

## Features

- Rated current on primary up to 20 A for PCS020, up to 40 A for PCS040
- Surface mount
- Frequency up to 1 MHz
- Operating temp: -40 °C to 125 °C
- RoHS compliant\*

## Applications

- Switched-mode power supplies
- Motor control
- Overload sensing
- AC current applications

# PCS Series Current Sense Transformers

### General Specifications

Operating Temperature.....	-40 °C to +125 °C
Isolation Between Windings	
PCS020.....	500 V <sub>rms</sub>
PCS040.....	800 V <sub>rms</sub>
Rated current on primary	
PCS020.....	Up to 20 A (10 A typical)
PCS040.....	Up to 40 A
Frequency.....	Up to 1 MHz
Moisture Sensitivity Level.....	1

### Additional Information

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### Electrical Specifications @ 25 °C

Bourns Part Number	Turns Ratio Primary : Secondary	Secondary Inductance Min. (mH)	DCR		Volt-time Product on Secondary Max. (V-µsec)	Terminating Resistance (1 V Output at Rated Current) (Ω)
			Primary Ref. (mΩ)	Secondary Max. (Ω)		
PCS020-EE05081S	1 : 20	81	7	0.4	10.8	1
PCS020-EE05180S	1 : 30	180	7	0.87	16.2	1.5
PCS020-EE05320S	1 : 40	320	7	1.14	21.6	2
PCS020-EE05500S	1 : 50	500	7	1.5	27	2.5
PCS020-EE05730S	1 : 60	730	7	1.98	32.4	3
PCS020-EE05980S	1 : 70	980	7	4.75	37.8	3.5
PCS020-EE0502KS	1 : 100	2000	7	5.5	54	5
PCS020-EE0503KS	1 : 125	3000	7	7	67.5	6.25
PCS040-EF13340S	1 : 20	0.34	1	0.18	50.8	0.5
PCS040-EF13760S	1 : 30	0.76	1	0.265	76.2	0.8
PCS040-EF1301KS	1 : 40	1.36	1	0.56	101.6	1
PCS040-EF1302KS	1 : 50	2.12	1	0.705	127	1.3
PCS040-EF1303KS	1 : 60	3.06	1	0.85	152.4	1.5
PCS040-EF1304KS	1 : 70	4.16	1	1	177.8	1.8
PCS040-EF1305KS	1 : 80	5.44	1	1.15	203.2	2
PCS040-EF1308KS	1 : 100	8.5	1	1.45	254	2.5
PCS040-EF1313KS	1 : 125	13.3	1	1.85	317.5	3.1
PCS040-EF1319KS	1 : 150	19.2	1	2.25	381	3.8
PCS040-EF1334KS	1 : 200	34	1	4.06	508	5



**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.

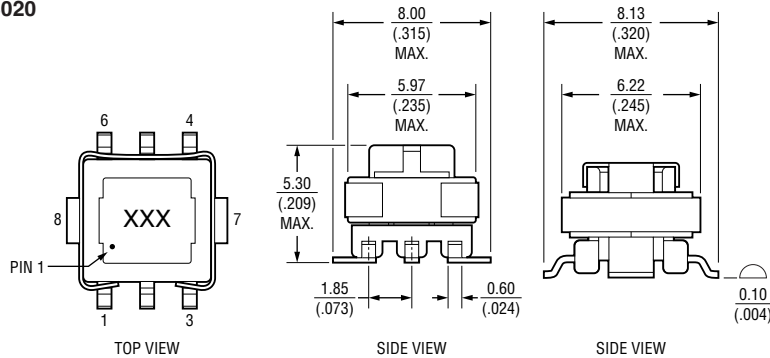
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# PCS Series Current Sense Transformers

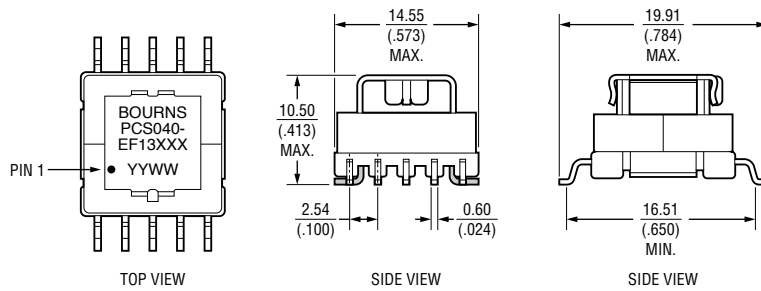


## Product Dimensions

### PCS020



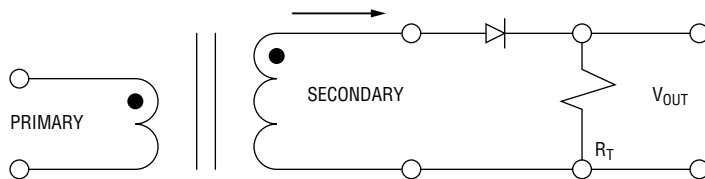
### PCS040



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

Unless otherwise specified, all tolerances are  $\pm 0.25 / (.010)$

## Application Circuit



Terminating resistor  $R_T$  is based on 1 volt output with the rated current 20 amps for the PCS020 and 40 amps for the PCS040 through the Primary. The terminating resistor can be calculated with the following equation:  $R_T = V_{out} * N_{sec} / I_{prim}$ .

