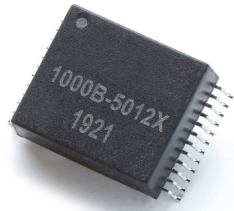


# 10/100/1000 BASE-T SINGLE & DUAL PORT TRANSFORMER MODULE



Ruggedized



- Compliant with IEEE 802.3ab for 1000 Base-T
- 350µH OCL with 8mA bias at extended temperatures
- Storage Temperature: -55°C to +125°C
- Two Operating Temperature versions available:
  - Standard: -40°C to +85°C
  - Extended: -55°C to +125°C
- 235°C peak reflow temperature (MSL 3)
- Lead finish: Sn63/Pb37 (RoHS-compliant version available with 100% pure tin)
- 245°C peak reflow temperature for RoHS version (MSL 4)

## 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)			HiPot (Vrms)
	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-5009	1.4	1.4	1.4	1.4	18	12	10	8	43	37	31	30	25	18	40	35	30	1500
1000B-5009X	1.4	1.4	1.4	1.4	18	12	10	8	43	37	31	30	25	18	40	35	30	1500
1000B-5012	1.2	1.2	1.2	1.2	18	12	10	8	43	37	31	40	35	30	43	37	30	1500
1000B-5012X	1.2	1.2	1.2	1.2	18	12	10	8	43	37	31	40	35	30	43	37	30	1500
1000B-5014	1.4	1.4	1.4	1.4	16	12	10	8	43	37	31	33	30	28	43	37	30	1500
1000B-5014X	1.4	1.4	1.4	1.4	16	12	10	8	43	37	31	33	30	28	43	37	30	1500
1000B-5016	1.2	1.2	1.2	1.2	18	12	12	10	43	37	31	30	23	17	40	35	30	1500

### NOTES:

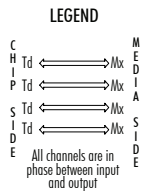
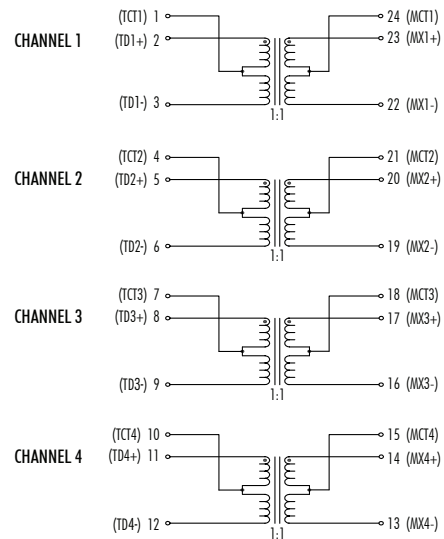
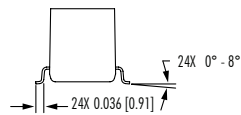
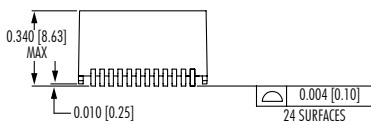
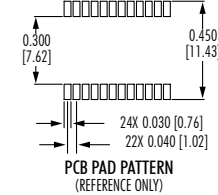
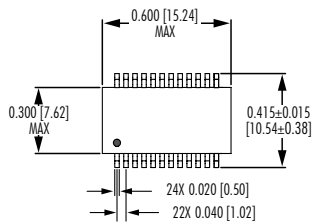
- Add suffix "NL" for RoHS compliant version; i.e. 1000B-5009 becomes 1000B-5009NL. NL parts have 100% SN Lead Finish (MSL:4)
- For Tape & Reel packaging, add "T" suffix at the end of the part number: i.e. 1000B-5009NLT.
- Add suffix "X" for extended temperature version; i.e. 1000B-5009 becomes 1000B-5009X. (\*1000B-5016 does not offer X-version)

