

IEEE 1394B FIRE WIRE 1.062Gb TRANSCIVER LINE INTERFACE MODULE

Copperhead™ Series



iNRCORE FAMILY OF BRANDS

- Low power dissipation
- Low transmit/receive jitter
- Recommended for distances up to 20 meters
- IC grade transfer-molded package withstands 225°C peak temperature profile
- Small package incorporating active transmit and passive receive circuits with integrated isolation transformers.
- Operating Temperature: -55°C to +125°C

TRANSMITTER - Electrical Specifications @ 25°C

Part Number	Input Data Voltage						Input Voltage Differential			Input Current		Differential Signal Level		
	V _{IL} (V)			V _{IH} (V)			V _{IN} (mV)			I _{IL} (μA)	I _{IH} (μA)	V _{OUT} (mV)		
	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MAX	MAX	MIN	TYP	MAX
TM1062TXDUA	1.35	1.63	1.88	2.07	2.33	2.58	150	800	1200	40	150	1350	1400	1500
TM1062TXHUA	1.35	1.63	1.88	2.07	2.33	2.58	150	800	1200	500	750	1350	1400	1500
TM1062TX3DUA	1.35	1.63	1.88	2.07	2.33	2.58	150	800	1200	500	750	1350	1400	1500

TRANSMITTER - Additional Electrical Specifications @ 25°C

Part Number	Power Dissipation (mW)	θ _{ja} (°C/W)		Input Voltage (V _{CC±10%})	Data Rate DR (Mb/s)		Total P-P Transmit Jitter* (pS)		Output Rise-Fall Time (20-80%)* (pS)		Return Loss (dB)
	TYP	@85°C	@125°C	TYP	MIN	MAX	TYP	MAX	MIN	MAX	MIN
TM1062TXDUA	232	41	39	3.3	246	1062	62	94	275	400	-12
TM1062TXHUA	232	41	39	3.3	246	1062	62	94	275	400	-12
TM1062TX3DUA	700	34	30	3.3	246	1062	62	94	275	400	-12

TRANSFORMER COUPLED RECEIVER - Electrical Specifications @ 25°C

Part Number	Turns Ratio	Primary Inductance L _m (μH)	Rise Time (20-80%) (pS)	Data Rate D _R (Mb/s)		Winding Resistance DCR (Ω)	Insertion Loss (dB)	Return Loss (dB)
	TYP	MIN	MAX	MIN	MAX	TYP	MAX	MIN
TM1062TXDUA	1:1	4.5	300	246	1062	0.20	-2	-12
TM1062TXHUA	1:1	4.5	300	246	1062	0.20	-2	-12
TM1062TX3DUA	1:1	4.5	300	246	1062	0.20	-2	-12

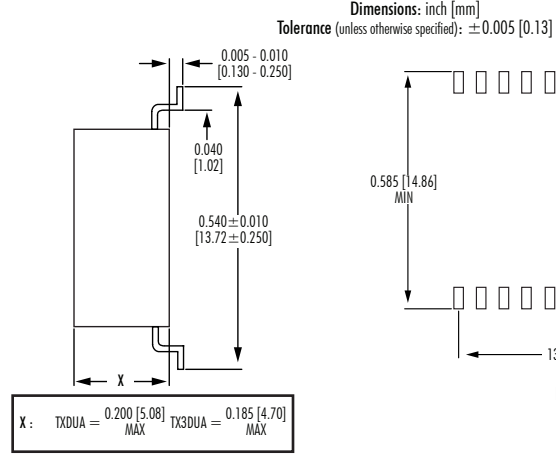
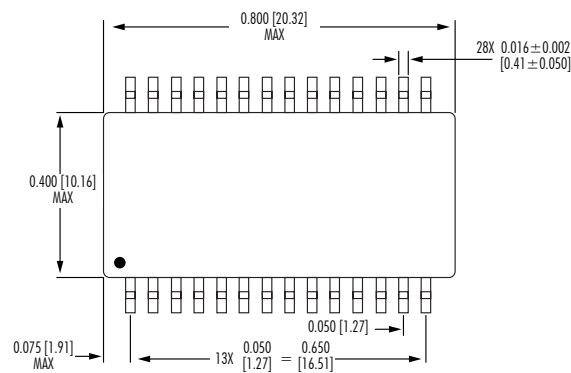
NOTES:

