



## Features

- Wide operating input voltage range
- Meets IEC 60950-1, Functional Grade of Insulation
- RoHS compliant\*

## Applications

- TI UCC28880 High voltage switcher
- AC/DC Power supplies
- Metering, home automation, appliances, white goods and LED drivers

## SM91047EL Series Flyback Transformer

### Electrical Specifications @ 25 °C

| Bourns Part Number | L (Pin 9-7)<br>±15 %<br>@10 kHz /<br>1 V | Rated Current | Hi-pot                   |                          |
|--------------------|------------------------------------------|---------------|--------------------------|--------------------------|
|                    |                                          |               | NP to NS                 | NP, NS to Core           |
| SM91047EL          | 5.0 mH                                   | 0.2 Adc       | 1.5 k Vrms,<br>2 mA, 2 S | 200 Vrms,<br>2 mA, 2 S   |
| SM91047-1EL        | 3.5 mH                                   | 0.3 Adc       | 1.5 k Vrms,<br>2 mA, 2 S | 1.5 k Vrms,<br>2 mA, 2 S |
| SM91047-2EL        | 5.0 mH                                   | 0.2 Adc       | 3 k Vrms,<br>2 mA, 2 S   | 2 k Vrms,<br>2 mA, 2 S   |

#### Rated Current

$L_{drop}$  (Pin 9-7) @ 10 kHz, 1 V ..... >85 %  $L_{0A}$

#### Leakage Inductance @10 kHz, 1 V

Pin 9-7 ..... 100  $\mu$ H max.  
(Pin 2,4 Short)

#### DCR

Pin 9-7 ..... 8.0  $\Omega$  ±20 %  
Pin 2-4 ..... 104 m $\Omega$  ±30 %

#### Turns Ratio & Polarity @10 kHz, 1 V

Pin 9-7 : Pin 2-4 ..... 11.875 : 1 typ.

Operating Temperature Range ..... -40 °C to +125 °C  
including temperature rise

Storage Temperature Range ..... -40 °C to +85 °C

### Packaging Specifications

Tape & Reel ..... 180 pcs./reel

### How To Order

Model \_\_\_\_\_ **SM91047** **E** **L**

L (see Electrical Specifications chart) \_\_\_\_\_

Blank = 5 mH, 1.5 kV / 200 V Hi-pot  
-1 = 3.5 mH, 1.5 kV / 1.5 kV Hi-pot  
-2 = 5 mH, 3 kV / 2 kV Hi-pot

Packaging \_\_\_\_\_

E = Tape and Reel (180 pcs./reel)

Termination \_\_\_\_\_

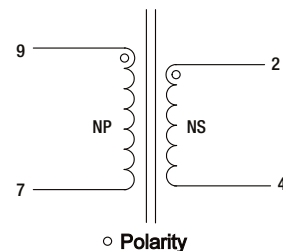
L = Tin (RoHS Compliant)



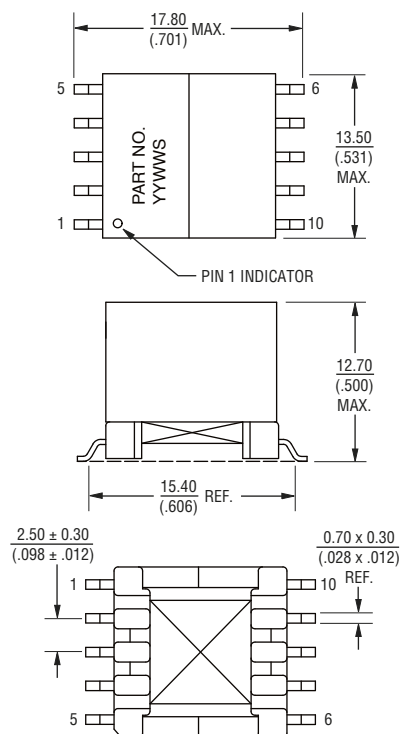
**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

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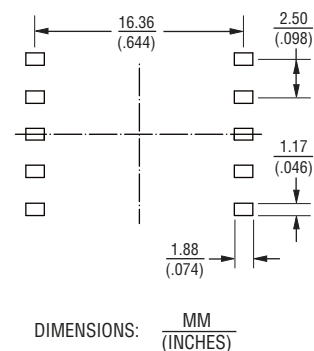
### Electrical Schematic



