

## Features

- Compliant with IEEE802.3 standards
- Designed for 10/100/1000 Base-T and PoE+
- PoE up to 1.2 ADC per center tap
- RoHS compliant\*

## Applications

- LAN
- Ethernet
- Power over Ethernet - PoE+

# SM51625EL LAN 10/100/1000 Base-T (PoE+) Transformer

### Electrical Specifications @ 25 °C

Turns Ratio (TD:MX)  $\pm 5\%$  ..... 1CT:1CT  
 OCL (@100 kHz, 0.1 V, 28 mA, DC Bias) ..... 80  $\mu$ H min.  
 Leakage Inductance (TD, MX Short) @ 100 kHz, 0.1 V ..... 0.5  $\mu$ H max.  
 DCR (TD): ..... 1.4 ohms max.  
 C<sub>ww</sub> (TD to MX) @ 100 kHz, 0.1 V ..... 25 pF typ.  
 Hi-Pot (Pri to Sec) ..... 1500 Vrms, 1 mA, 60 seconds

Insertion Loss (TD:MX)  
 0.3 to 1 MHz ..... -1.1 dB max.  
 1 to 65 MHz ..... -0.8 dB max.  
 65 to 100 MHz ..... -1 dB max.

Return Loss (TD, MX w/100  $\Omega$  load)  
 1 to 40 MHz ..... -16 dB min.  
 40 to 100 MHz ..... -10+20\*Log<sub>10</sub>(f/80 MHz) dB min.

Cross Talk (Between Each Channel)  
 1 to 30 MHz ..... -41 dB min.  
 30 to 60 MHz ..... -37 dB min.  
 60 to 100 MHz ..... -33 dB min.

Common Mode Rejection (TD:MX)  
 0.3 to 100 MHz ..... -30 dB min.

PoE+ Current  
 ..... Up to 1.2 ADC per center tap

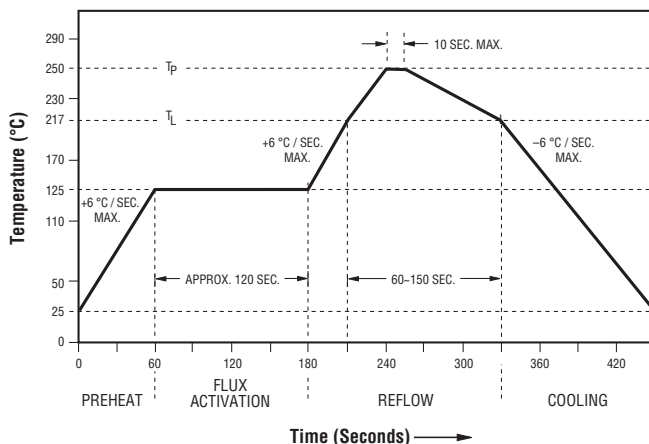
Operating Temperature Range  
 ..... -40 °C to +85 °C

Storage Temperature Range  
 ..... -55 °C to +125 °C

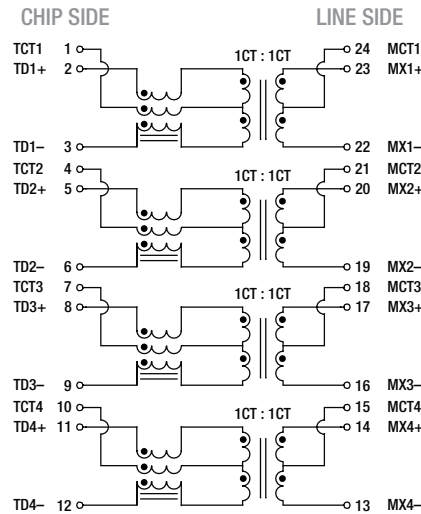
### Packaging Specifications

Tape & Reel ..... 350 pcs./reel

### Reflow Solder Profile



### Electrical Schematic



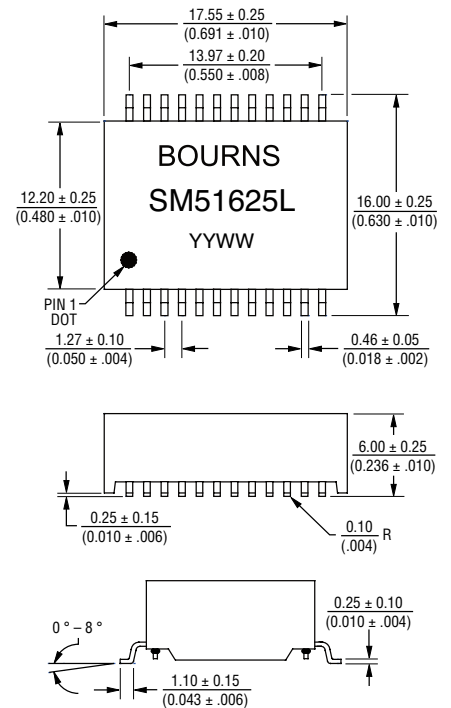
### How To Order

Model SM51625 E L

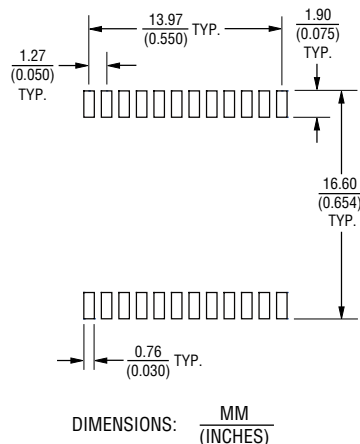
Packaging  
 E = Tape and Reel (350 pcs./reel)

Termination  
 L = Tin (RoHS Compliant)

### Product Dimensions



### Recommended Layout



\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011. Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

