

### Features

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



This series is currently available but not recommended for new designs. The newer model [SM13126PEL](#) is recommended.

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

### Electrical Specifications @ 25 °C

Turns Ratio (±3 %)	.....1CT:1CT
OCL (@ 100 kHz, 0.1 V, 8 mA, DC Bias)	..... 350 μH min.
Leakage Inductance (@ 100 kHz, 0.1 V with 1-2-3-6-7-8 Short)	..... 0.5 μH 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 350 mA
Hi-Pot Test	..... 1500 Vrms
Operating Temperature Range	..... -40 °C to +85 °C
Storage Temperature Range	..... -25 °C to +125 °C

### Environmental Specifications

Moisture Sensitivity Level	..... 1
ESD Classification (HBM)	..... N/A

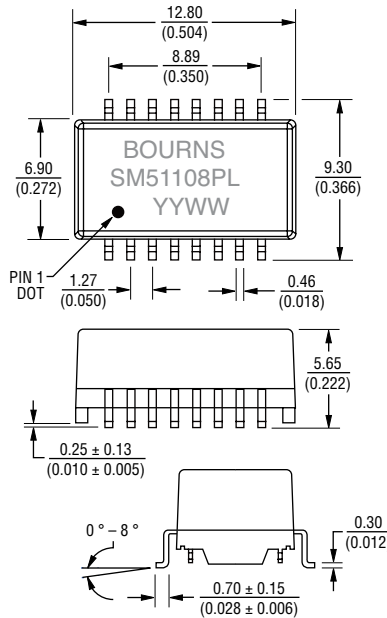
### Packaging Specifications

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

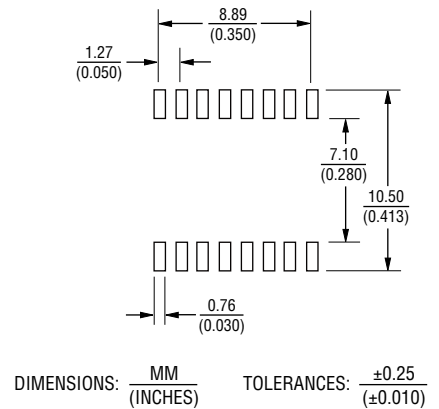
### How To Order

Model	SM51108 P E L
Construction	P = Potted
Packaging	E = Tape and Reel (600 pcs./reel)
Termination	L = Tin (RoHS Compliant)

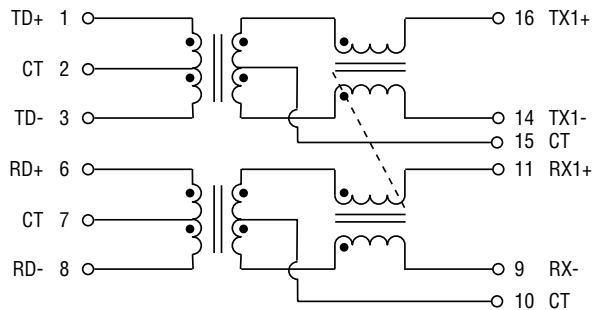
### Product Dimensions



### Recommended Layout



### Electrical Schematic



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**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex. Specifications are subject to change without notice.

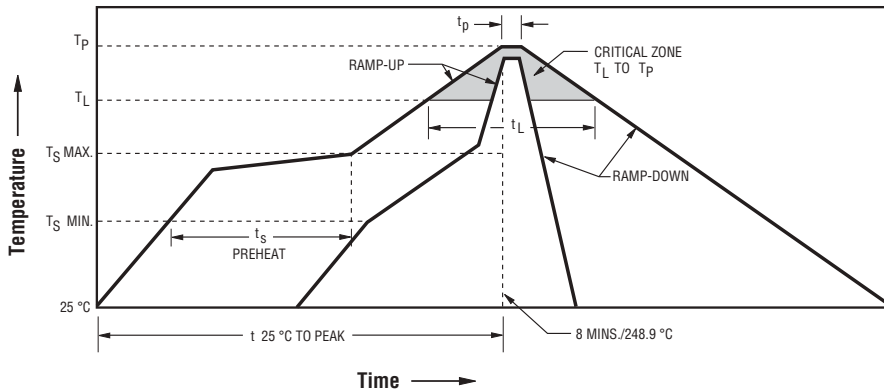
Users should verify actual device performance in their specific applications.

