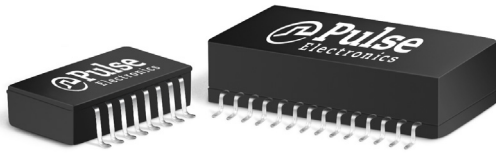


# IEEE 1394B Firewire 1.062Gb Transceiver Line Interface Module

Copperhead Series



- Small package incorporating active transmit and passive receive circuits with integrated isolation transformers
- Low power dissipation
- Low transmit/receive jitter
- Recommended for distances up to 20 meters
- AS9100 Certified (Based on, including ISO 9001:2000)
- IC grade transfer-molded package withstands 225 degree C peak temperature profile.
- Made in the USA

## TRANSMITTER — Electrical Specifications @ 25°C — Operating Temperature -55°C to +125°C

| Part Number  | Input Data Voltage - $V_{IL}$ (V) |      |      | Input Data Voltage - $V_{IH}$ (V) |      |      | Input Voltage Differential - $V_{IN}$ (mV) |     |      | Input Current - $I_{IL}$ ( $\mu$ A) | Input Current - $I_{IH}$ ( $\mu$ A) | Differential Signal Level - $V_{OUT}$ (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                                 | 1200                                       | 1300 | 1500 |
| TM1062TXHUA  | 1.35                              | 1.63 | 1.88 | 2.07                              | 2.33 | 2.58 | 150                                        | 800 | 1200 | 500                                 | 750                                 | 1200                                       | 1300 | 1500 |
| TM1062TX3DUA | 1.35                              | 1.63 | 1.88 | 2.07                              | 2.33 | 2.58 | 150                                        | 800 | 1200 | 500                                 | 750                                 | 1200                                       | 1300 | 1500 |

## TRANSMITTER — Additional Electrical Specifications @ 25°C — Operating Temperature -55°C to +125°C

| Part Number  | Power Dissipation (mW) | $\theta_{ja}$ ( $^{\circ}$ C/W) |        | Input Voltage ( $V_{CC} \pm 10\%$ ) | Data Rate - $D_R$ (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 | TYP                                 | MAX | MIN              |
| TM1062TXDUA  | 232                    | 41                              | 39     | 3.3V                                | 246                      | 1062 | 62                             | 94  | 275                                 | 400 | -12              |
| TM1062TXHUA  | 232                    | 41                              | 39     | 3.3V                                | 246                      | 1062 | 62                             | 94  | 275                                 | 400 | -12              |
| TM1062TX3DUA | 700                    | 34                              | 30     | 3.3V                                | 246                      | 1062 | 62                             | 94  | 275                                 | 400 | -12              |

## TRANSFORMER COUPLED RECEIVER — Electrical Specifications @ 25°C — Operating Temp. -55°C to +125°C

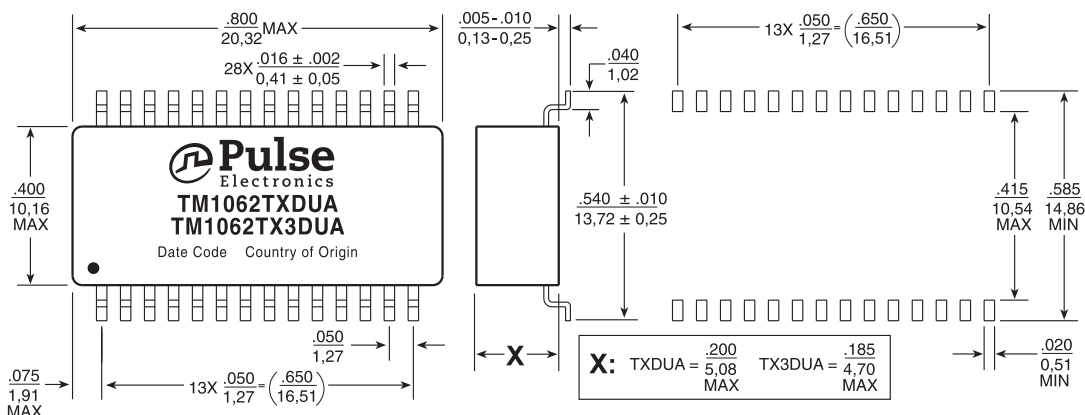
| Part Number  | Turns Ratio | Primary Inductance - $L_P$ ( $\mu$ H) | Rise Time (20%-80%) (pS) | Data Rate - $D_R$ (Mb/s) |      | Winding Resistance - DCR ( $\Omega$ ) | Insertion Loss (dB) | Return Loss (dB) |
|--------------|-------------|---------------------------------------|--------------------------|--------------------------|------|---------------------------------------|---------------------|------------------|
|              | TYP         | MIN                                   | MAX                      | MIN                      | MAX  | MAX                                   |                     |                  |
| TM1062TXDUA  | 1:1         | 4.5                                   | 300                      | 246                      | 1062 | 0.2                                   | -2 MAX              | -12 MIN          |
| TM1062TXHUA  | 1:1         | 4.5                                   | 300                      | 246                      | 1062 | 0.2                                   | -2 MAX              | -12 MIN          |
| TM1062TX3DUA | 1:1         | 4.5                                   | 300                      | 246                      | 1062 | 0.2                                   | -2 MAX              | -12 MIN          |

