

# 1000BASE-T SINGLE & DUAL PORT TRANSFORMER MODULES

Ruggedized

- ⊗ Compliant with IEEE 802.3 standards
- ⊗ 350μH OCL with 8mA DC bias at extended temperatures
- ⊗ Dielectric Withstanding Voltage (DWW): 1500 Vrms
- ⊗ 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
- ⊗ Epoxy Encapsulated Package
- ⊗ Lead Finish: Sn63/Pb37
- ⊗ Moisture Sensitivity Level: 3

## Electrical Specifications @ 25°C

Part Number	Insertion Loss (dB MAX)				Return Loss (dB MIN)				Crosstalk (dB MIN)			CM to CM Rejection (dB MIN)			DM to CM Rejection (dB MIN)		
	0.10 MHz	30 MHz	60 MHz	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
1000B-5001F	1.2	1.2	1.2	1.2	18	12	10	8	43	37	33	40	35	30	43	37	30
1000B-5001FX	1.4	1.4	1.4	1.4	18	12	10	8	43	37	33	40	35	30	43	37	33
1000B-5002F	1.2	1.2	1.2	1.2	18	14	12	10	43	37	33	40	35	30	43	37	33
1000B-5002FX	1.2	1.2	1.2	1.2	18	14	12	10	43	37	33	40	35	30	43	37	33
1000B-5003F	1.2	1.2	1.2	1.2	18	14	11	9	43	37	33	40	35	30	43	37	33
1000B-5003FX	1.2	1.2	1.2	1.2	18	14	11	9	43	37	33	40	35	30	43	37	33

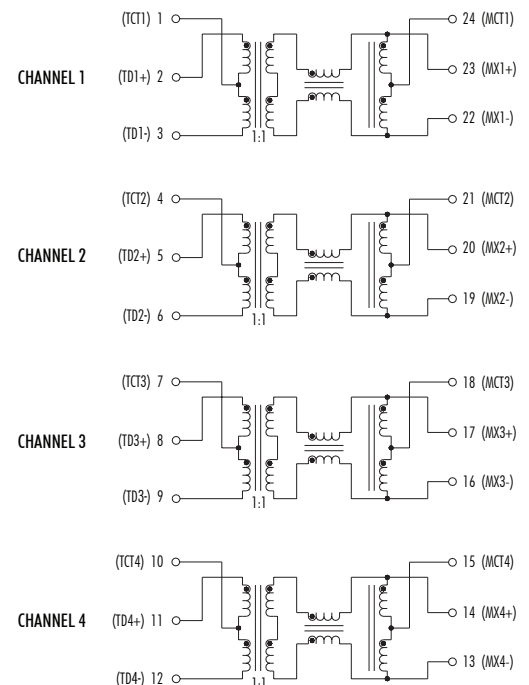
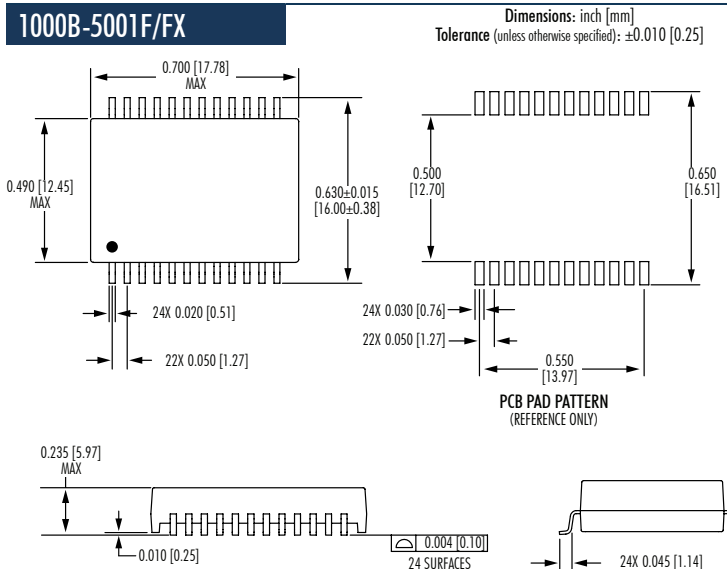
### NOTES:

- Add suffix "NL" for RoHS compliant version; i.e. 1000B-5001F becomes **1000B-5001FNL**. (For NL version of 5003F/5003FX, MSL = 4) NL parts have 100% SN Lead Finish.
- For Tape and Reel Packaging, add "T" suffix at the end of the part number; i.e. **1000B-5001FXT**.

