

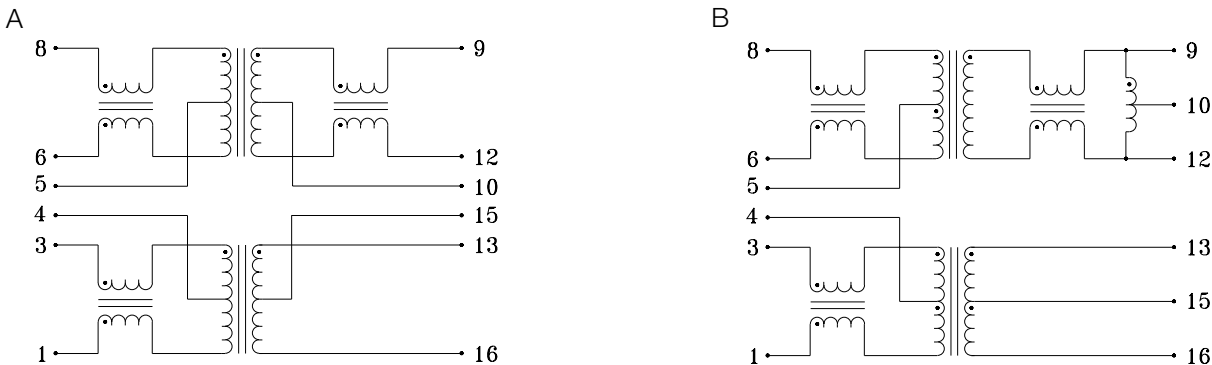
# HIGH SPEED LAN MAGNETICS

- 100Base-TX, 10/100Base-TX, ATM155 or 100 Mbps TP-FDDI applications
- Available with or without impedance matched common mode termination
- Compatible with multiple transceivers
- 2000 Vrms isolation
- Low profile, surface mount or through-hole packaging available
- 350µH OCL (inductance) @ 8mA bias

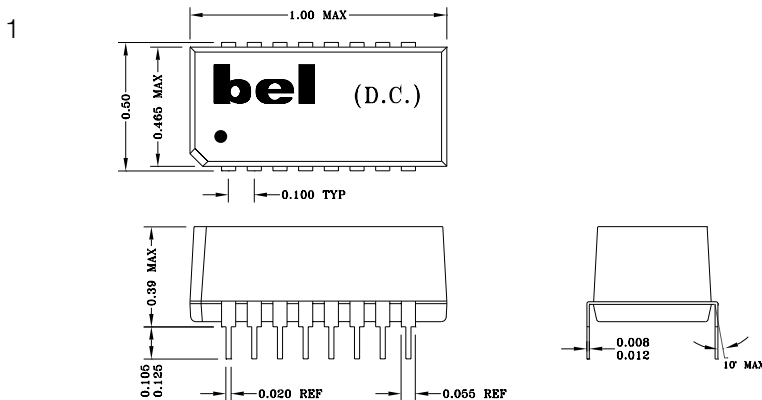
## ELECTRICALS AT 25°C

| Part No.     | Insertion Loss (dB) Typ<br>1MHz-100MHz | Return Loss (dB) Min<br>1MHz-30MHz | Return Loss (dB) Min<br>30MHz-60MHz | Return Loss (dB) Min<br>60MHz-80MHz | Crosstalk (dB) Min<br>1MHz-100MHz | Common to Diff Mode Rej (dB) Min |        | Common to Common Mode Rej (dB) Min |        | Schematic | Package Style |
|--------------|--|------------------------------------|-------------------------------------|-------------------------------------|-----------------------------------|----------------------------------|--------|------------------------------------|--------|-----------|---------------|
|              |  |                                    |                                     |                                     |                                   | 30MHz                            | 100MHz | 30MHz                              | 100MHz |           |               |
| A558-5999-00 | -1.0                                   | -16                                | 16-20log(f/30MHz)                   | -10                                 | -30                               | -40                              | -30    | -50                                | -40    | A         | 1             |
| S558-5999-00 | -1.0                                   | -16                                | 16-20log(f/30MHz)                   | -10                                 | -30                               | -40                              | -30    | -50                                | -40    | A         | 2             |
| S558-5999-43 | -1.0                                   | -16                                | 16-20log(f/30MHz)                   | -10                                 | -30                               | -40                              | -30    | -50                                | -40    | B         | 3             |
| S558-5999-44 | -1.0                                   | -16                                | 16-20log(f/30MHz)                   | -10                                 | -30                               | -40                              | -30    | -50                                | -40    | B         | 4             |
| S558-5999-45 | -1.0                                   | -16                                | 16-20log(f/30MHz)                   | -10                                 | -30                               | -40                              | -30    | -50                                | -40    | A         | 3             |

## SCHEMATICS



## MECHANICALS



**Corporate Office**  
**Bel Fuse Inc.**  
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 E-Mail: [BelFuse@belfuse.com](mailto:BelFuse@belfuse.com)  
 Internet: <http://www.belfuse.com>

