

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



Ruggedized



- ⊗ 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-5001/5002/5003: -40°C to +85°C
  - 1000B-5001X/5002X/5003X: -55°C to +125°C
- ⊗ IC grade transfer-molded package withstands 235°C peak temperature profile
- ⊗ Moisture Sensitivity Level: 3

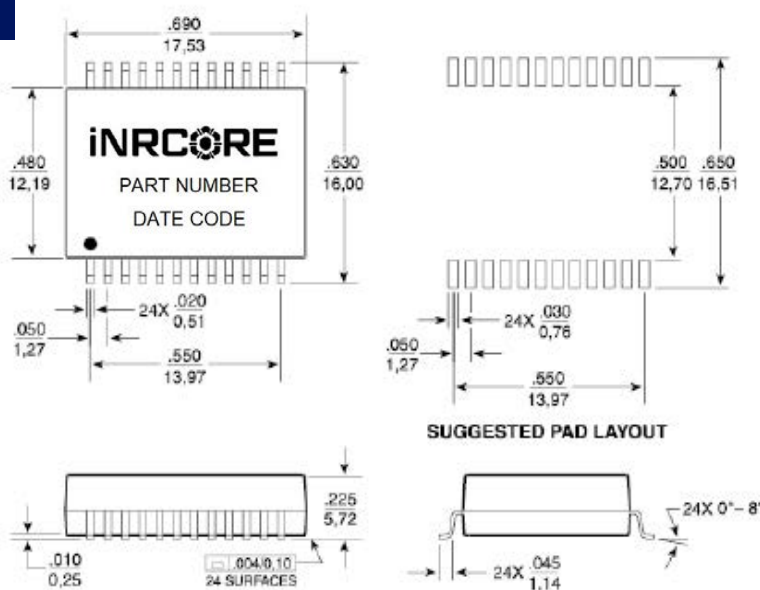
## Electrical Specifications @ 25°C

Part Number*	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)
		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-5001	-1.20	-18	-12	-10	-10	-43	-37	-33	-40	-35	-30	-43	-37	-33	1500
1000B-5001X	-1.40	-18	-12	-10	-8	-43	-37	-33	-40	-35	-30	-43	-37	-33	1500
1000B-5002	-1.20	-18	-14	-12	-10	-43	-37	-33	-40	-35	-30	-43	-37	-33	1500
1000B-5002X	-1.20	-18	-14	-12	-10	-43	-37	-33	-40	-35	-30	-43	-37	-33	1500
1000B-5003	-1.20	-18	-14	-11	-9	-43	-37	-33	-40	-35	-30	-43	-37	-33	1500
1000B-5003X	-1.20	-18	-14	-11	-9	-43	-37	-33	-40	-35	-30	-43	-37	-33	1500

- Notes \*: 1. Add suffix NL for RoHS compliant part; i.e. 1000B-5001F becomes **1000B-5001NL**  
 2. For Tape and Reel Packaging, add "T" suffix at the end of the part number; i.e. **1000B-5001XT**.  
 3. Add suffix X for extended temperature version (i.e. 1000B-5009F) becomes **1000B-5001X**.  
 4. iNRCORE will support any requests for our legacy part numbers that include 'F' in the suffix; i.e. **1000B-5001F** or **1000B-5003FNLT**

