

COPPERHEAD SERIES FIBRE CHANNEL TRANSCEIVER

Line Interface Module



- High Performance, low-cost alternative to complete fiber systems.
- Compact, small package saves PCB footprint.
- Equalizer and transformers isolation provides long distance applications, better transient protection, and common mode rejection.
- Low transmit / receive jitter.
- Low Power dissipation; 500mW Maximum

Transmitter		Vcc : + 3.13 V to 3.47 V			
Parameter	SYM	MIN	Typical	MAX	UNIT
Power Supply Current (Transmitter + Receiver)	Icc	—	90	110	mA
Input Data Voltage Low	VIL	1.35	—	1.88	V
Input Data Voltage High	VIH	2.07	—	2.58	V
Differential Input Data Voltage	VIN	150	800	1200	mV P-P
Input High Voltage Common Range (Differential)	VIHCMR	2	—	3.3	V
Transmitter Output Impedance (Diff)	Ztx-Diff	100	150	—	Ohms
Output Differential signal level (p-p)	VO	1000	1250	1600	mV
Data Rate (NRZ)	DR	—	266	—	Mb/s
Total P-P transmit jitter	TJ	—	500	900	ps
Output rise-fall time (20%-80%)	TRO	—	—	500	ps

Receiver		Vcc : + 3.13 V to 3.47 V			
Input signal swing (Differential)	VIN	150	—	1200	mV
Differential Output Data Voltage	VO	423	—	1175	mV P-P
Output Common-Mode Voltage	VOCMR	1.75	1.93	2.05	V
Data Rate (NRZ)	DR	—	266	—	Mb/s
Total P-P transmit jitter	TJ	—	1000	2000	ps

TM 531 D S A 1 (XX)

(XX)	-	Custom product designator
blank	-	No transmit driver
1	-	1100 mV output transmit driver and military temperature range
2	-	1100 mV output transmit driver and industrial temperature range
5	-	Active cable equalizer circuit
A	-	5.00 Volt
B	-	3.30 Volt
S	-	Impedance matched for STP and twinax (150 ohm)
U	-	Impedance matched for unshielded twisted pair (100 ohm)
V	-	Impedance matched for video and mini-coax (75 ohm)
C	-	Impedance matched for coax (50 ohm)
D	-	Gull wing DIP 28-pin package: 0.800"L x 0.400"W x 0.200"H
F	-	Gull wing flat pack 28-pin package: 0.760"L x 0.610"W x 0.125"H
H	-	Gull wing half DIP 16-pin package: 0.300"L x 0.500"W x 0.250"H
(16-pin package is only available on passive units.)		
133	-	132.8125 Mbaud version 1/8 speed Fibre Channel/ATM
266	-	265.625 Mbaud version 1/4 Speed Fibre Channel
531	-	531.25 Mbaud version 1/2 Speed Fibre Channel
1062	-	1.0625 Gbaud version Full Speed Fibre Channel
1250	-	1.250 Gbaud version, Gigabit Ethernet (both short haul and long haul)
1485	-	1.485 Gbaud version, SMPTE

Ordering Information - Part No.



COPPERHEAD SERIES FIBRE CHANNEL TRANSCEIVER

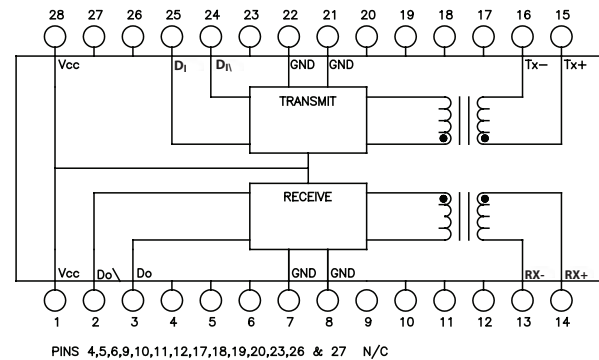
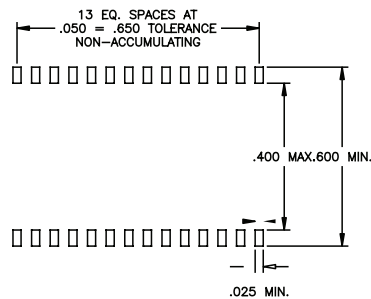
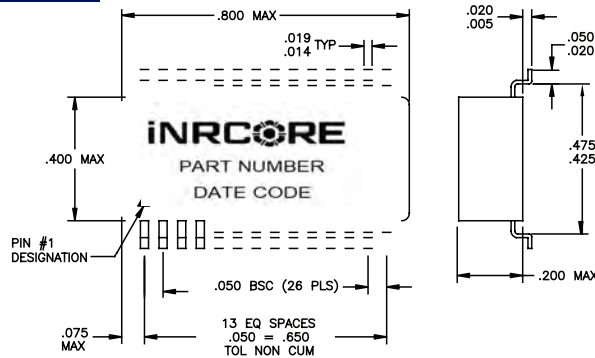
Line Interface Module