* At 1062 Mb/s Data Rate

- For Tape & Reel packaging, add "T" suffix at the end of the part number: i.e. TM1062TXDUAT

Mechanicals

TM1062TXDUA/TM1062TX3DUA



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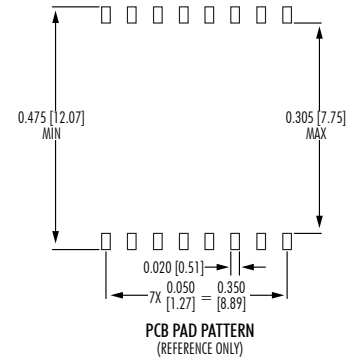
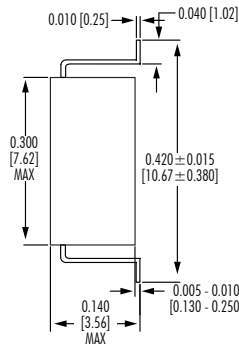
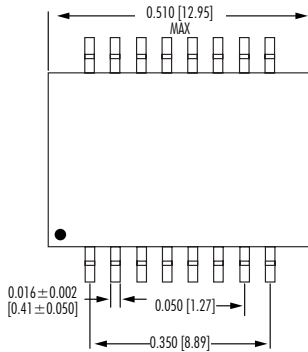
Copperhead™ Series

Mechanicals

Dimensions: inch [mm]

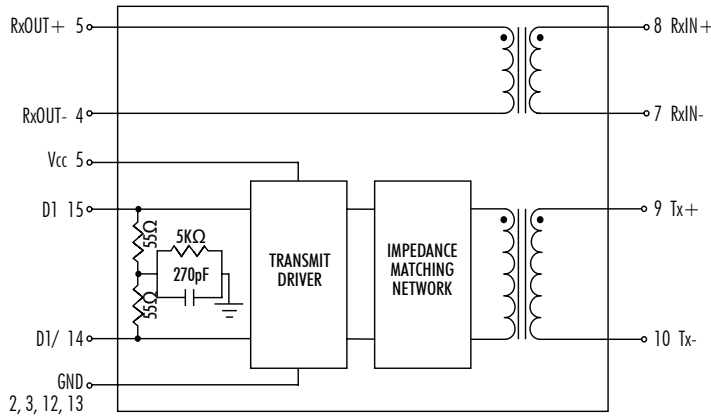
Tolerance (unless otherwise specified): ±0.005 [0.13]