### Product Dimensions



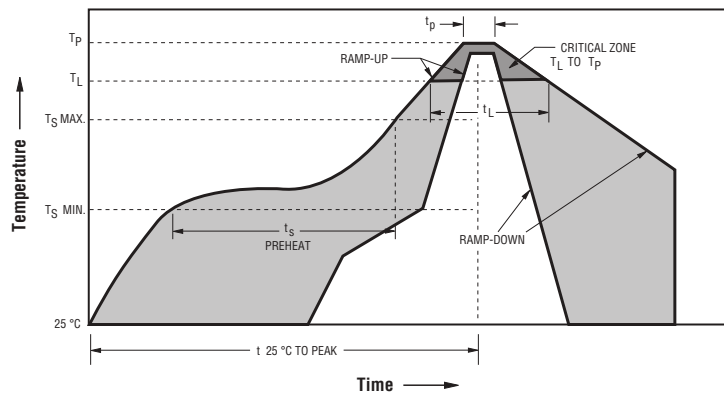
### Recommended Layout



# SM91047EL Series Flyback Transformer

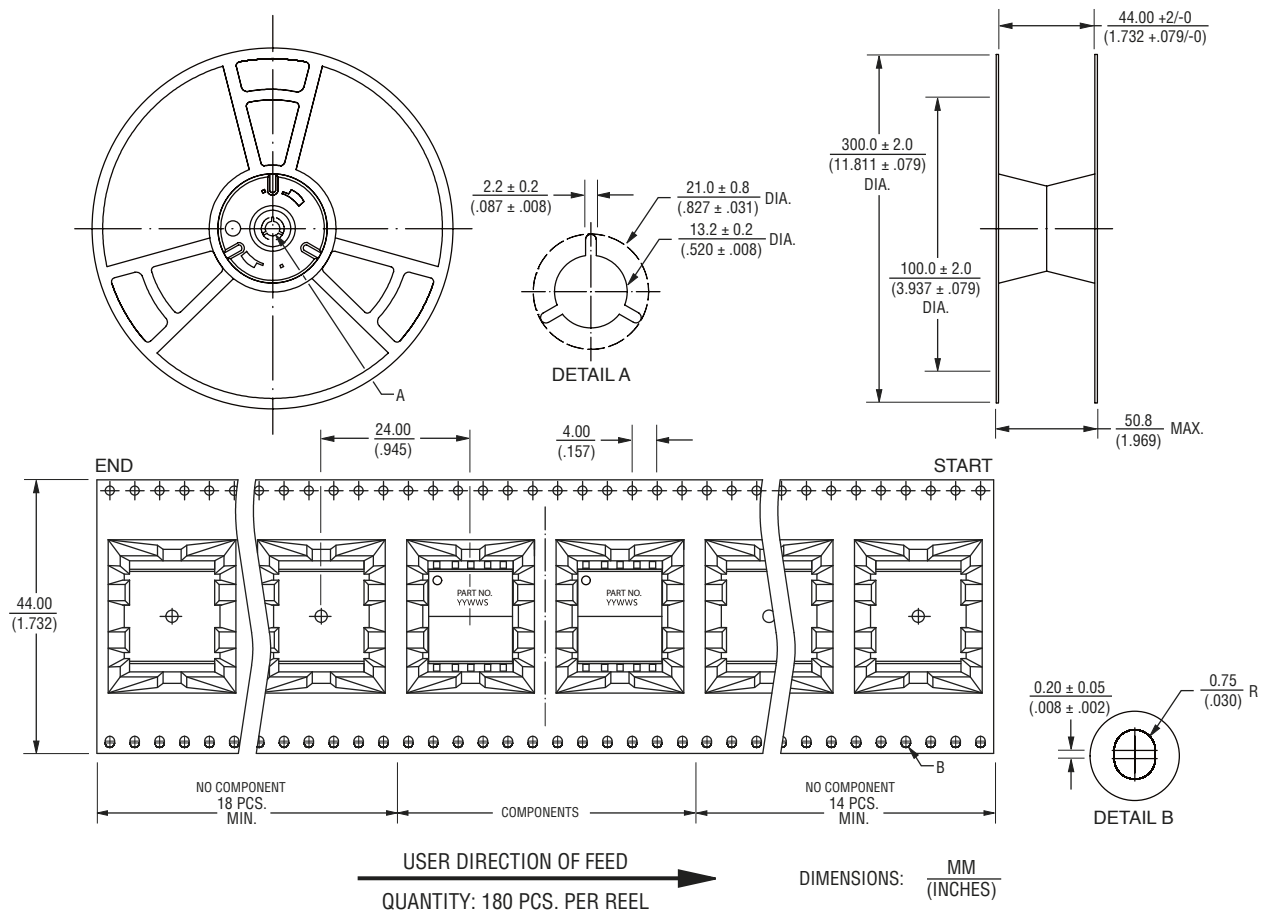
**BOURNS®**

## Reflow Solder Profile



Ramp-up rate = 3 °C/sec. max.  
 Ramp-down rate = 6 °C/sec. max.  
 $T_L$  = 217 °C  $t_L$  = 60-150 sec.  
 $T_P$  = 245 °C ± 5 °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 = 6 min. max.

## Packaging Specifications



REV. 01/18

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Users should verify actual device performance in their specific applications.

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