\* At 1062 Mb/s data rate

Note: Add suffix "T" to part number for Tape and Reel package

## Mechanical

### TM1062TXDUA / TM1062TX3DUA



|             | TXDUA     | TX3DUA    |
|-------------|-----------|-----------|
| Weight      | 2.3 grams | 2.8 grams |
| Tape & Reel | 350/reel  | 350/reel  |
| Tray        | 25/tray   | 25/tray   |
| MSL         | 3         | 3         |

Dimensions: Inches  
mm  
Unless otherwise specified, all tolerances are  $\pm .005$   
0.13

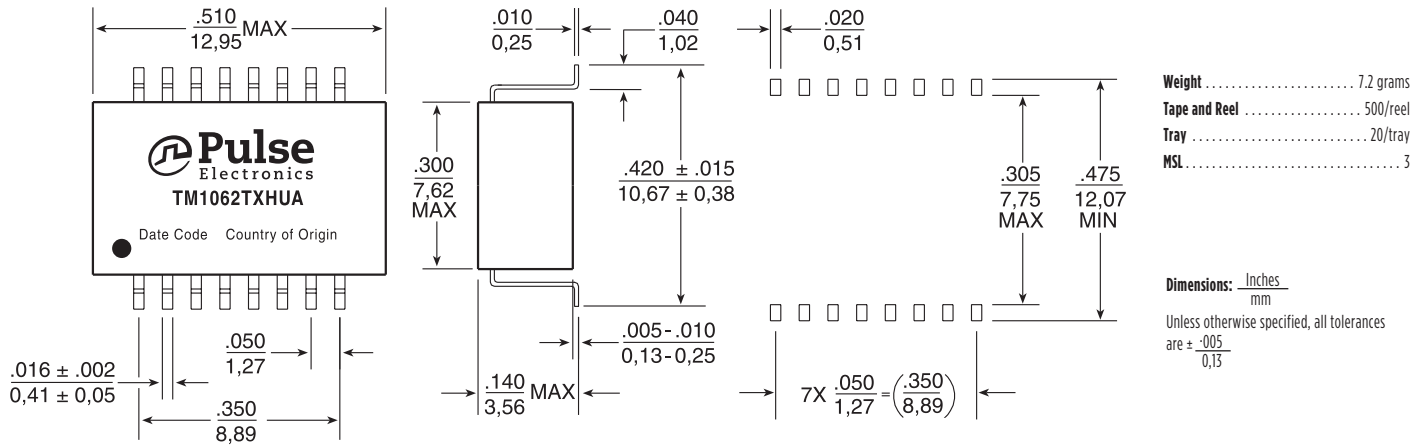
# IEEE 1394B Firewire 1.062Gb Transceiver Line Interface Module

