



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



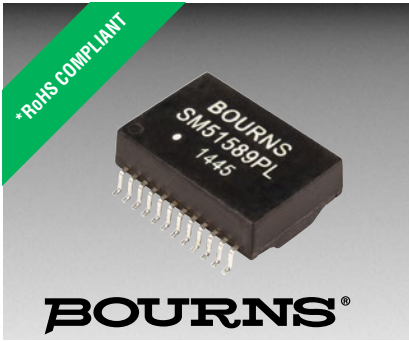
## Contact us

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## Features

- Compliant with IEEE802.3 standards
- Designed for 10/100/1000 Base-T and PoE
- 5K VAC dielectric withstanding voltage
- RoHS compliant\*

## Applications

- LAN
- Ethernet
- Power over Ethernet - PoE

# SM51589PEL LAN 10/100/1000 Base-T Transformer (PoE) Modules

### Electrical Specifications @ 25 °C

Turns Ratio ( $\pm 5\%$ )	.....1CT:1CT
OCL (@100 kHz, 0.1 V, 8 mA, DC Bias)	..... 350 $\mu$ H min.
Leakage Inductance (@100 kHz, 0.1 V)	..... 0.5 $\mu$ H max.
Interwinding Capacitance @ 100 kHz, 0.1 V	..... 35 pF max.
Isolation Hi-Pot	..... 5000 VAC, 1 mA, 2 seconds
Insertion Loss 1-100 MHz	.....-1.0 dB max.
Return Loss (@ 100 Ohms) 1-30 MHz	.....-18 dB min.
40 MHz	.....-14.4 dB min.
50 MHz	.....-13.1 dB min.
60-80 MHz	.....-12 dB min.
100 MHz	.....-10 dB min.
Cross Talk 30 MHz	.....-45 dB min.
60 MHz	.....-40 dB min.
80 MHz	.....-35 dB min.
DCMR 30 MHz	.....-43 dB min.
60 MHz	.....-37 dB min.
80 MHz	.....-33 dB min.
PoE Current	.....Up to 720 mADC
Operating Temperature Range	.....-40 °C to +85 °C
Storage Temperature Range	.....-25 °C to +125 °C

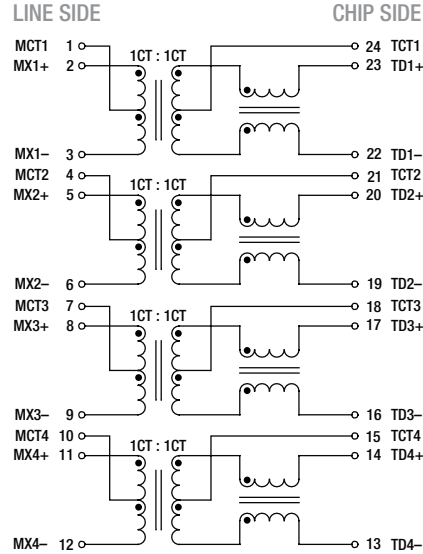
### Packaging Specifications

Tape & Reel ..... 400 pcs./reel

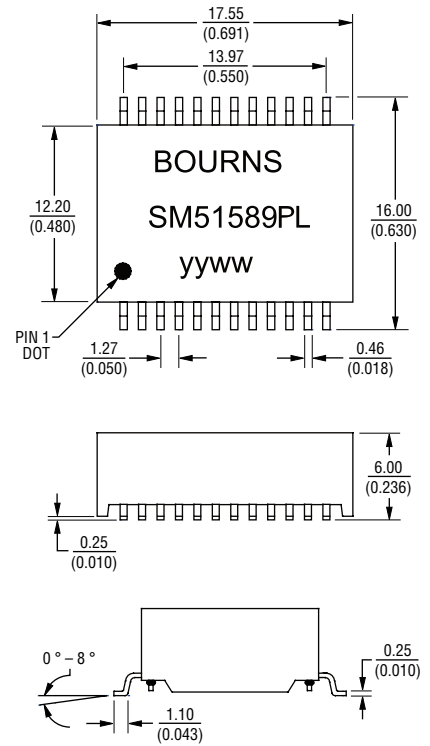
### How To Order

Model	<b>SM51589 P E L</b>
Construction	P = Potted
Packaging	E = Tape and Reel (400 pcs./reel)
Termination	L = Tin (RoHS Compliant)

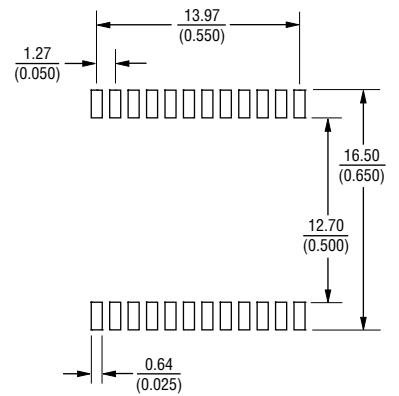
### Electrical Schematic



### Product Dimensions



### Recommended Layout



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$   
 TOLERANCES: xx.xx  $\pm \frac{0.25}{(.010)}$   
 0.xx  $\pm \frac{0.05}{(.002)}$

\*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.

