

HIGH SPEED LAN MAGNETICS

960010A

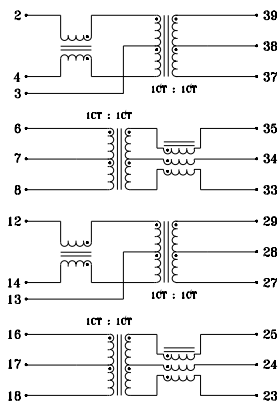
- Dual, 2-port designs offer optimal board design layout and per port cost efficiencies
- Tested for use with multiple 10/100 Mbps and 100 Mbps PHY transceivers requiring 1:1 Tx and Rx transformers
- Low profile, SMT packaging, rated to withstand 225°C peak IR reflow temperature
- Available with and without impedance matching common mode termination on the transmit channel
- 2000 Vrms RMS isolation

ELECTRICALS AT 25°C

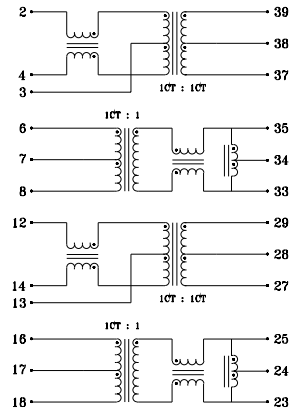
Part No.	Insertion Loss	Return Loss	Return Loss	Return Loss	Crosstalk	Common to Diff		Common to Common		Schematic
	(dB) Typ	(dB) Min	(dB) Min	(dB) Min		Mode Rej (dB) Min	Mode Rej (dB) Min	Mode Rej (dB) Min	Mode Rej (dB) Min	
	1MHz-100MHz	1MHz-30MHz	30MHz-60MHz	60MHz-80MHz	1MHz-100MHz	30MHz	100MHz	30MHz	100MHz	
S558-5999-75	-1.0	-16	16-20log(f/30MHz)	-10	-35	-50	-40	-40	-30	B
S558-5999-79	-1.0	-16	16-20log(f/30MHz)	-10	-35	-50	-40	-40	-30	C
S558-5999-84	-1.0	-16	16-20log(f/30MHz)	-10	-30	-50	-40	-40	-30	A
S558-5999-98	-1.0	-16	16-20log(f/30MHz)	-10	-35	-50	-40	-40	-30	D

SCHEMATICS

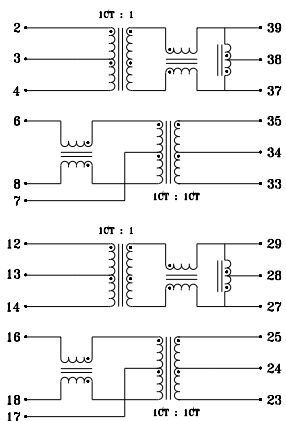
A



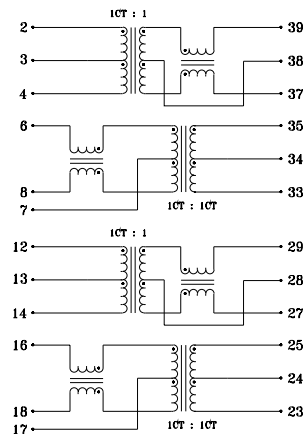
B



C



D



Specifications subject to change without notice.