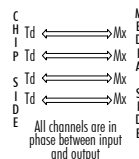
### Mechanicals

### Electrical Schematics

#### 1000B-5001F/FX



#### LEGEND



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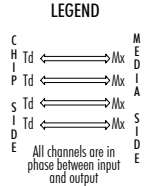
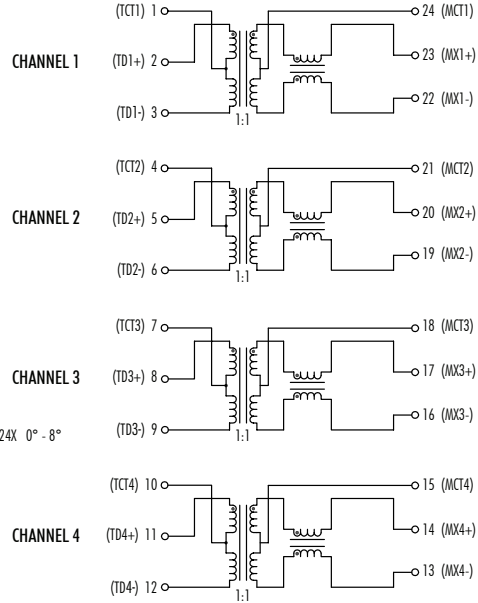
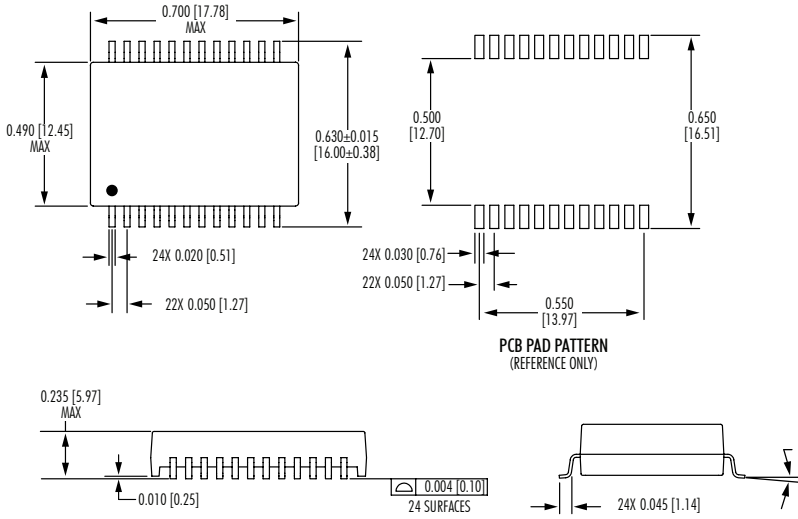
Ruggedized

## Mechanicals

## Electrical Schematics

1000B-5002F/FX

Dimensions: inch [mm]  
Tolerance (unless otherwise specified): ±0.010 [0.25]

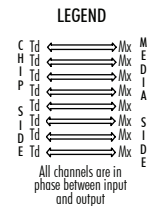
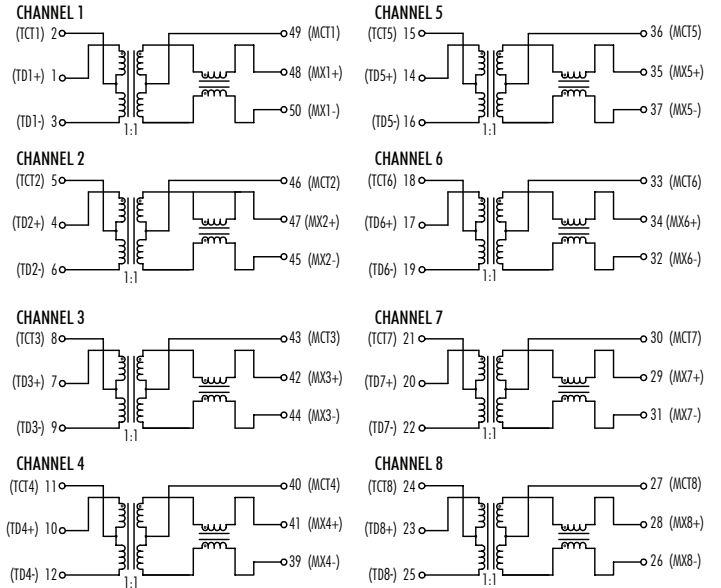
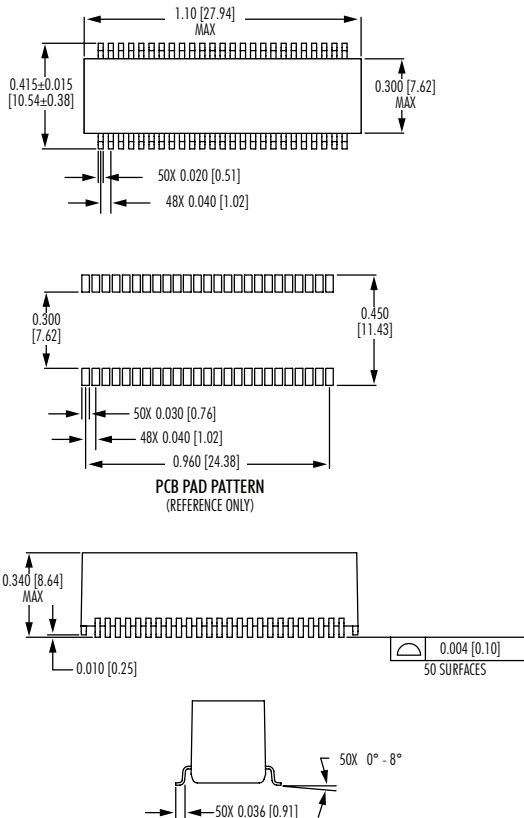