## Mechanical

### 1000B-5001



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



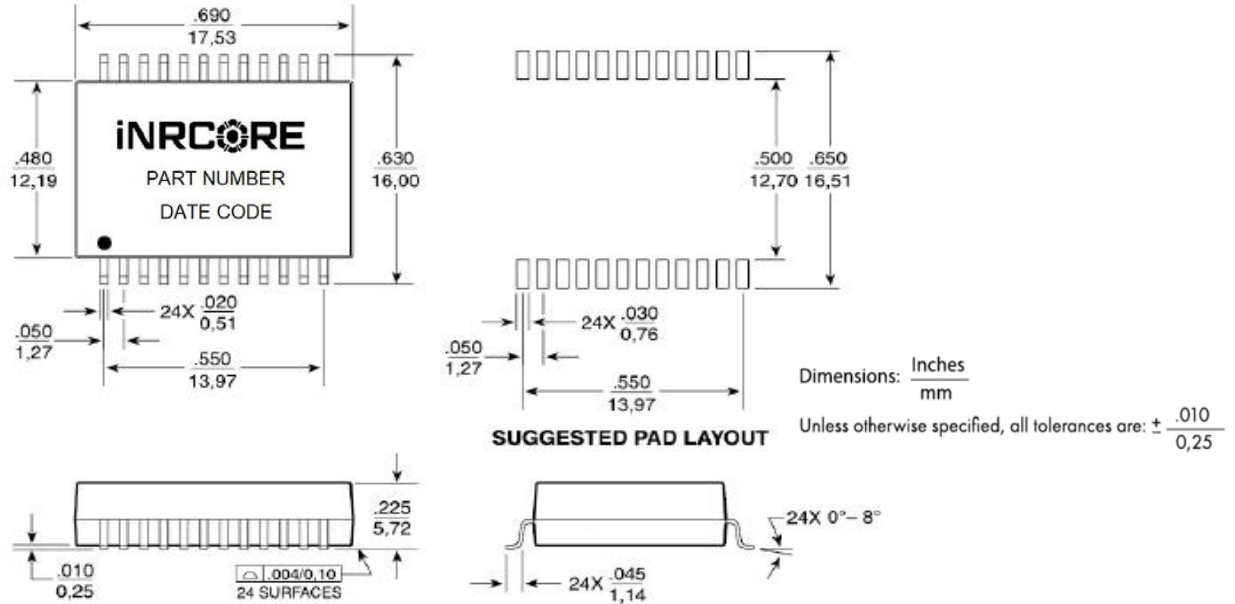
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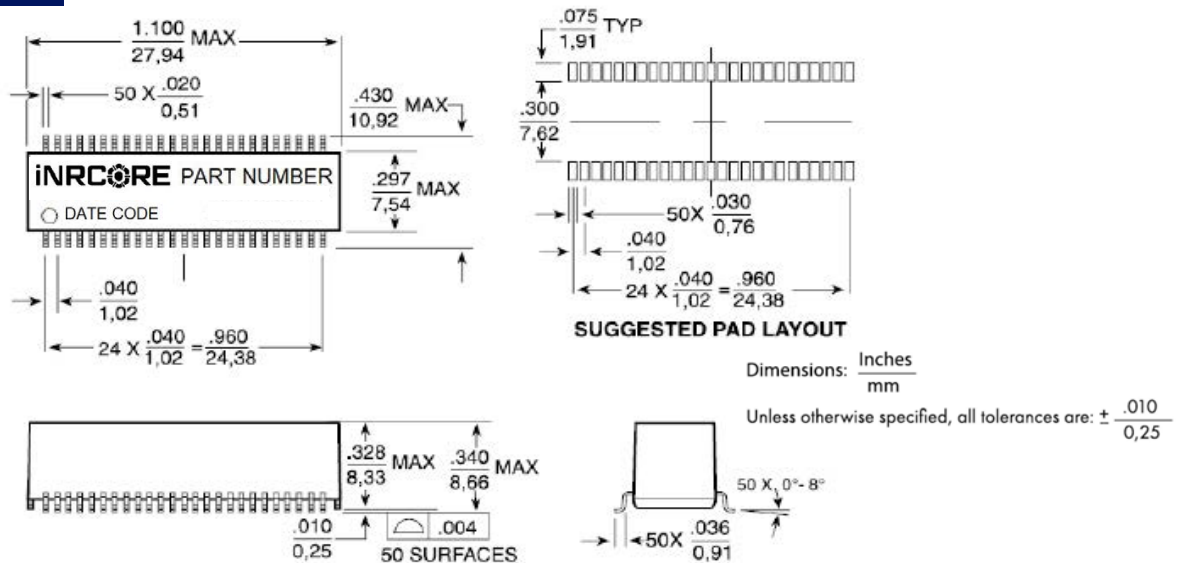
## Mechanical