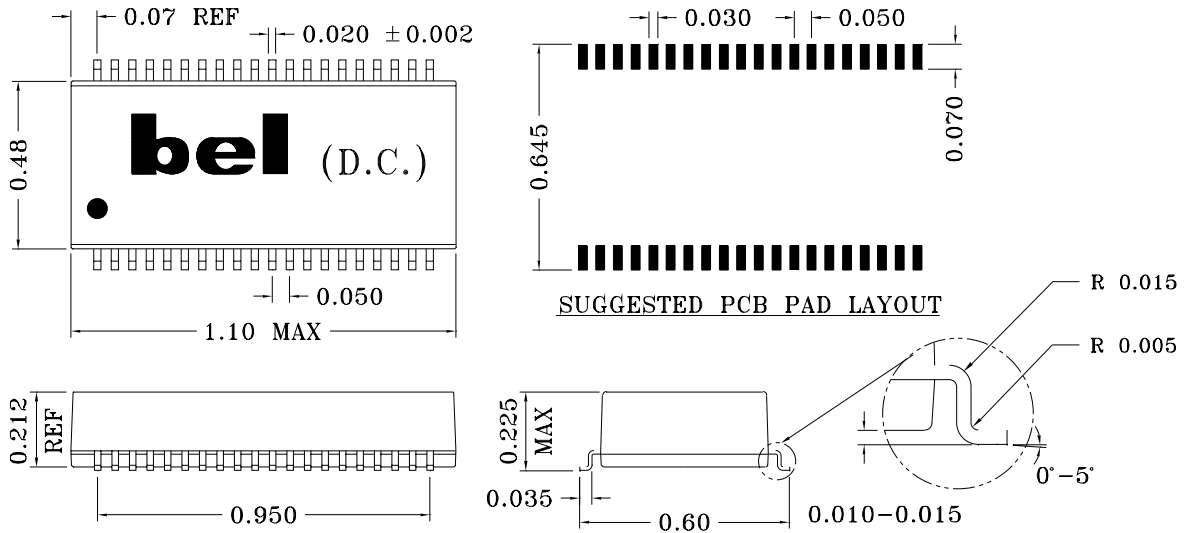


defining a degree of excellence

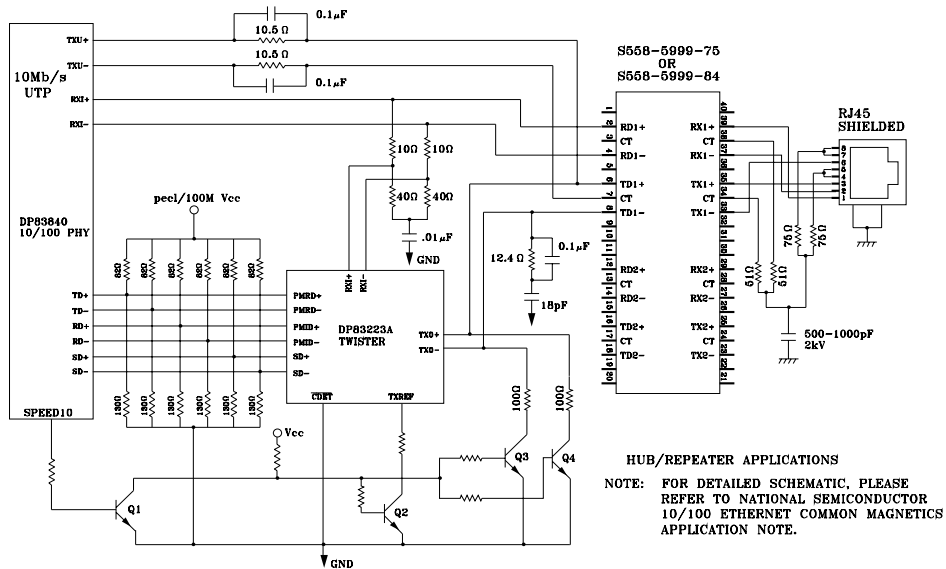
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MECHANICAL