Copperhead Series



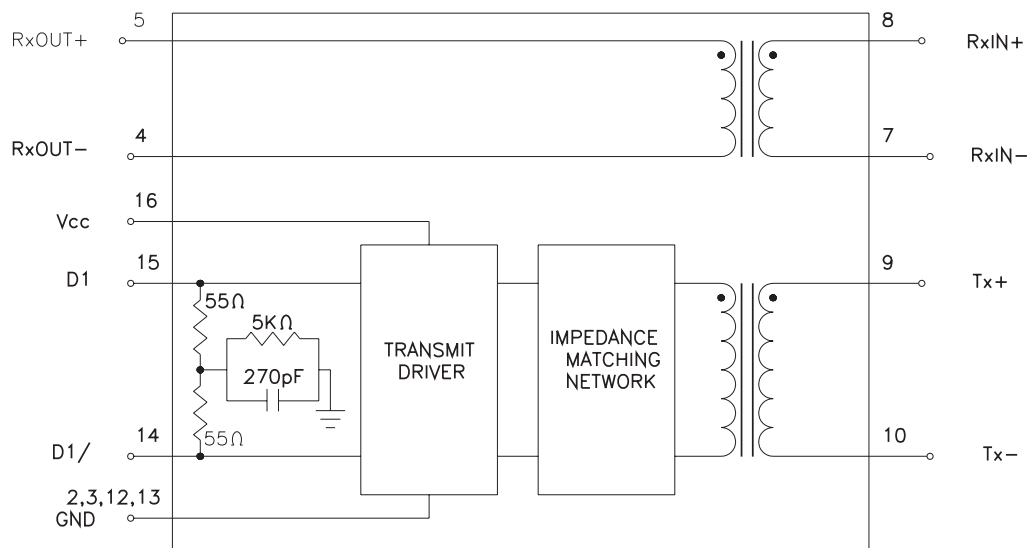
## Mechanical

TM1062TXHUA



## Schematic

TM1062TXHUA



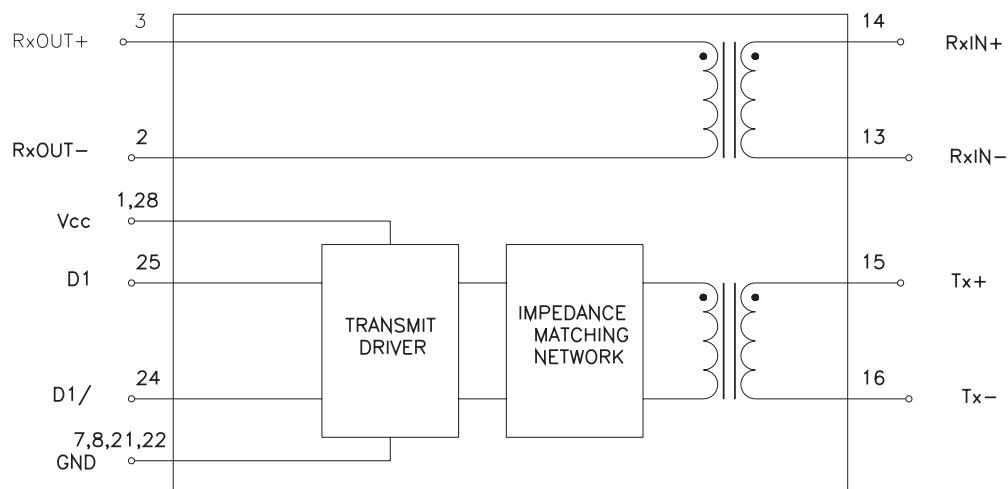
# IEEE 1394B Firewire 1.062Gb Transceiver Line Interface Module

Copperhead Series

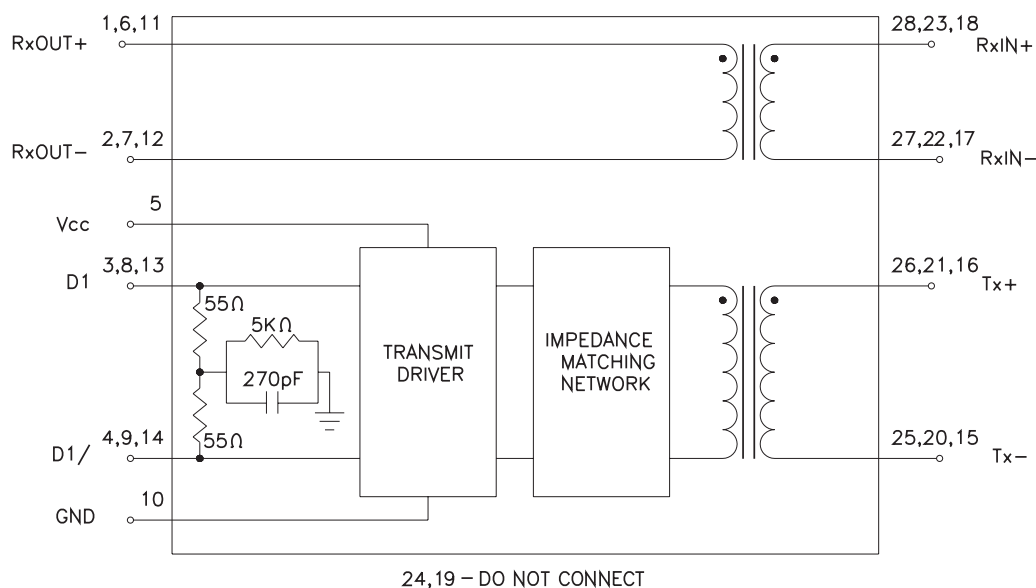


## Schematics

### TM1062TXDUA



### TM1062TX3DUA



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