

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 ($\pm 3\%$)	..... 1CT:1CT
OCL (@ 100 kHz, 0.1 V, 8 mA, DC Bias)	..... 350 μ H min.
Leakage Inductance (@ 100 kHz, 0.1 V with 1-2-3-6-7-8 Short)	..... 0.5 μ 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 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

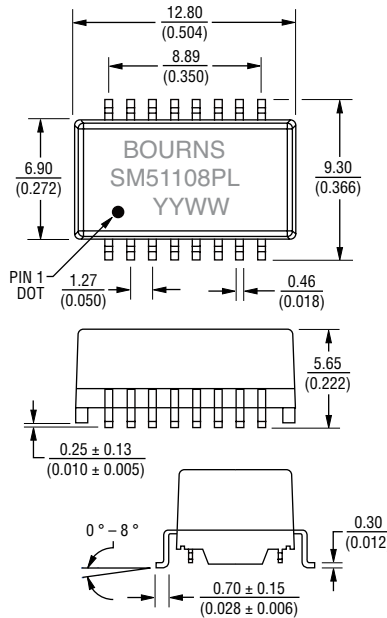
Packaging Specifications

Tape & Reel 600 pcs./reel

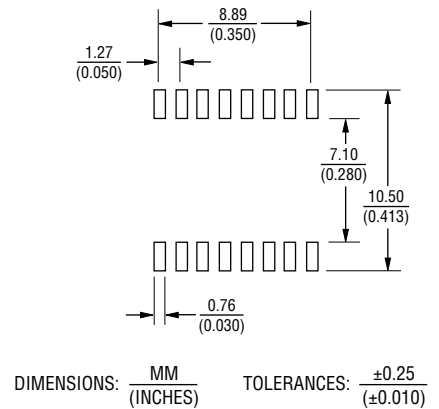
How To Order

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

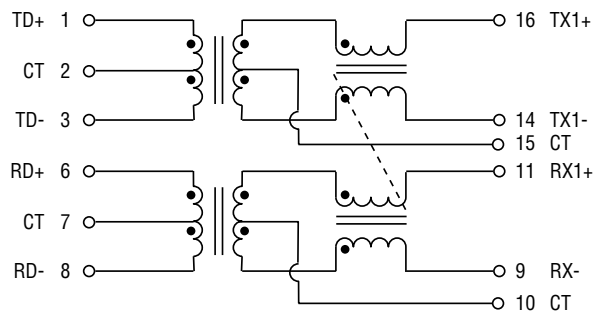
Product Dimensions



Recommended Layout



Electrical Schematic



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WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

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

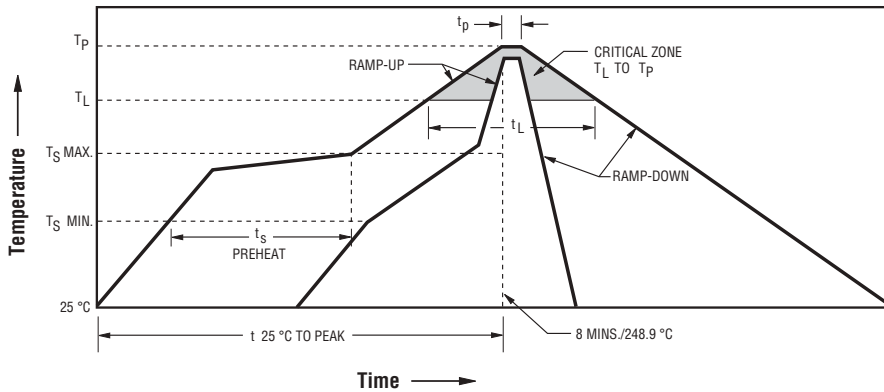
Users should verify actual device performance in their specific applications.

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



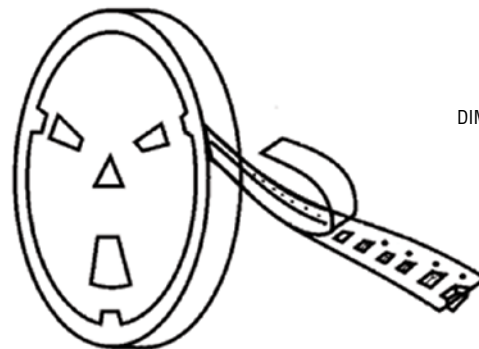
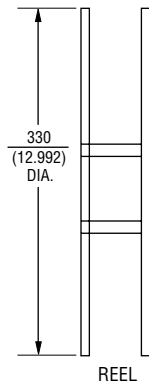
Soldering Profile



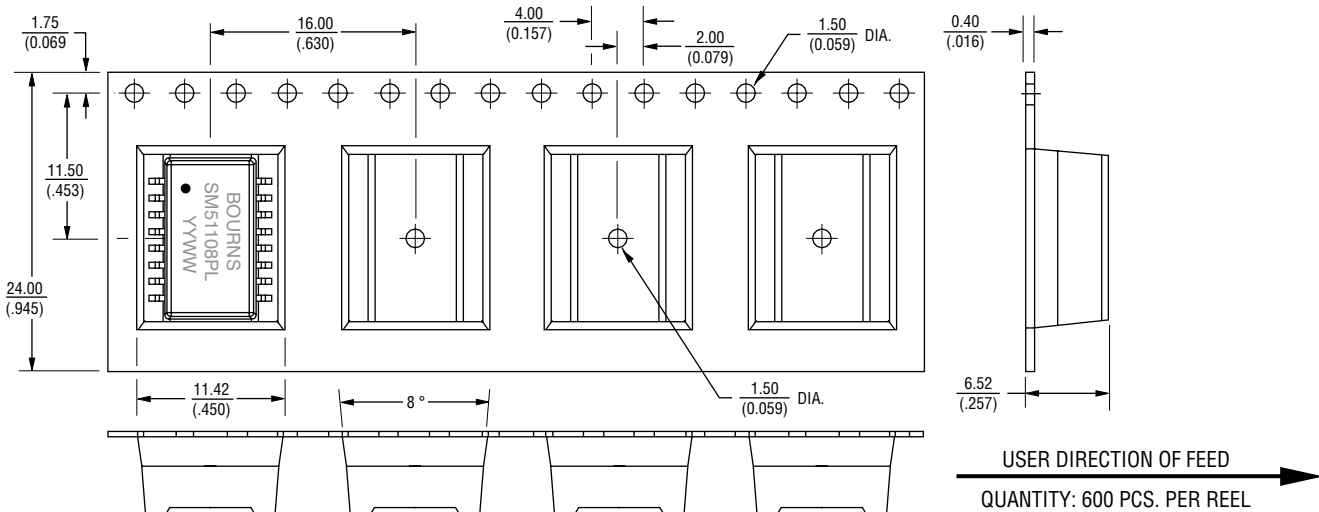
- Ramp-up rate = 3 °C/sec. max.
- Ramp-down rate = 6 °C/sec. max.
- $T_L = 217\text{ °C}$
- $t_L = 60\text{-}150\text{ sec.}$
- $T_p = 250 \pm 3\text{ °C}$
- Time within 5 °C of actual Peak Temp (t_p)² = 20~40 sec.
- $T_S\text{ min} = 150\text{ °C}$
- $T_S\text{ max} = 200\text{ °C}$
- $T_S\text{ min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

Refer to IPC/JEDEC J-STD020D standard.

Packaging Specifications



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



REV. 08/19

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