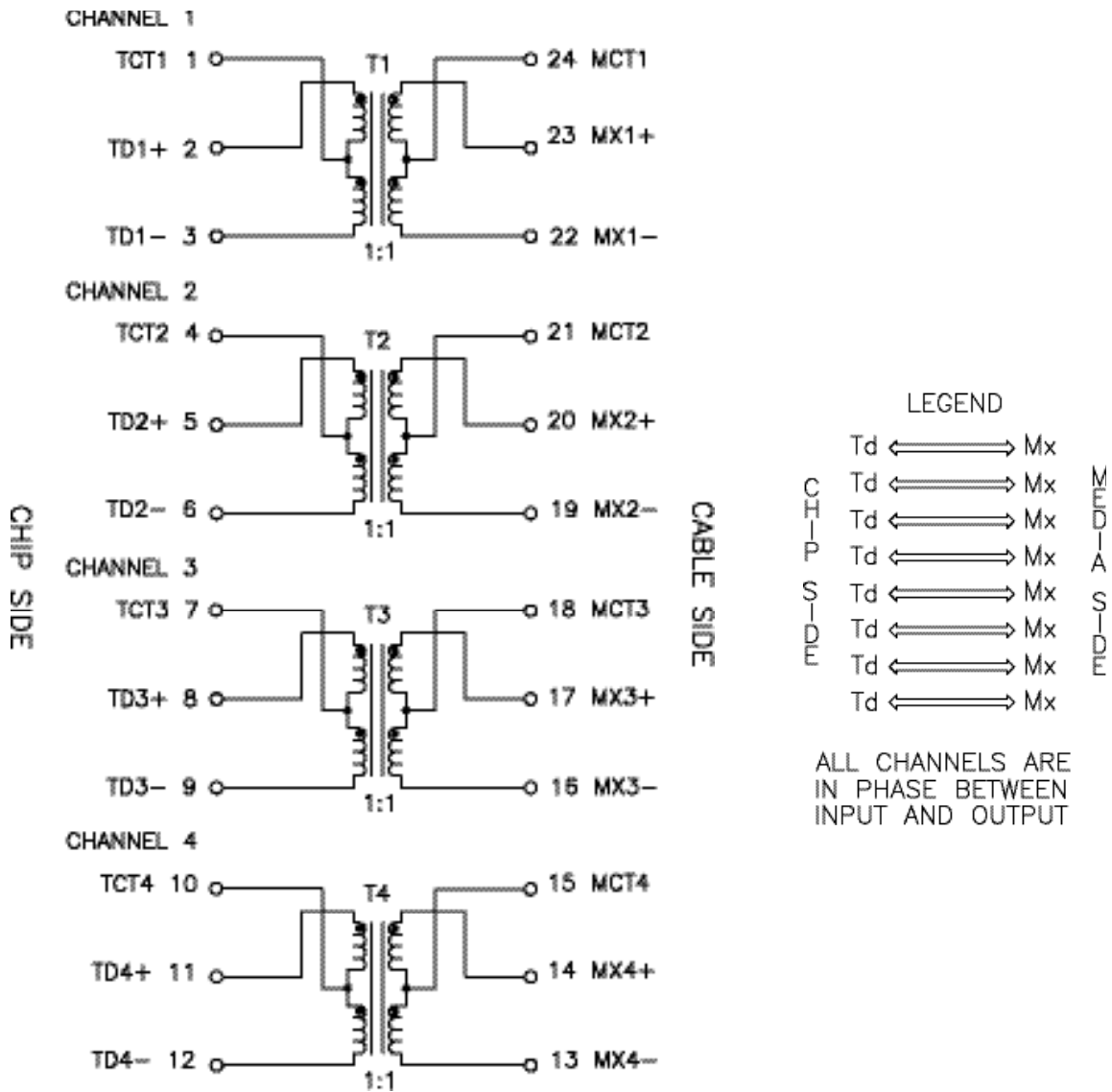


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1000B-5016F



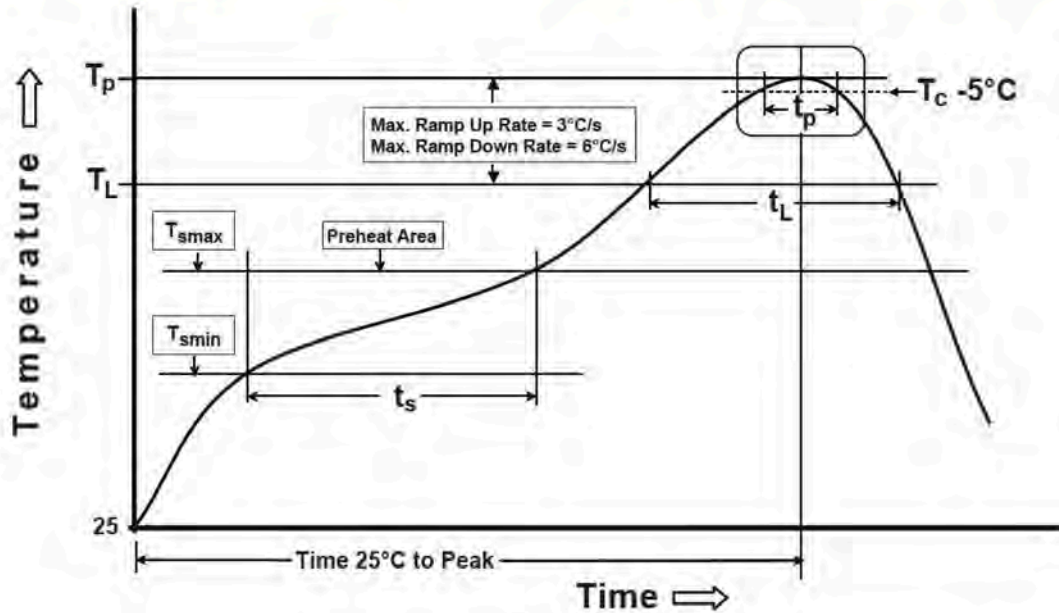


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Tin/Lead Recommended Reflow Profile (Based on J-STD-020D)



$T_{SMIN}$ (°C)	$T_{SMAX}$ (°C)	$T_L$ (°C)	$T_P$ (°C MAX)	$t_s$ (s)	$t_L$ (s)	$t_p$ (s MAX)	Ramp-up rate ( $T_L$ to $T_P$ )	Ramp-down rate ( $T_P$ to $T_L$ )	Time 25°C to peak temperature (s MAX)
100	150	183	235	60-120	60-150	20	3°C/s MAX	6°C/s MAX	360

Notes:

1. All temperatures measured on the package leads.
2. Maximum times of reflow cycle: 2.

## For More Information

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