

# 10BASE-T NETWORK COMPONENTS QUAD 4-PORT MODULES

960014A

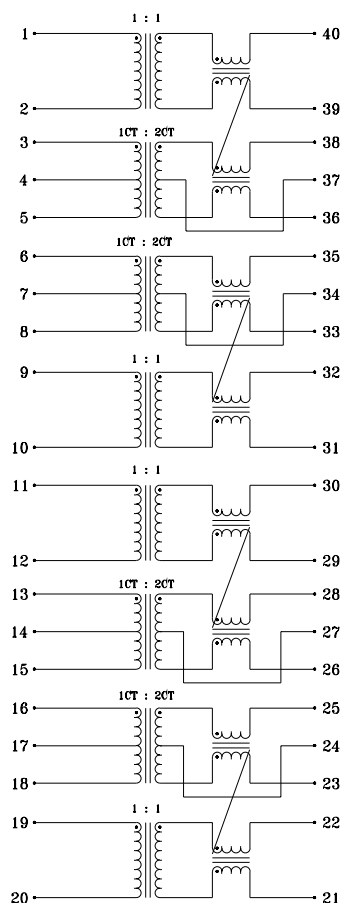
- Designed for use with National Semiconductor's DP83959 10Base-T PHY transceiver, which incorporates digital filtering in the silicon
- Family of quad, 4-port designs utilizing common footprints and pinouts, offering choice of common mode choke topologies
- Low profile, surface mount packaging, rated to 225°C peak IR reflow temperature
- Cost and space efficient design solution
- 2000 Vrms isolation

## ELECTRICALS AT 25°C

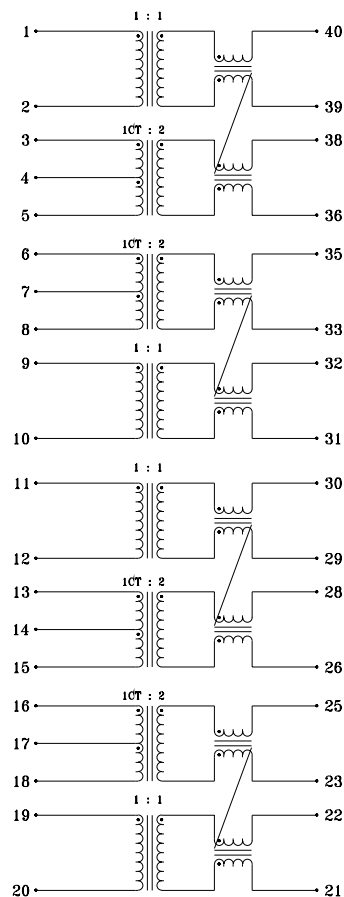
Part No.	Insertion Loss (dB) Max 1-10MHz	OCL (Inductance) ( $\mu$ H) Min		Return Loss (dB) Min 5MHz-10MHz	Crosstalk (dB) Min 100kHz-30MHz	CM-CM Rej (dB) Min			Schematic
		TX	RX			5-10MHz	10-30MHz	30-100MHz	
S553-5999-28	-1.0	50	200	-16	-40	-40	-35	-30	A
S553-5999-31	-1.0	50	200	-16	-40	-40	-35	-30	B
S553-5999-78	-1.0	50	200	-16	-40	-40	-35	-30	C
S553-5999-79	-1.0	50	200	-16	-40	N/A	N/A	N/A	D

## SCHEMATICS

A



B



Specifications subject to change without notice.



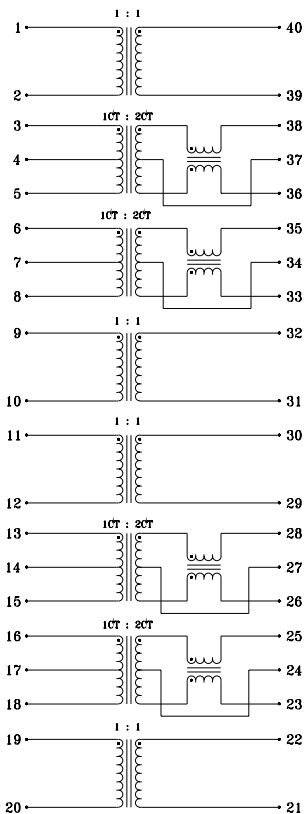
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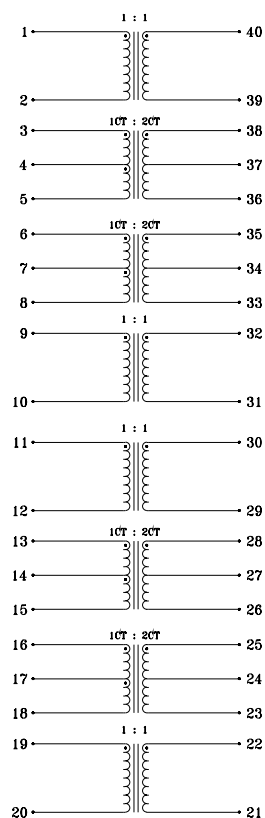
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### SCHEMATICS (CONT'D)