1000B-5002



## Mechanical

1000B-5003



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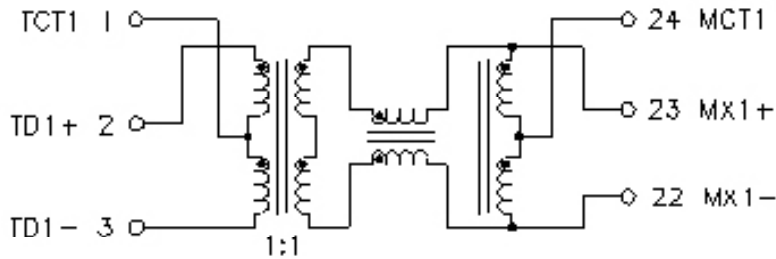
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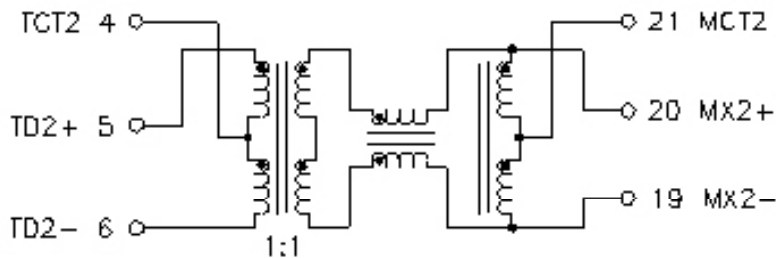
## Electrical Schematics

1000B-5001

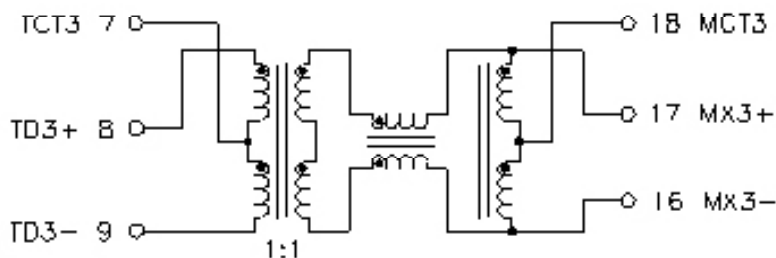
CHANNEL 1



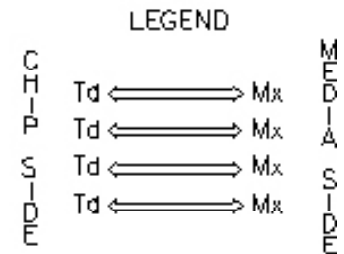
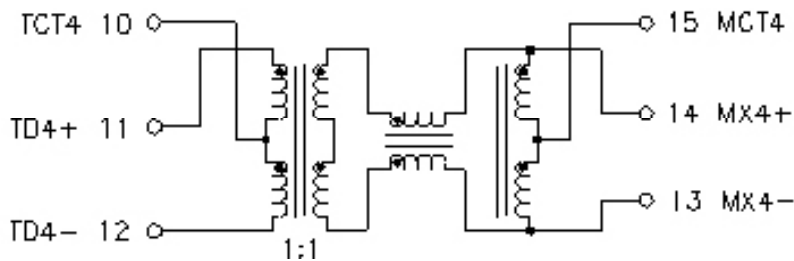
CHANNEL 2