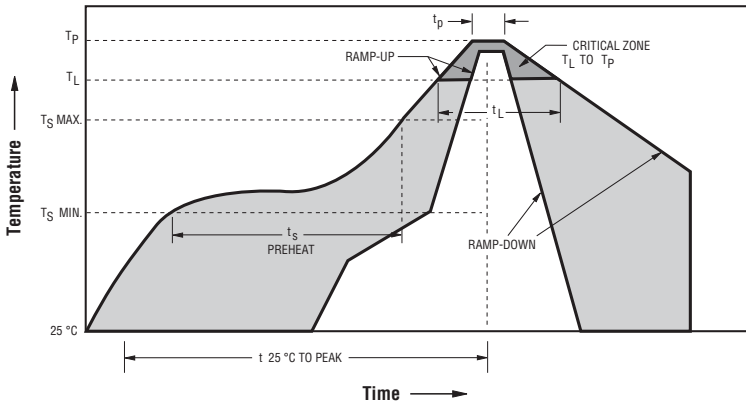
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

# SM51589PEL LAN 10/100/1000 Base-T Transformer (PoE) Modules

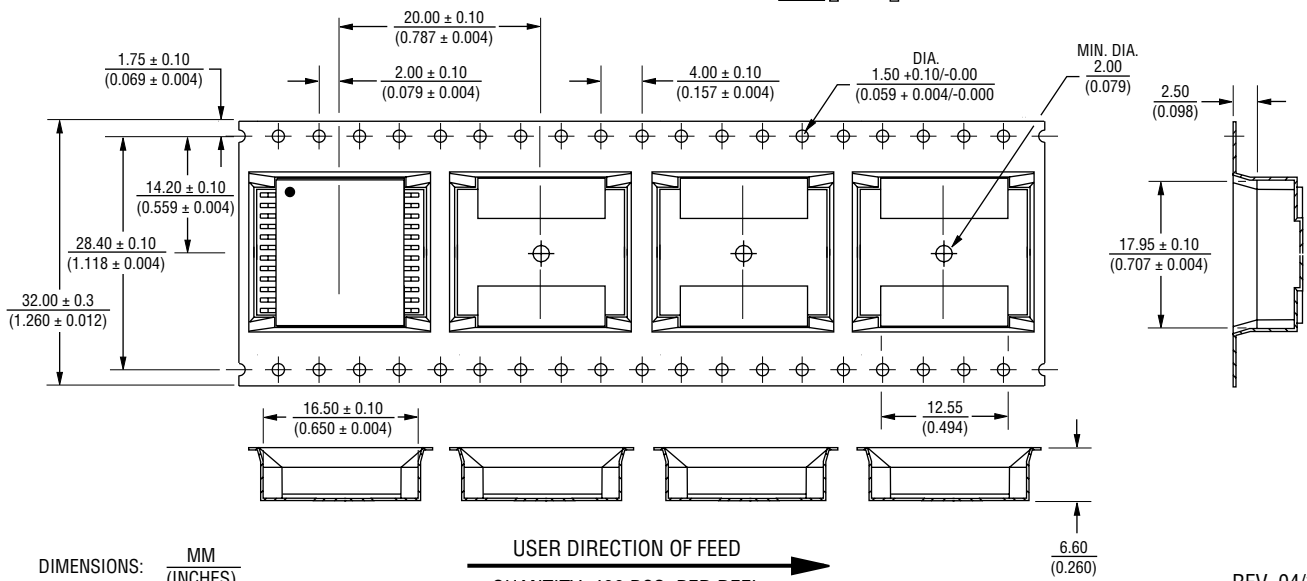
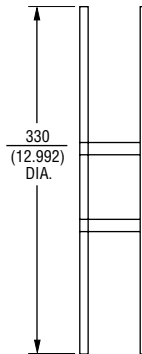
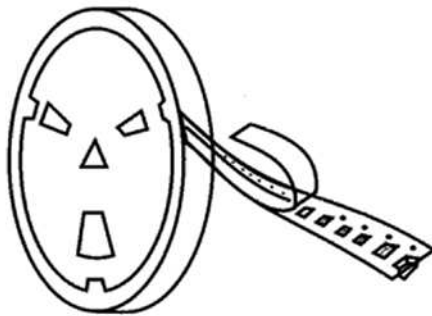


## Solder Profile



Ramp-up rate = 3 °C/sec. max.  
 Ramp-down rate = 6 °C/sec. max.  
 $T_L = 217\text{ °C}$   $t_L = 60\text{-}150\text{ sec.}$   
 $T_P = 250\text{ °C} \pm 3\text{ °C}$   
 Time within 5 °C of actual Peak Temp ( $t_p$ ) = 20-40 sec.  
 $T_S\text{ min} = 150\text{ °C}$   $T_S\text{ max} = 200\text{ °C}$   
 $T_S\text{ min to } T_S\text{ max} = 60\text{-}180\text{ sec.}$  25 °C to Peak Temperature = 8 min. max.

## Packaging Specifications



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

USER DIRECTION OF FEED  
 QUANTITY: 400 PCS. PER REEL

REV. 04/17

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