

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.
9-11 = 14-16	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

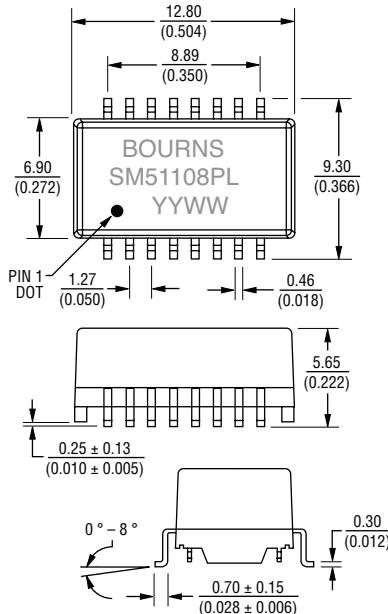
Tape & Reel.....	600 pcs./reel
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How To Order

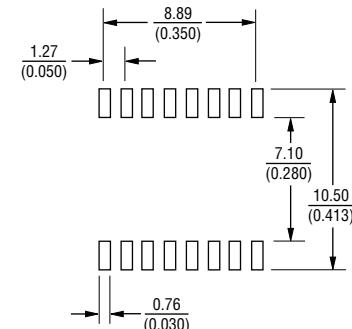
SM51108 P E L

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

Product Dimensions



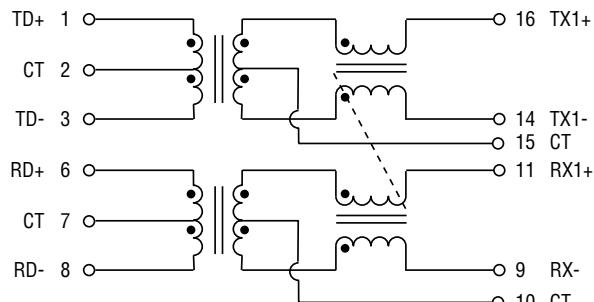
Recommended Layout



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

TOLERANCES: $\frac{\pm 0.25}{(\pm 0.010)}$

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.

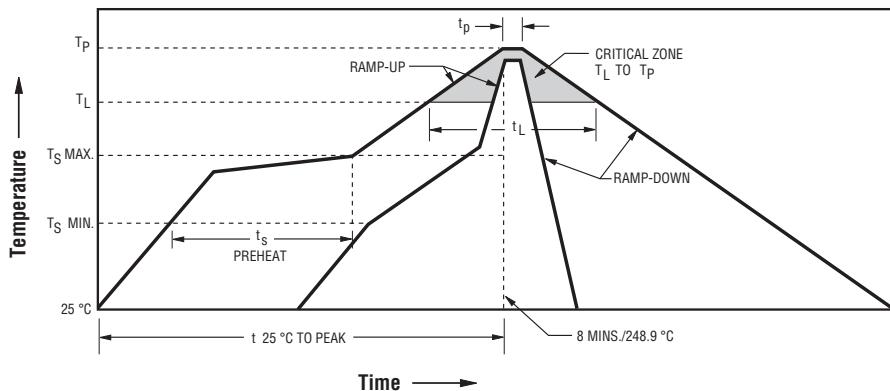
Users should verify actual device performance in their specific applications.

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

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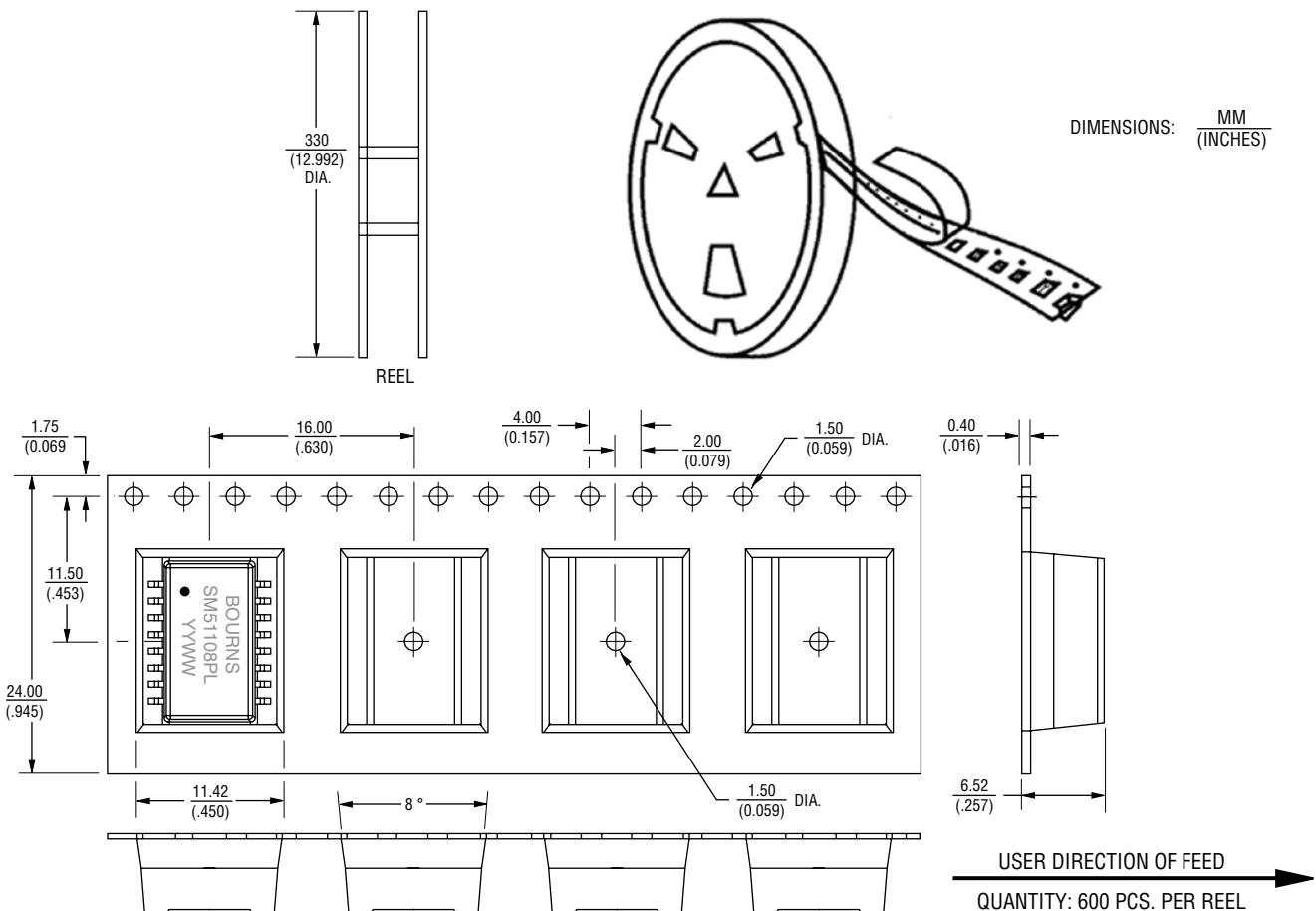
Soldering Profile



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

Refer to IPC/JEDEC J-STD020D standard.

Packaging Specifications



REV. 08/19

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