CHANNEL 3



CHANNEL 4



ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT



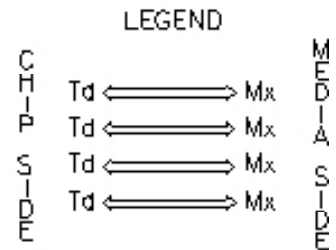
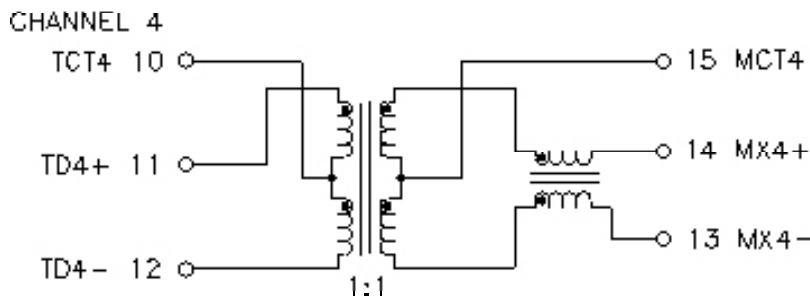
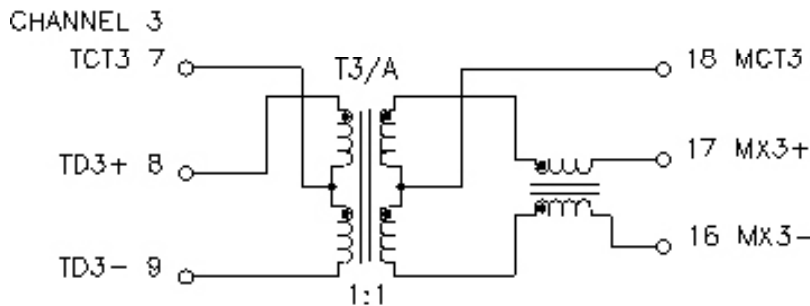
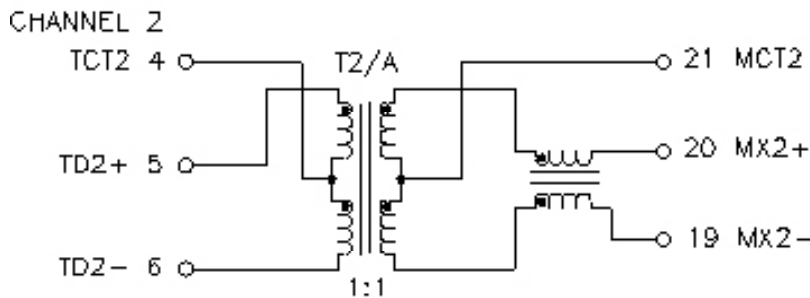
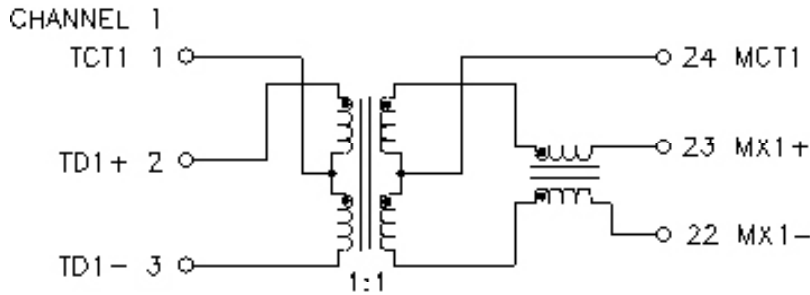
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## Electrical Schematics

