

## Features

- Compliant with IEEE802.3 standards
- Designed for 10/100 Base-Tx and PoE
- RoHS compliant\*

## Applications

- VoIP
- Power over Ethernet - PoE

# SM51108PEL LAN 10/100 Base-Tx VoIP Transformer (PoE) Modules

### Electrical Specifications @ 25 °C

Turns Ratio ( $\pm 3\%$ )	..... 1CT:1CT
OCL (@ 100 kHz, 0.1 V, 8 mA, DC Bias)	..... 350 $\mu$ H min.
Leakage Inductance (@ 100 kHz, 0.1 V with 1-2-3-6-7-8 Short)	..... 0.5 $\mu$ H max.
Cw/w @ 100 kHz, 0.1 V	..... 35 pF max.
DCR	
1-3 = 6-8	..... 0.8 ohm max.
9-11 = 14-16	..... 1.1 ohm max.
Insertion Loss	
1-100 MHz	..... -1.2 dB max.
Return Loss (@ 100 Ohms)	
1-30 MHz	..... -16 dB min.
40 MHz	..... -14 dB min.
50 MHz	..... -13 dB min.
60-80 MHz	..... -12 dB min.
Cross Talk	
60 MHz	..... -40 dB min.
100 MHz	..... -35 dB min.
DCMRR	
30 MHz	..... -43 dB min.
60 MHz	..... -37 dB min.
100 MHz	..... -33 dB min.
PoE Current	..... Up to 320 mA
Hi-Pot Test	..... 1500 Vrms
Operating Temperature Range	..... -40 °C to +85 °C
Storage Temperature Range	..... -25 °C to +125 °C

### Packaging Specifications

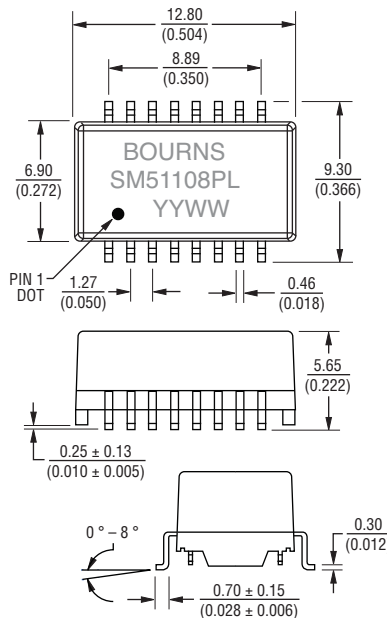
Tape & Reel ..... 600 pcs./reel

### How To Order

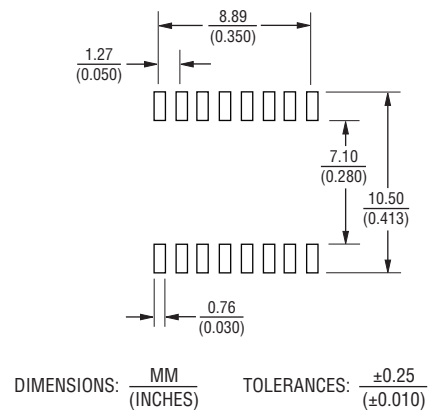
**SM51108 P E L**

Model \_\_\_\_\_  
 Construction \_\_\_\_\_  
 P = Potted  
 Packaging \_\_\_\_\_  
 E = Tape and Reel (600 pcs./reel)  
 Termination \_\_\_\_\_  
 L = Tin (RoHS Compliant)

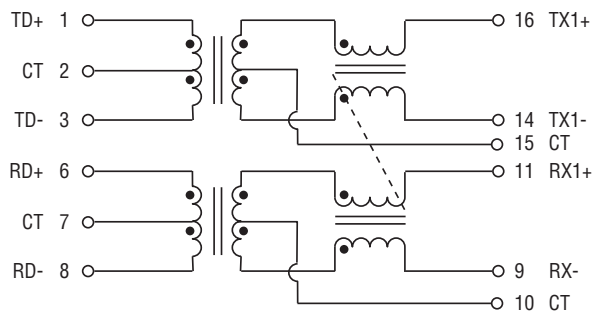
### Product Dimensions



### Recommended Layout



### Electrical Schematic



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\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