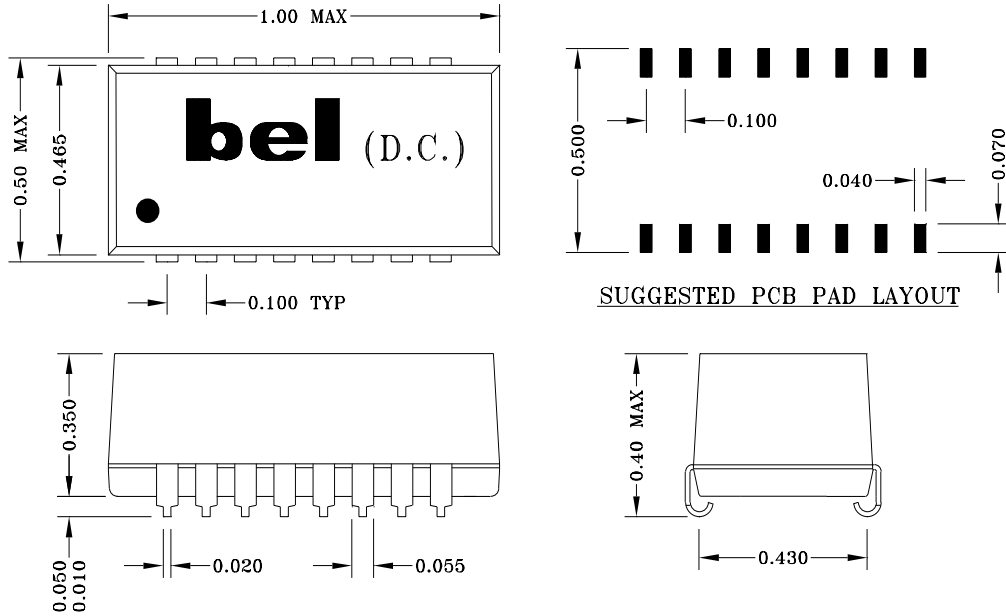
**Far East Office**  
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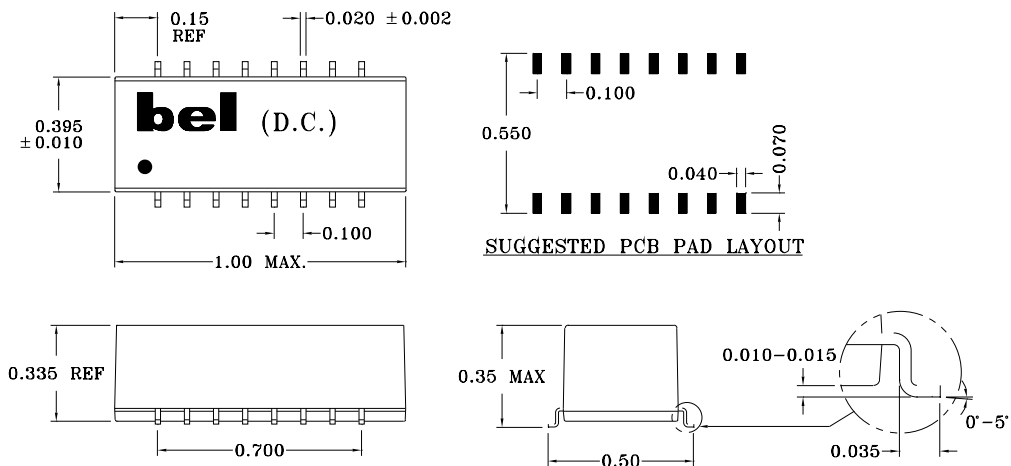
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### MECHANICALS (CONT'D)

2



3

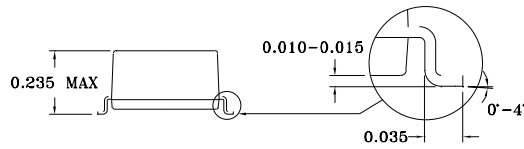
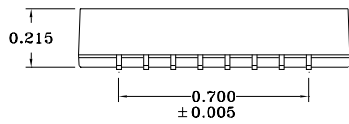
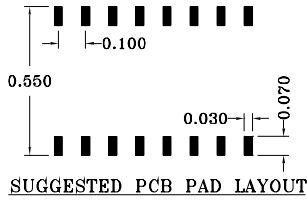
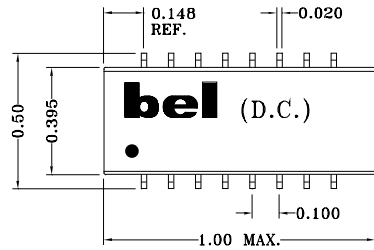


Specifications subject to change without notice.