1000B-5002



ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT



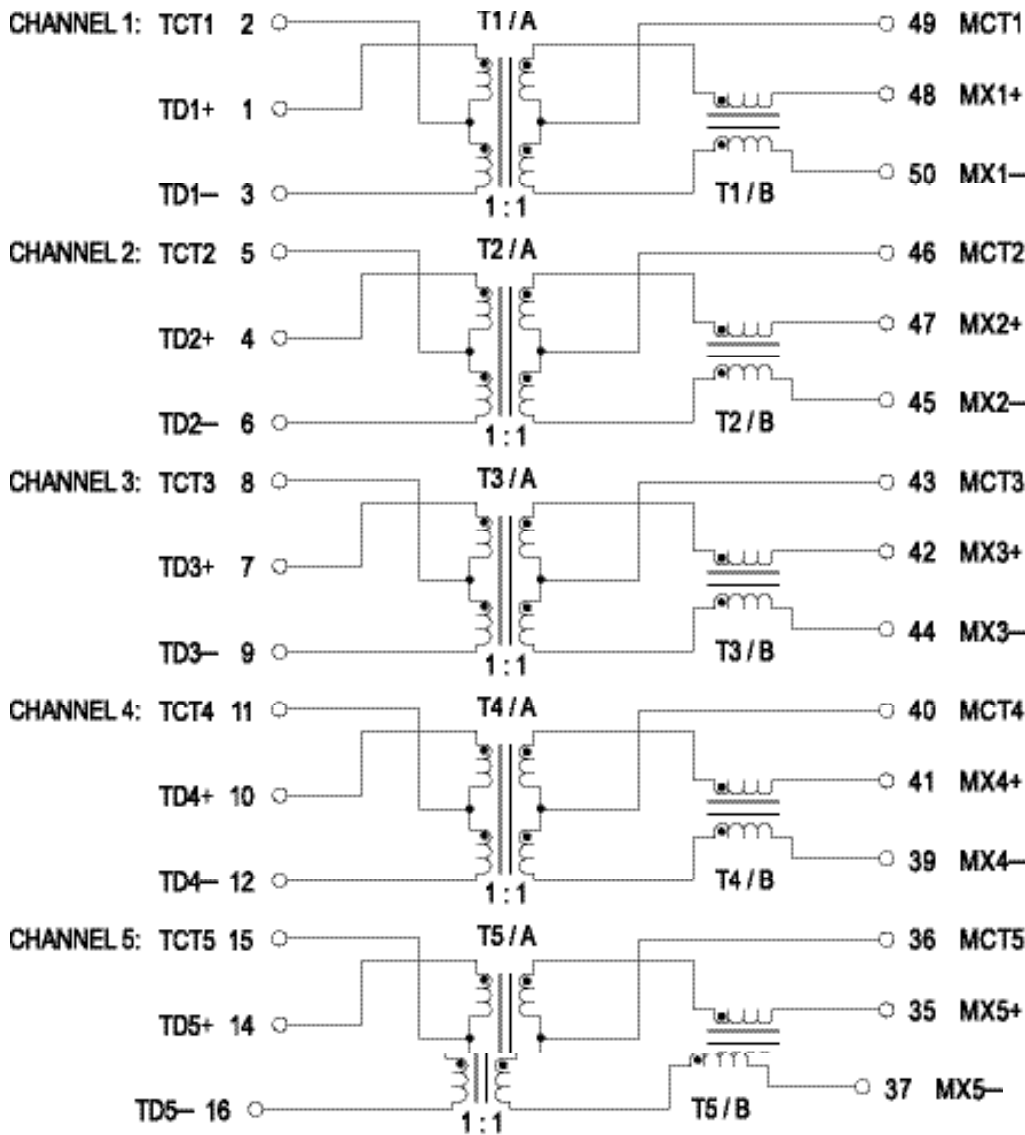
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## Electrical Schematics

1000B-5003



**LEGEND**

CH-IP-SIDE ← Td ↔ Mx MEDIA-SIDE

ALL CHANNELS ARE IN PHASE BETWEEN INPUT AND OUTPUT

Continued on next page.