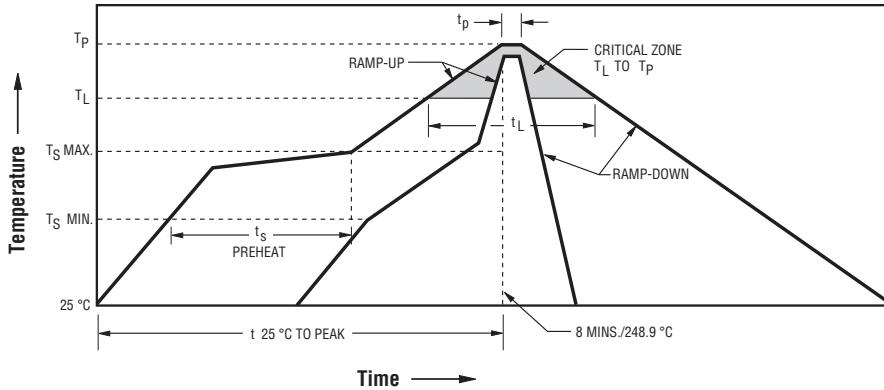
Specifications are subject to change without notice.

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.

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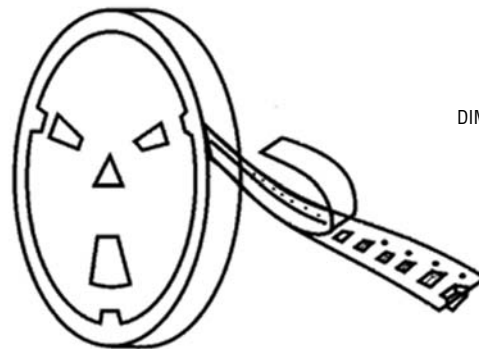
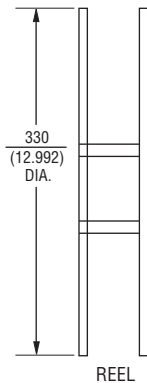
## Soldering Profile



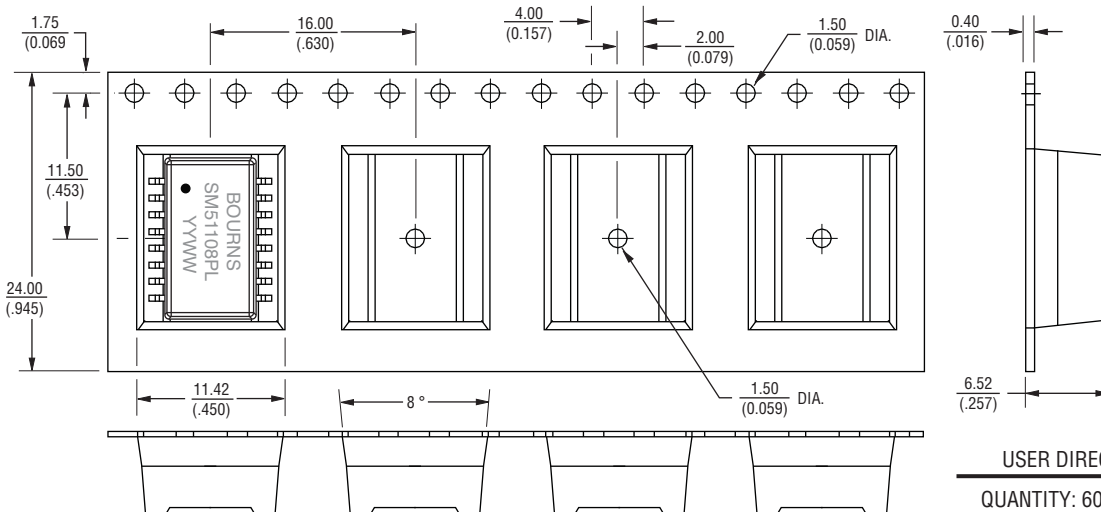
- Ramp-up rate = 3 °C/sec. max.
- Ramp-down rate = 6 °C/sec. max.
- $T_L$  = 217 °C
- $t_L$  = 60-150 sec.
- $T_P$  = 250 ± 30 °C
- Time within 5 °C of actual Peak Temp ( $t_p$ ) = 20~40 sec.
- $T_S$  min = 150 °C
- $T_S$  max = 200 °C
- $T_S$  min to  $T_S$  max = 60-180 sec., 25 °C to Peak Temperature = 8 min. max.

Refer to IPC/JEDEC J-STD020D standard.

## Packaging Specifications



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



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