### Mechanicals

### Electrical Schematics

1000B-5009/X

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



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



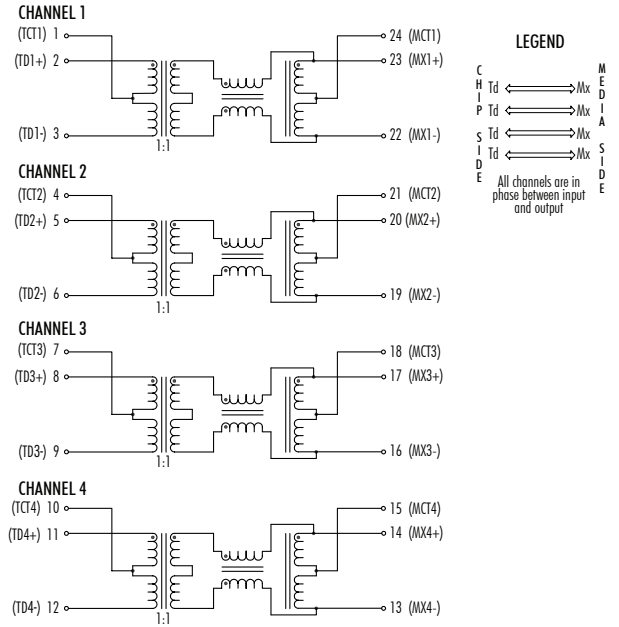
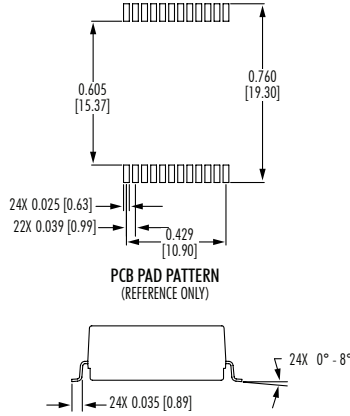
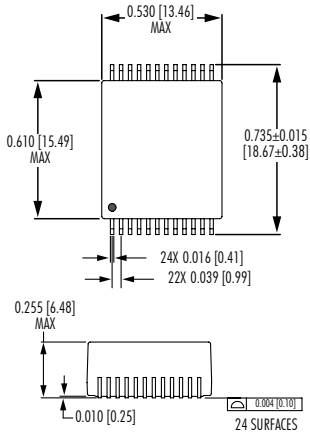
Ruggedized

## Mechanicals

## Electrical Schematics

### 1000B-5012/X

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

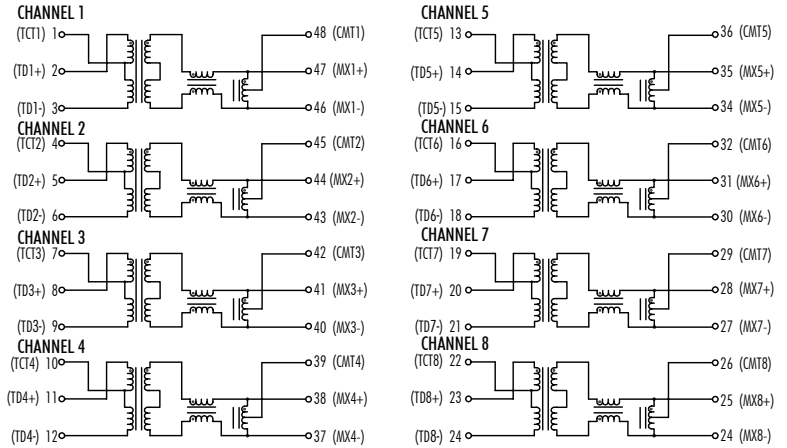
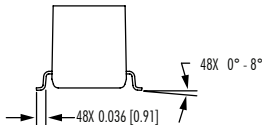
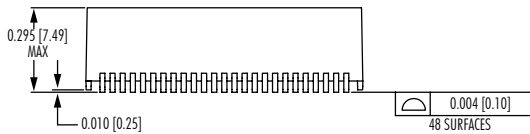
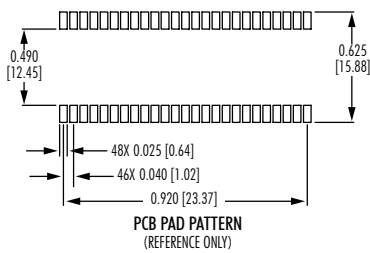
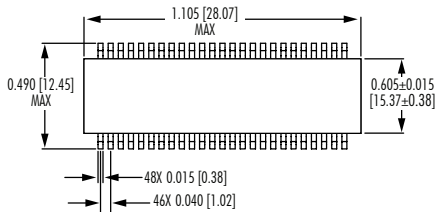


## Mechanicals

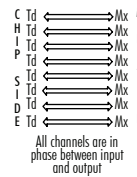
## Electrical Schematics

### 1000B-5014/X

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



### LEGEND



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

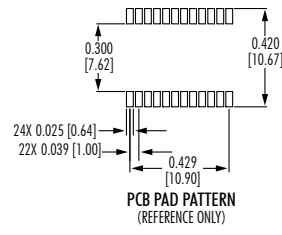
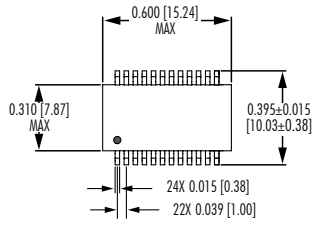