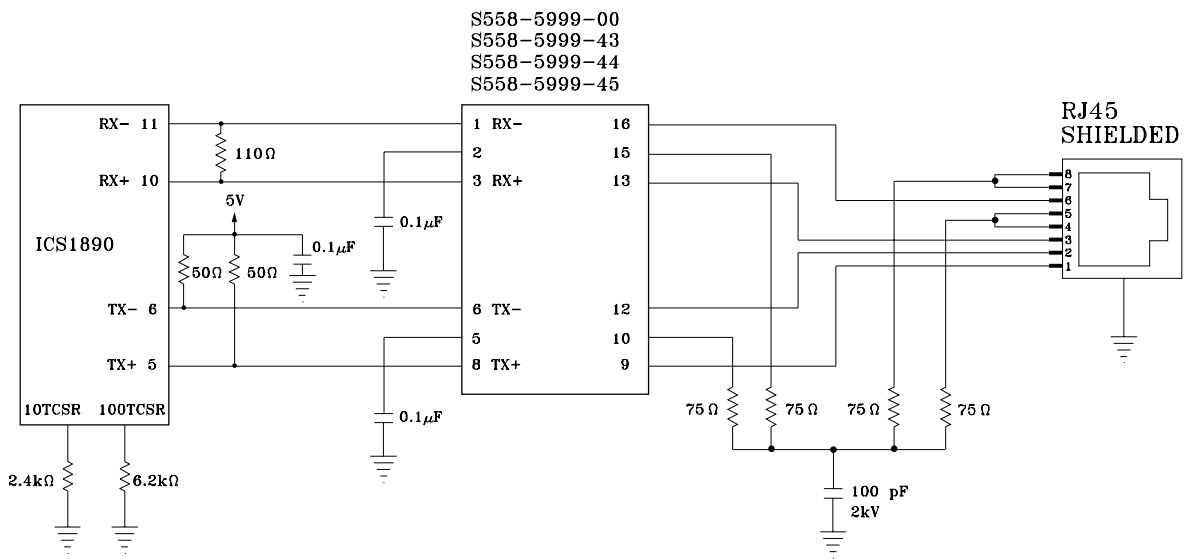
# HIGH SPEED LAN MAGNETICS

## MECHANICALS (CONT'D)

4

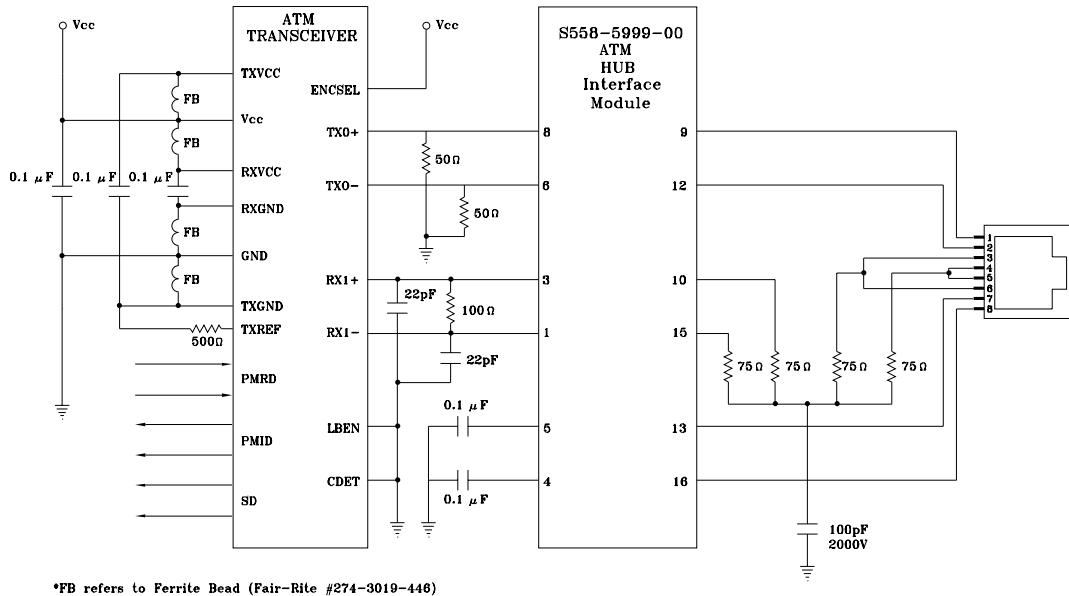


## APPLICATION CIRCUITS



Specifications subject to change without notice.

**APPLICATION CIRCUITS (CONT'D)**



**APPLICATION NOTES**

- These Bel part types have been designed for use in 100 Mbps TP-FDDI, 100Base-TX, 10/100Base-TX and ATM 155 Mbps applications over Category 5 UTP or STP cable. Each part type provides high voltage isolation, wave shaping, superior EMI and noise suppression and fast rise times. All parts meet IEEE 802.3, ANSI X3T9.5 and ATM Forum Committee standards.
- Each Bel part type is designed with high voltage isolation transformers and common mode chokes. The S558-5999-43 and -44 also contain an impedance matched common mode termination. For background information on the proper implementation or complete elimination of this termination consult Bel's separate application note available on this subject. All designs have been created to provide 350μH OCL (inductance) with 8mA DC bias applied. Consult the Bel short form catalog and recommended application circuit for the specific configuration of each individual part type.
- Bel's low profile, surface mount packaging is ideal for high speed pick and place machinery. Parts can be shipped on tape and reel for high speed placement. Construction processes have been implemented for thermal compatibility with high temperature IR reflow assembly processing. Post dipping of leads assist with PC board solderability. Each part is optically inspected to meet rigid coplanarity requirements.

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