

defining a degree of excellence



# 10BASE-T NETWORK COMPONENTS

960012B

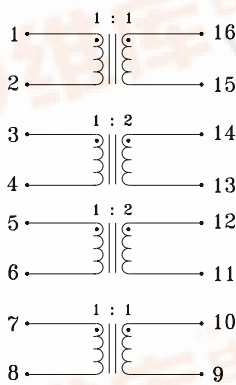
- Designed for use with National Semiconductor's RIC2A and LERIC 8 (DP83959) multi-port PHY transceivers
- Robust miniature SMT packaging, rated to 225°C peak IR reflow temperature
- Low cost dual 2-port design solution
- 2000 Vrms isolation
- S556-5999-30 includes inductors for use with additional differential filtering

## ELECTRICALS AT 25°C

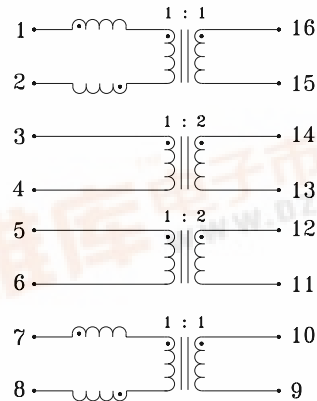
Part No.	Insertion Loss (dB) Max 1MHz-30MHz	OCL (Inductance) $\mu$ H Min	Return Loss (dB) Min 5MHz-10MHz	Crosstalk (dB) Min 100kHz-30MHz	Rise Time nsec Max	Schematic
S553-3873-17	-0.8	150	-20	-40	4	A
S556-5999-30	-0.5	180	-20	-40	4	B

## SCHEMATICS

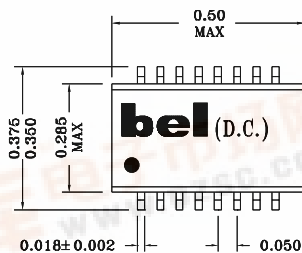
A



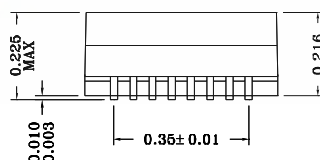
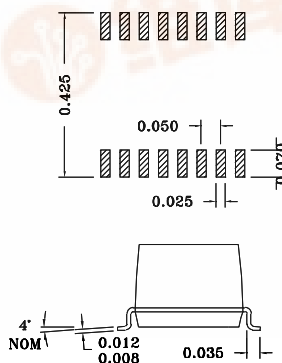
B



## MECHANICAL



### SUGGESTED PCB PAD LAYOUT



Specifications subject to change without notice.

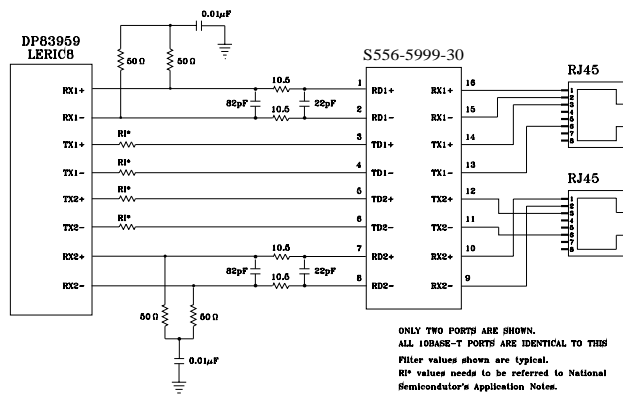
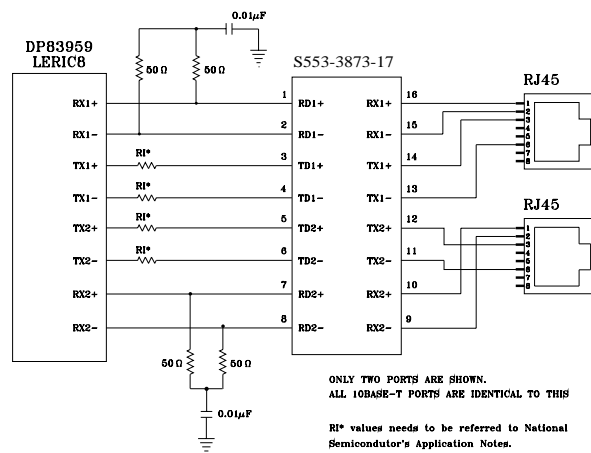


defining a degree of excellence

## 10BASE-T NETWORK COMPONENTS

960012B

### APPLICATION CIRCUIT



### APPLICATION NOTES

- Bel has designed these parts for use with National Semiconductor's 10Base-T transceivers, which include digital filtering in the silicon. All Bel part types contain high voltage isolation transformers. The Bel S556-5999-30 also contains inductor cores, when used with the recommended externally placed discrete elements, create a differential filter design sometimes necessary to reduce the effect of unwanted noise and to fully comply with IEEE 802.3 standards. Contact the local Bel sales office for a separate application note for implementation characteristics for the S556-5999-30. Common mode chokes are not inclusive to the design of these parts. With good layout and proper grounding techniques, the use of common mode chokes may be eliminated. For information on recommended PCB layouts, please contact Bel engineering. If necessary, separately packaged common mode chokes are available on data sheet 960046A.
- 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.

**Corporate Office**  
**Bel Fuse Inc.**  
198 Van Vorst Street, Jersey City, NJ 07302-4496  
Tel: 201-432-0463  
Fax: 201-432-9542  
E-Mail: BelFuse@belfuse.com

**Far East Office**  
**Bel Fuse Ltd.**  
8F/8 Luk Hop Street  
San Po Kong  
Kowloon, Hong Kong  
Tel: 852-2328-5515

**European Office**  
**Bel Fuse Europe Ltd.**  
Preston Technology Management Centre  
Marsh Lane, Preston PR1 8UD  
Lancashire, U.K.  
Tel: 44-1772-556601