## Mechanicals

## Electrical Schematics

1000B-5003F/FX

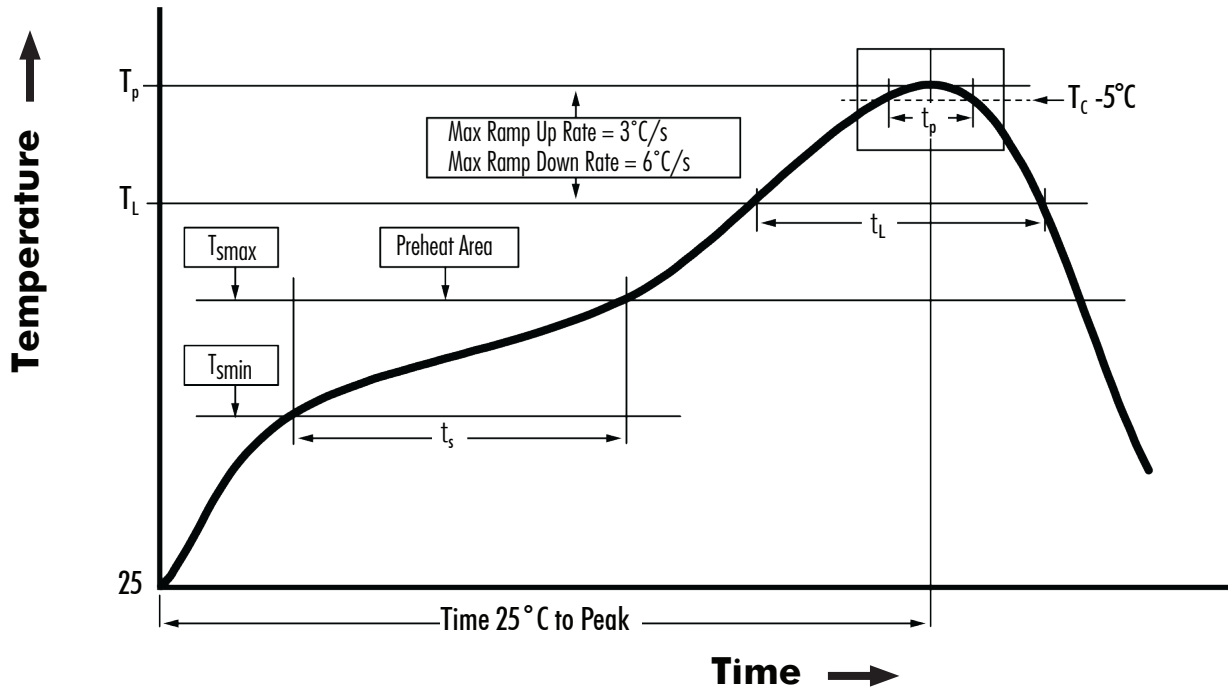
Dimensions: inch [mm]  
Tolerance (unless otherwise specified): ±0.010 [0.25]



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## 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)
<b>Tin/Lead Profile</b>									
100	150	183	235	60 - 120	60 - 150	20	3°C/s MAX	6°C/s MAX	360
<b>Non-Lead Profile</b>									
150	200	217	245	60 - 120	60 - 150	30	3°C/s MAX	6°C/s MAX	480

### NOTES:

1. All temperatures measured on the package leads.
2. Maximum number of reflow cycles not to exceed 2.
3. Reflow cycle applies only to surface mount parts.



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