

## Ruggedized



- | 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      |

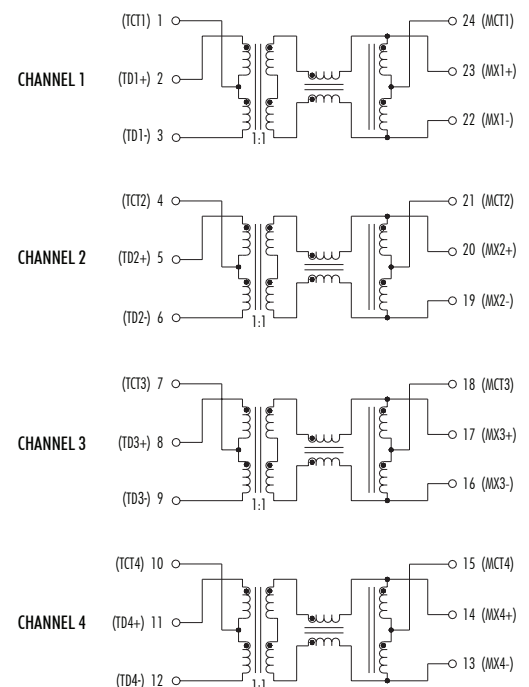
1. Add suffix **"NL"** for RoHS compliant version; i.e. 1000B-5001F becomes **1000B-5001FNL**. (For NL version of 5003F/5003FX, MSL = 4) NL parts have 100% SN Lead Finish.
2. For Tape and Reel Packaging, add **"T"** suffix at the end of the part number; i.e. **1000B-5001FXT**.

## 1000B-5001F/FX

CH  
I  
P  
S  
I  
D  
E

Td  $\longleftrightarrow$  Mx  
Td  $\longleftrightarrow$  Mx  
Td  $\longleftrightarrow$  Mx  
Td  $\longleftrightarrow$  Mx

All channels are in phase between input and output



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# 1000BASE-T SINGLE & DUAL PORT TRANSFORMER MODULES

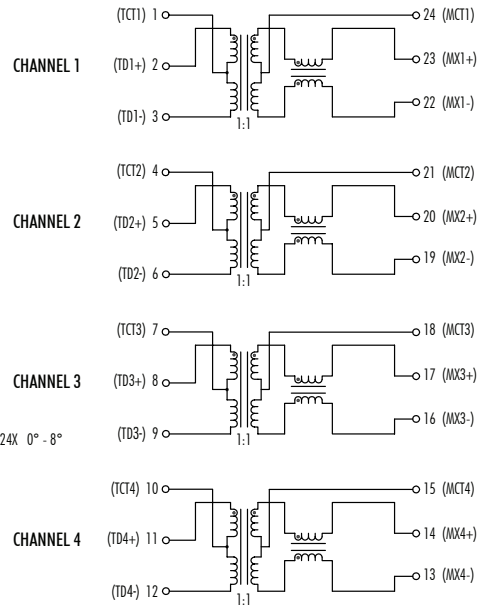
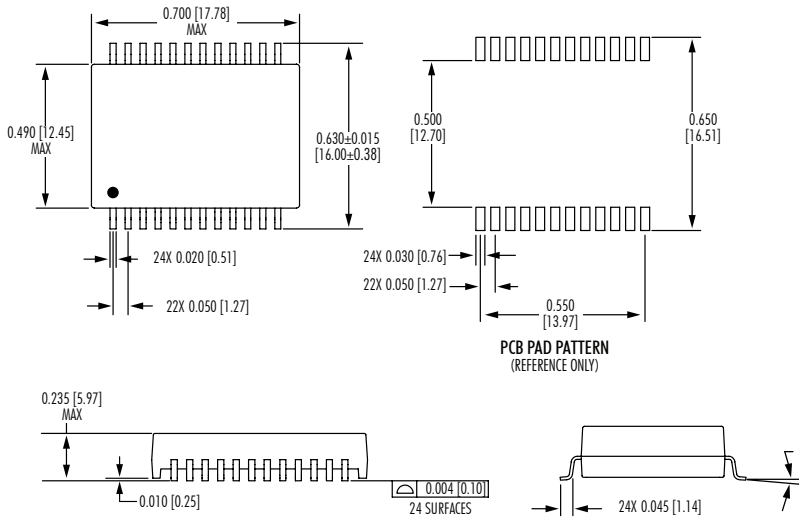
Ruggedized

