

# HIGH SPEED LAN MAGNETICS

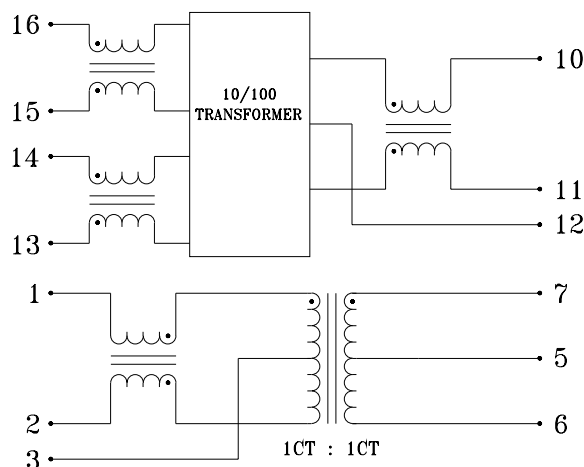
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- Designed to enhance performance with National Semiconductor 10/100 DSP 83840/83223 chipsets
- Split input on transmit channel provides better balance of differential output signal and greater isolation between 10Base-T and 100Base-TX transceivers
- Split design allows CMC's to address 10 Mbps or 100 Mbps signals individually
- Additional 10 Mbps and 100 Mbps common chokes provide for lower EMI emissions
- 2000 Vrms isolation

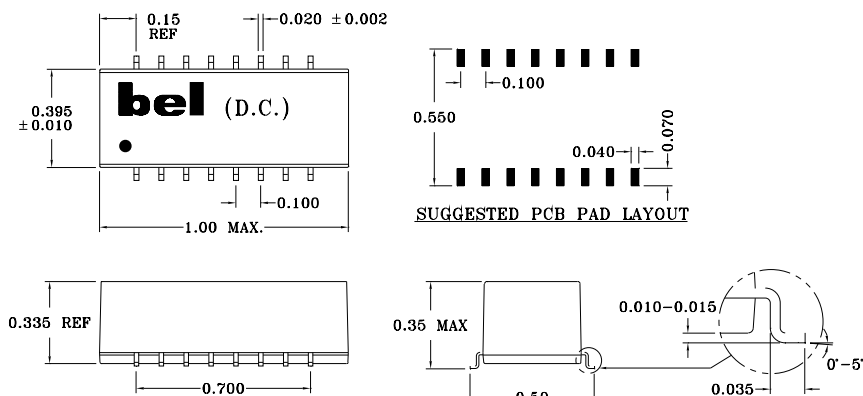
## ELECTRICALS AT 25°C

Part No.	Inductance OCL (μH) Min with 8mA DC bias	Insertion Loss (dB) Min 100KHz-100MHz	CMDR 1% (dB) Min 100KHz-50MHz	CMDR 1% (dB) Min 50MHz-100MHz	Crosstalk (dB) Max 100KHz-100MHz
S558-5999-37	350	-1.1	-50	-40	-30

## SCHEMATIC

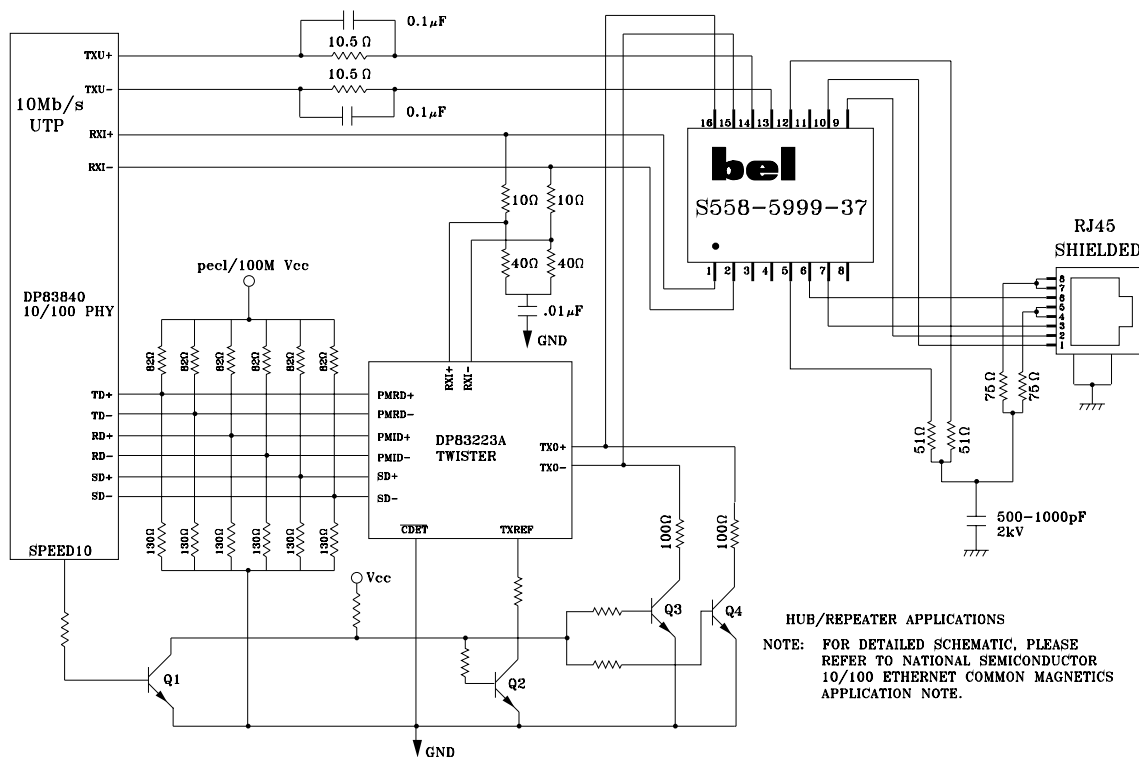


## MECHANICAL



Specifications subject to change without notice.

### APPLICATION CIRCUIT



### APPLICATION NOTES

- These Bel dual, 2-port devices have been uniquely designed for either 100 Mbps or 10/100 Mbps data transmission systems over category 5 UTP/STP cable. These Bel parts have been tested and qualified for use with the National Semiconductor DP83223 TP-Transceiver and DP83840 10/100 Mbps PHY device. Each Bel module provides superior EMI noise suppression, high voltage isolation, wave shaping and fast, but controlled rise times. All parts meet IEEE 802.3 standards, which includes 350μH OCL (inductance) when 8mA of DC bias is applied.
- The Bel unique design approach allows for separation of the 10 Mbps and 100 Mbps signals, creating better signal balance, superior noise suppression, optimization of performance for each 10 Mbps and 100 Mbps signal and ease of magnetics design. This approach also allows for the addition of either a 10 Mbps or 100 Mbps common mode choke, which could not be effectively implemented if the 10 Mbps and 100 Mbps shared the same signal lines.
- 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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