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



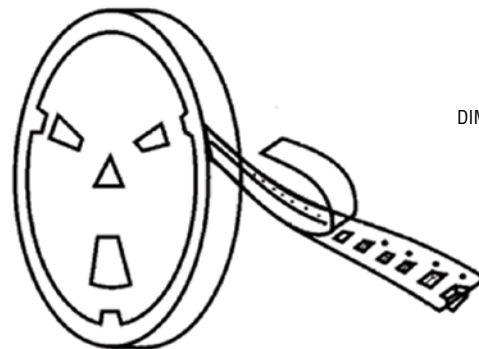
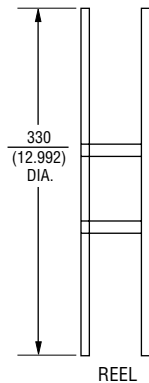
## Soldering Profile



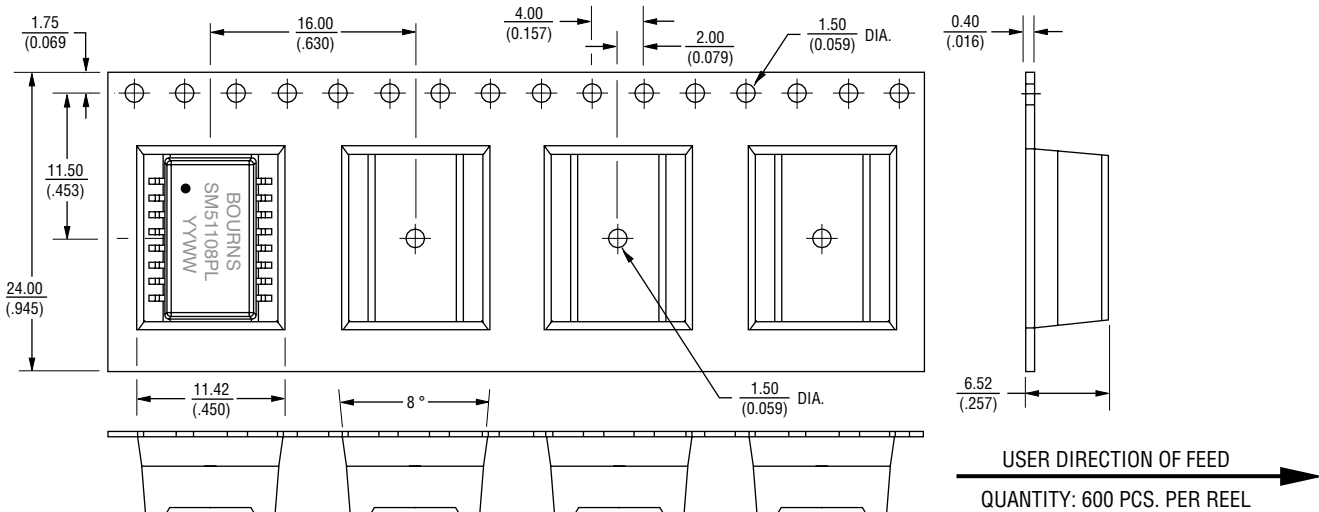
- Ramp-up rate = 3 °C/sec. max.
- Ramp-down rate = 6 °C/sec. max.
- $T_L = 217\text{ °C}$
- $t_L = 60\text{-}150\text{ sec.}$
- $T_p = 250 \pm 3\text{ °C}$
- Time within 5 °C of actual Peak Temp ( $t_p$ )<sup>2</sup> = 20~40 sec.
- $T_S\text{ min} = 150\text{ °C}$
- $T_S\text{ max} = 200\text{ °C}$
- $T_S\text{ min to } T_S\text{ max} = 60\text{-}180\text{ sec., } 25\text{ °C to Peak Temperature} = 8\text{ min. max.}$

Refer to IPC/JEDEC J-STD020D standard.

## Packaging Specifications



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



REV. 08/19

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