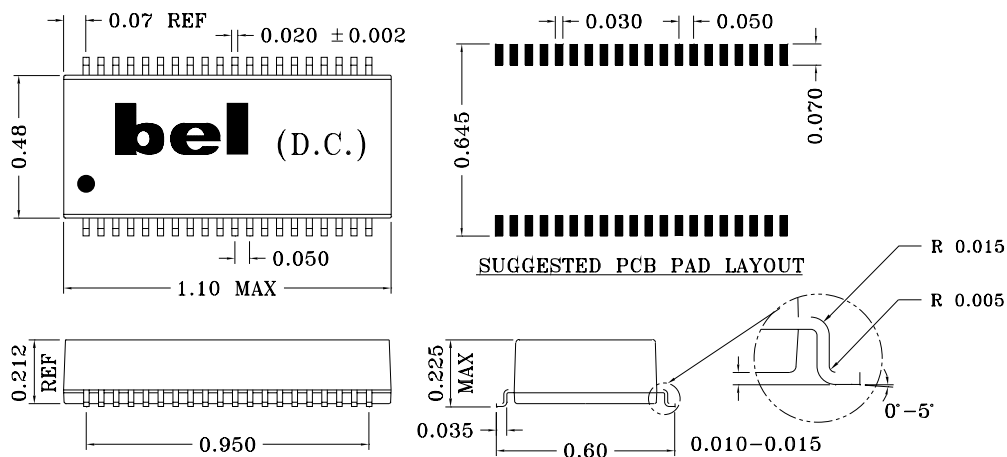
C



D



### MECHANICAL

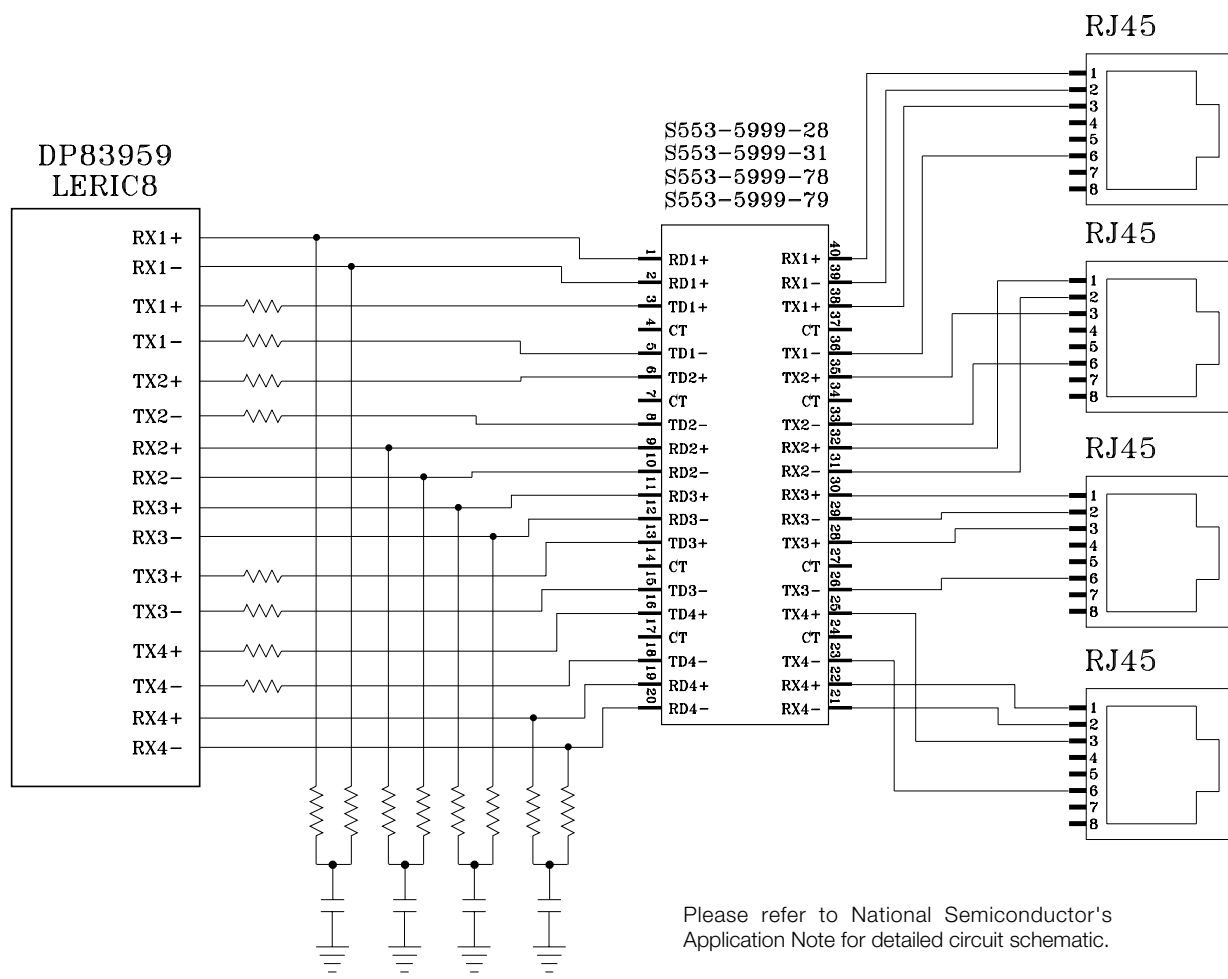


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## APPLICATION CIRCUIT





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## 10BASE-T NETWORK COMPONENTS QUAD 4-PORT MODULES

### APPLICATION NOTES

- Bel has developed a variety of quad, 4-port part types for use with National Semiconductor's product line of quad, 4-port PHY devices that incorporate digital filtering techniques within the silicon itself. Bel's "filterless magnetics" are optimized for this specific application and create a very cost efficient design solution. Each Bel part type contains transmit and receive transformers to provide for signal wave shaping, high voltage isolation and EMI noise suppression.
- Bel has designed these parts as a family of parts with common footprint and pinouts to enable the designer to customize the use of common mode choke for optimum system performance.
- The pinout of these devices is most commonly used in applications with double-decker or "stacked" RJ-45 connectors.
- In multi-port system applications, good PCB layout and proper grounding techniques are very critical to achieve FCC class A and B equipment approvals. Bel recommendations are available and can be provided by contacting our engineering department or your local sales representative.
- 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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