Ruggedized

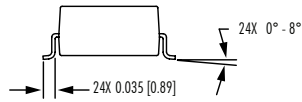
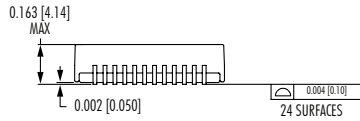
**1000B-5016**

## Mechanicals

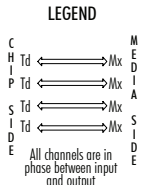
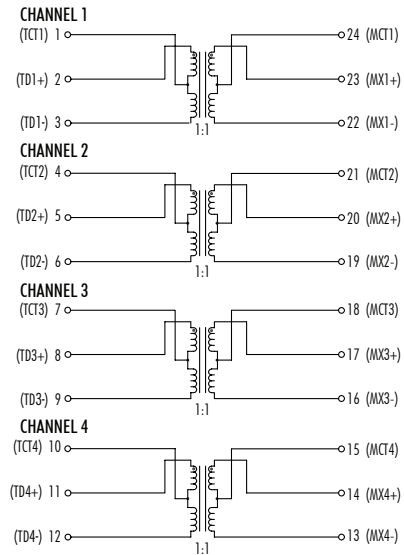
Dimensions: inch [mm]  
Tolerance (unless otherwise specified): ±0.010 [0.25]



PCB PAD PATTERN  
(REFERENCE ONLY)



## Electrical Schematics

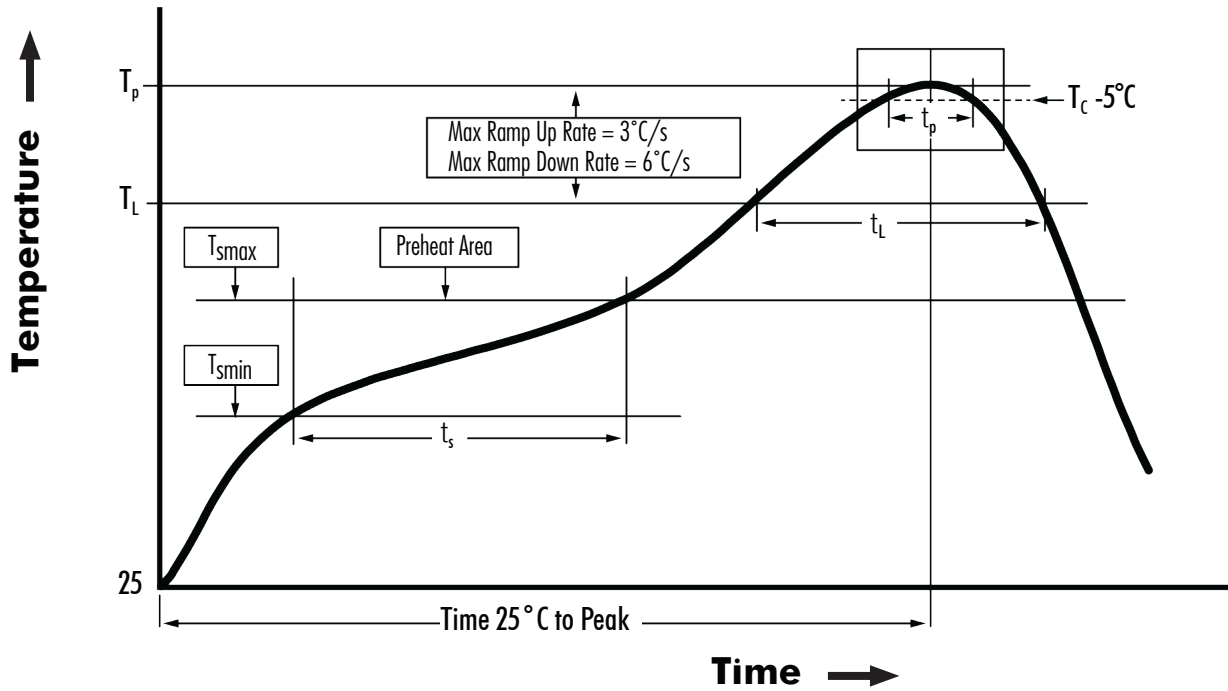


# 10/100/1000 BASE-T SINGLE & DUAL PORT TRANSFORMER MODULE



Ruggedized

## 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