## Mechanicals

## Electrical Schematics

### 1000B-5002F/FX

Dimensions: inch [mm]  
Tolerance (unless otherwise specified):  $\pm 0.010$  [0.25]



**LEGEND**

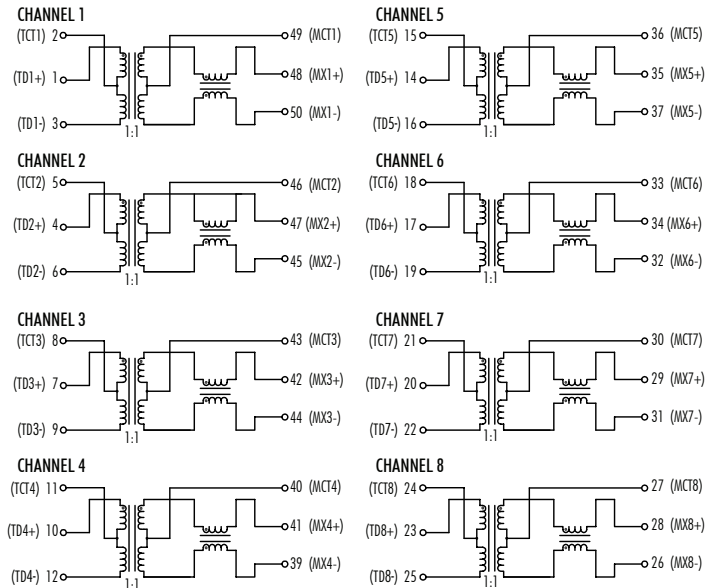
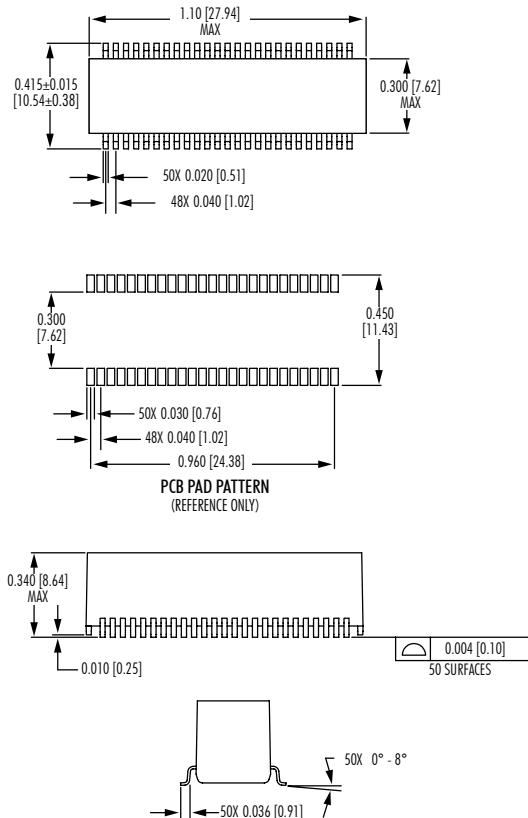
C H I P S I D E  
T d T d T d T d T d T d  
M x M x M x M x M x M x  
M E D I A S I D E  
All channels are in phase between input and output

## Mechanicals

## Electrical Schematics

### 1000B-5003F/FX

Dimensions: inch [mm]  
Tolerance (unless otherwise specified):  $\pm 0.010$  [0.25]



**LEGEND**

C H I P S I D E  
T d T d T d T d T d T d  
M x M x M x M x M x M x  
M E D I A S I D E  
All channels are in phase between input and output