Mechanical

Electrical Schematic

SAMPLE SPECS



Dimensions: $\frac{\text{Inches}}{\text{mm}}$

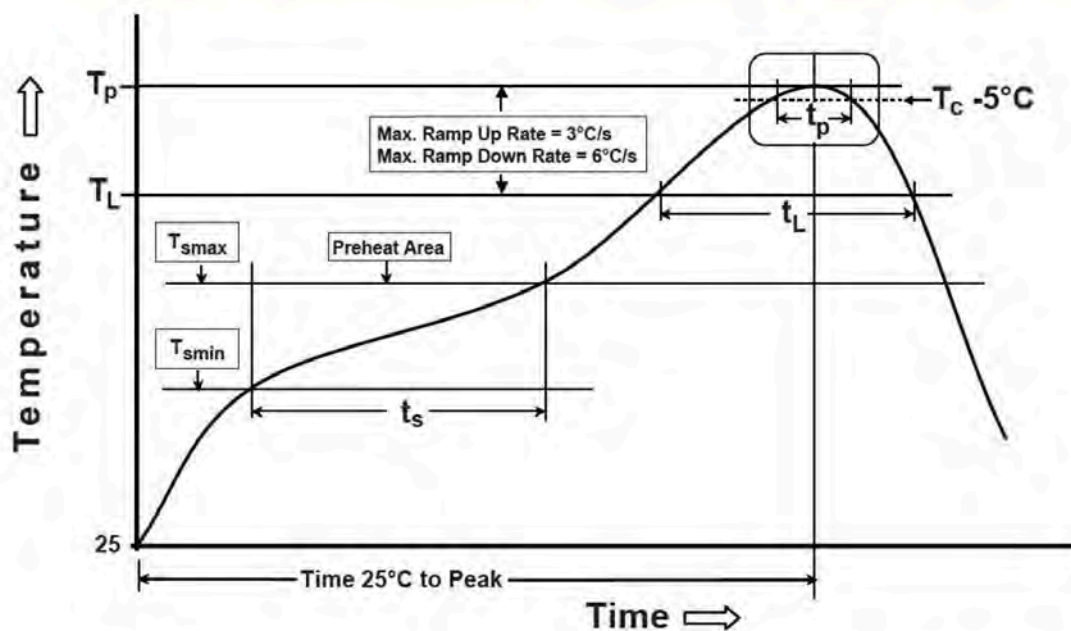
Unless otherwise specified, all tolerances are: $\pm \frac{.010}{0,25}$

Pin number(s)

1, 28	The positive supply for the line interface module. Connect to +3.3V for LVPECL applications.
2, 3	D0, D1: Differential LVPECL data outputs. These outputs can drive 50 ohm loads connected to VCC - 2.0V. Recommend 150 ohms to Gnd.
7, 8	Gnd (V EE): The negative supply for the line interface module. Connect to Gnd for LVPECL applications.
13, 14	R X -, R X + : Transformer coupled differential inputs to receiver section. For coax applications, R X - should be connected to shield of cable/earth Gnd; R X + should be connected to the center conductor. Earth Gnd should be AC coupled to DC signal Gnd using a 0.027 μ F capacitor, ~500V.
15, 16	T X -, T X + : Transformer coupled differential outputs to cable. For coax applications, T X - should be connected to shield of cable/earth Gnd; T X + should be connected to the center conductor. Earth Gnd should be AC coupled to DC signal Gnd using a 0.027 μ F capacitor, 500V.
21, 22	Gnd (V EE): The negative supply for the line interface module. Connect to Gnd for LVPECL applications.
24, 25	D0, D1: Differential LVPECL compatible data inputs to the transmitter side of the module.
4, 5, 6, 9, 10, 11, 12, 17, 18, 19, 20, 23, 26, 27	These pins are "no connect," do not apply Gnd, VCC, or signal lines to these pins.



Transceiver 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	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 times of reflow cycle: 2.

For More Information

iNRCORE, LLC
311 Sinclair Road Bristol,
PA 19007-6812 U.S.A
Tel: +1.215.781.6400
Fax: +1.215.781.6430

Global Sales Representatives and Locations:

<http://www.inrcore.com>

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright, 2020. iNRCORE, LLC. All rights reserved.