APPLICATION CIRCUITS

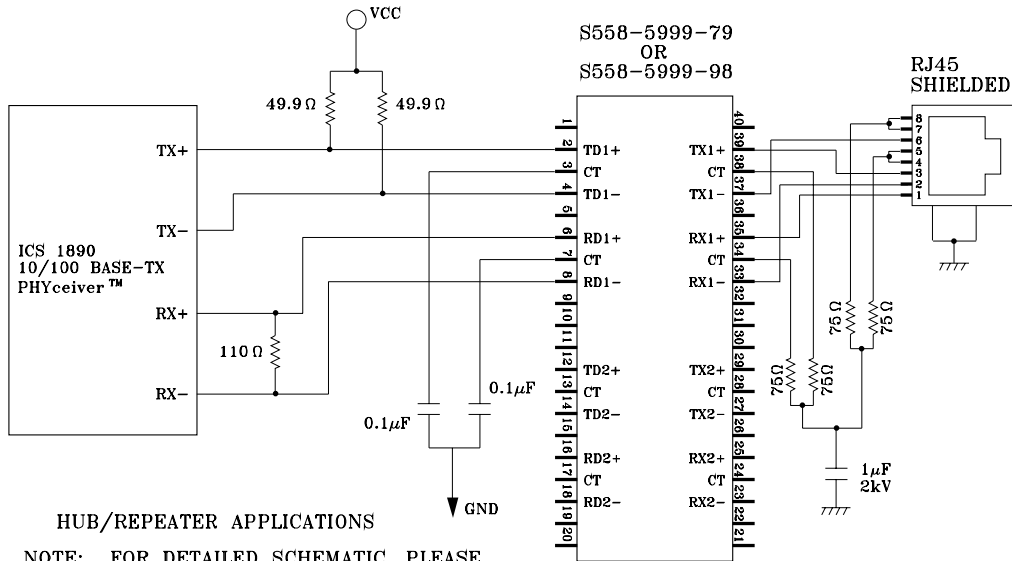


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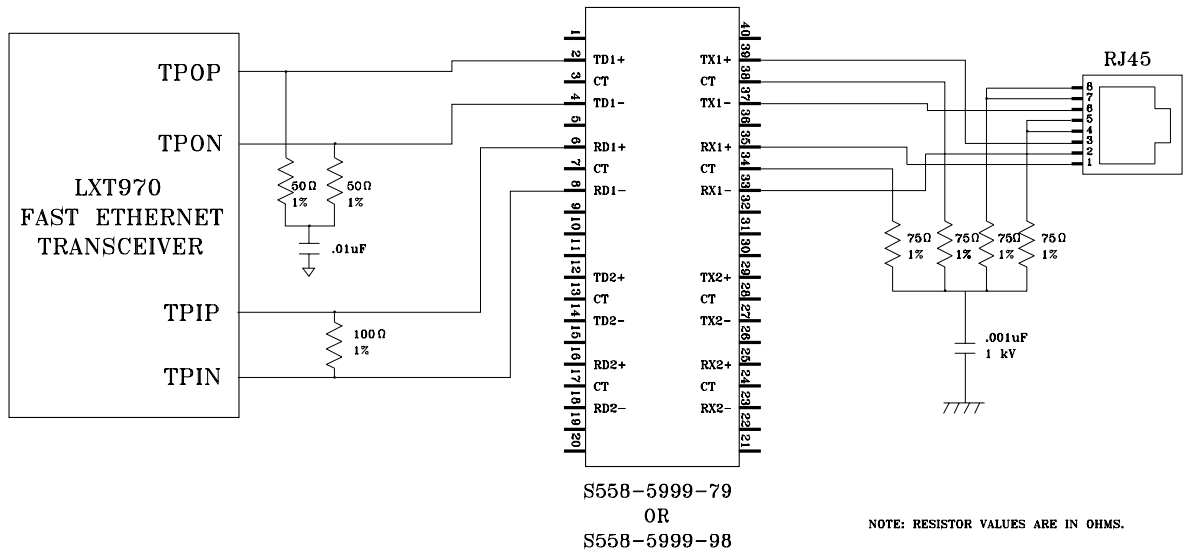
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APPLICATION CIRCUITS (CONT'D)



HUB/REPEATER APPLICATIONS

NOTE: FOR DETAILED SCHEMATIC, PLEASE REFER TO ICS APPLICATION NOTE



NOTE: RESISTOR VALUES ARE IN OHMS.

TYPICAL HUB APPLICATION (SINGLE CHANNEL ONLY)



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APPLICATION NOTES

- Bel has designed these part types for use in either 100 Mbps or 10/100 Mbps multi-port applications, where the PHY transceiver requires a list of recommended 1:1 transmit and receive isolation transformer ratios. Please refer to the Bel short form catalog for recommendations of mating semiconductors. These dual, 2-port devices provide high isolation transformers, signal wave shaping, fast but controlled rise times, EMI and common mode noise suppression. All part types meet IEEE 802.3 standards, which includes a requirement for 350 μ H OCL (inductance) at 8mA DC bias applied. Use of these Bel part types provides optimum space and cost per port efficiency with no sacrifice in performance versus similar single port devices.
- Each dual, 2-port device is available with or without an impedance matching common mode termination. A balanced board layout and precise selection of discrete components used in conjunction with the termination is critical for proper functionality. For the background on how to correctly implement this termination, or for information on how to eliminate this circuit entirely, please review Bel's separate application note.
- 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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