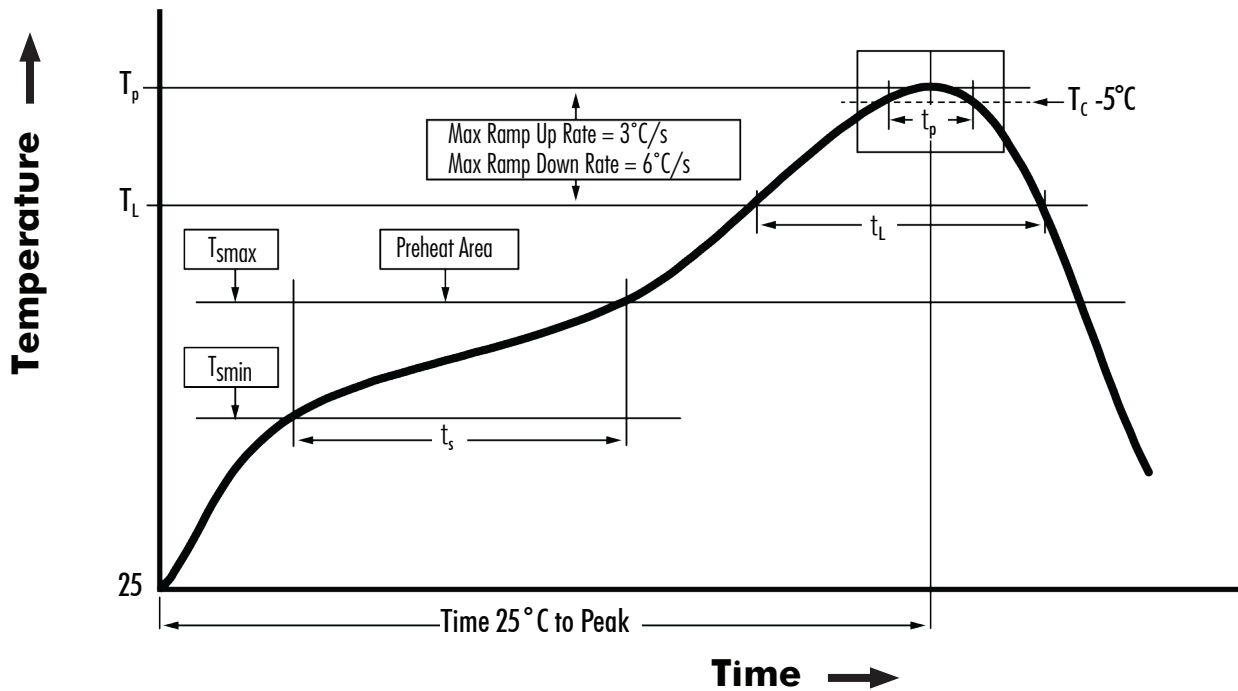
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M106.Q (8JUN23)

1000BASE-T SINGLE & DUAL PORT  
TRANSFORMER MODULES

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



| $T_{smin}$<br>(°C) | $T_{smax}$<br>(°C) | $T_L$<br>(°C) | $T_p$<br>(°C MAX) | $t_s$<br>(s) | $t_L$<br>(s) | $t_p$<br>(s MAX) | Ramp-up rate<br>( $T_L$ to $T_p$ ) | Ramp-down rate<br>( $T_p$ to $T_L$ ) | Time<br>25°C to peak temperature<br>(s MAX) |
|--------------------|--------------------|---------------|-------------------|--------------|--------------|------------------|------------------------------------|--------------------------------------|---------------------------------------------|
| Tin/Lead Profile   |                    |               |                   |              |              |                  |                                    |                                      |                                             |
| 100                | 150                | 183           | 235               | 60 - 120     | 60 - 150     | 20               | 3°C/s MAX                          | 6°C/s MAX                            | 360                                         |
| Non-Lead Profile   |                    |               |                   |              |              |                  |                                    |                                      |                                             |
| 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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# Mouser Electronics

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