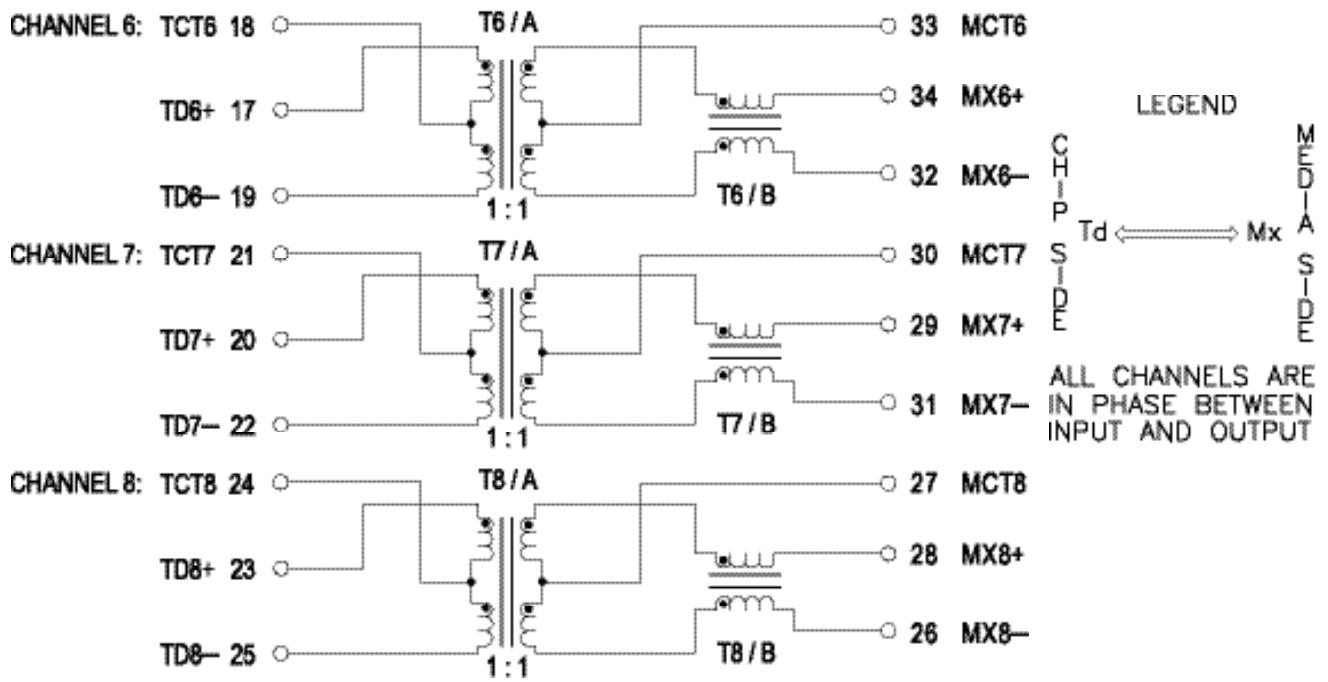
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## Electrical Schematics

1000B-5003 (cont.)

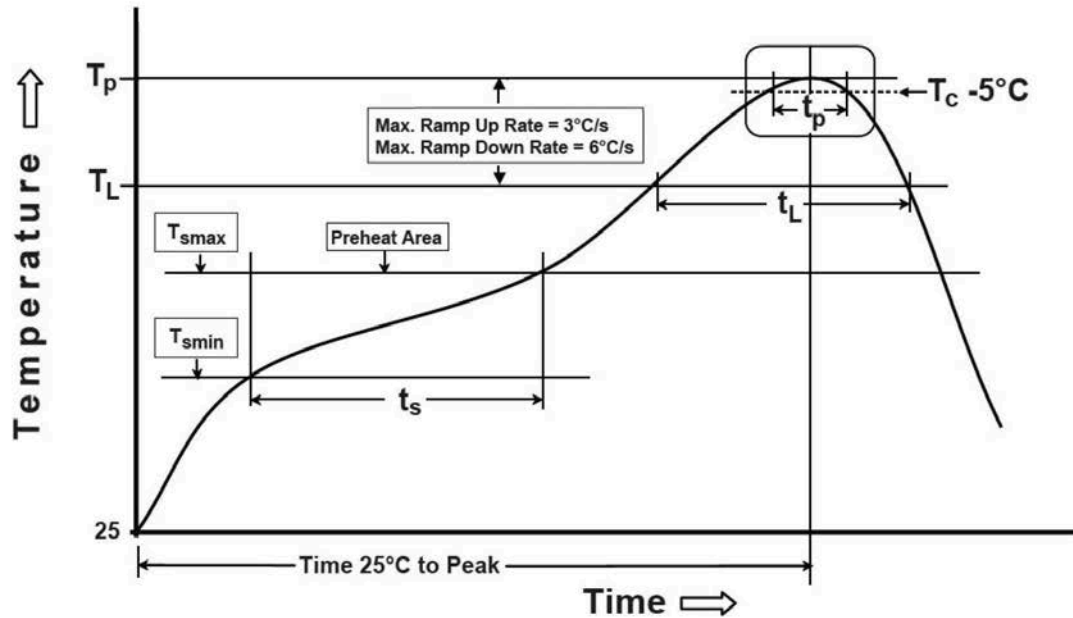


# 10/100/1000BASE-T SINGLE & DUAL PORT TRANSFORMER MODULES

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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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