TM1062TXHUA



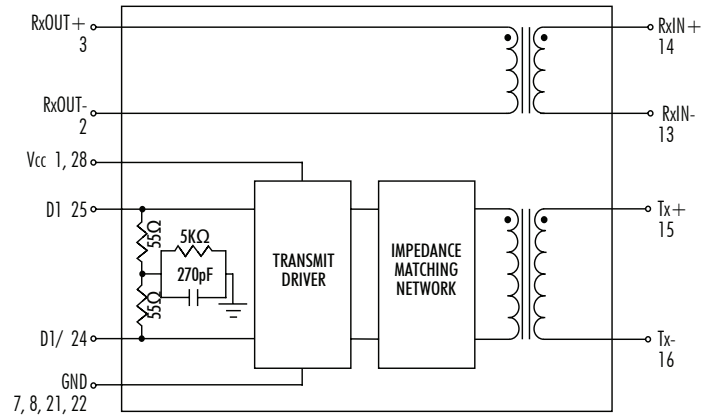
TM1062TXHUA

Electrical Schematics



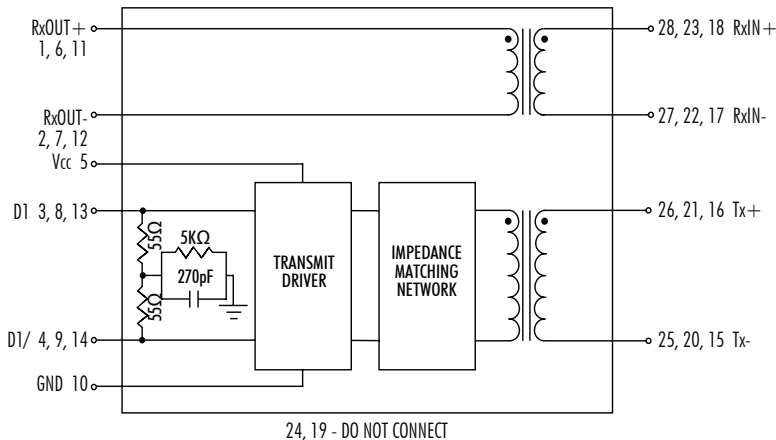
TM200TX3DUA

Electrical Schematics



TM1062TX3DUA

Electrical Schematics



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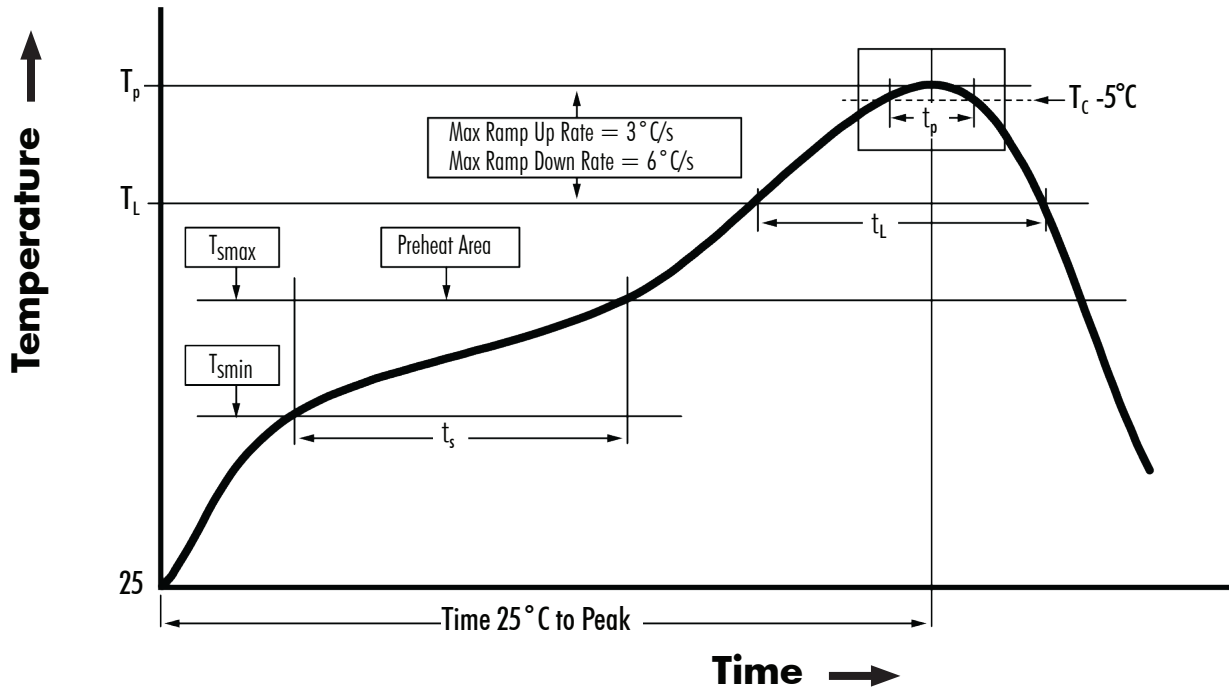
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TRANSCIVER Recommended Reflow Profile (Based on J-STD-020D)



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	225	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 number of reflow cycles not to exceed 2.