## Materials

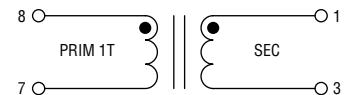
Core..... P4  
 Bobbin ..... PM9630  
 Wire ..... XUEW and UEWH  
 Tape..... PI-310  
 Glue..... S-9001  
 Clip..... SUS301  
 Packaging  
 PCS020..... 1000 pcs. per 13-inch reel  
 PCS040..... 300 pcs. per 13-inch reel

## Typical Part Marking

Bourns Part Number	Marking
PCS020-EE05081S	081
PCS020-EE05180S	180
PCS020-EE05320S	320
PCS020-EE05500S	500
PCS020-EE05730S	730
PCS020-EE05980S	980
PCS020-EE0502KS	02K
PCS020-EE0503KS	03K
PCS040-EF13340S	PCS040-EF13340S
PCS040-EF13760S	PCS040-EF13760S
PCS040-EF1301KS	PCS040-EF1301KS
PCS040-EF1302KS	PCS040-EF1302KS
PCS040-EF1303KS	PCS040-EF1303KS
PCS040-EF1304KS	PCS040-EF1304KS
PCS040-EF1305KS	PCS040-EF1305KS
PCS040-EF1308KS	PCS040-EF1308KS
PCS040-EF1313KS	PCS040-EF1313KS
PCS040-EF1319KS	PCS040-EF1319KS
PCS040-EF1334KS	PCS040-EF1334KS

## Electrical Schematic

### PCS020



### PCS040



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# PCS Series Current Sense Transformers

**BOURNS®**

## How To Order

PCS 020 - EE05 081 S

Model \_\_\_\_\_  
 PCS = Current Sense Transformer

Rated Current \_\_\_\_\_  
 020 = 20 A  
 040 = 40 A

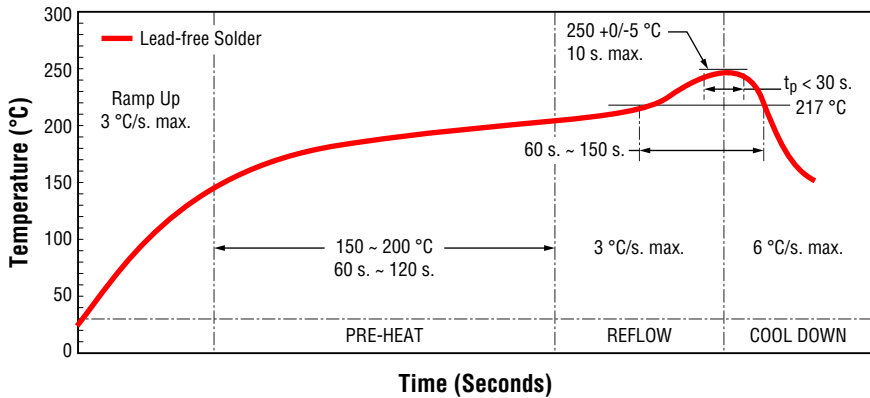
Bobbin Size \_\_\_\_\_  
 EE05 = Bobbin EE5  
 EF13 = Bobbin EF12.6

Inductance (see table) \_\_\_\_\_  
 081 = 81  $\mu$ H

PCB type \_\_\_\_\_  
 S = SMD

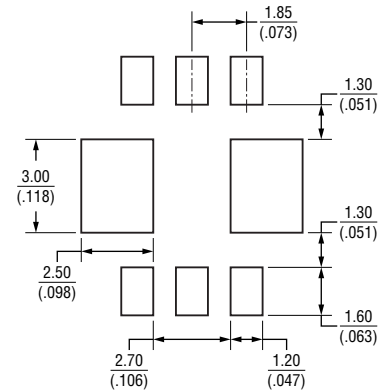
## Soldering Profile

The duration from room temperature (25 °C) to peak temperature is 8 minutes maximum.

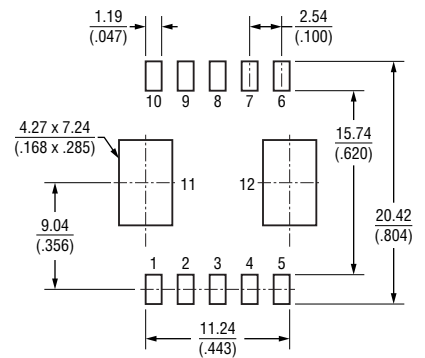


## Recommended Layout

### PCS020



### PCS040



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

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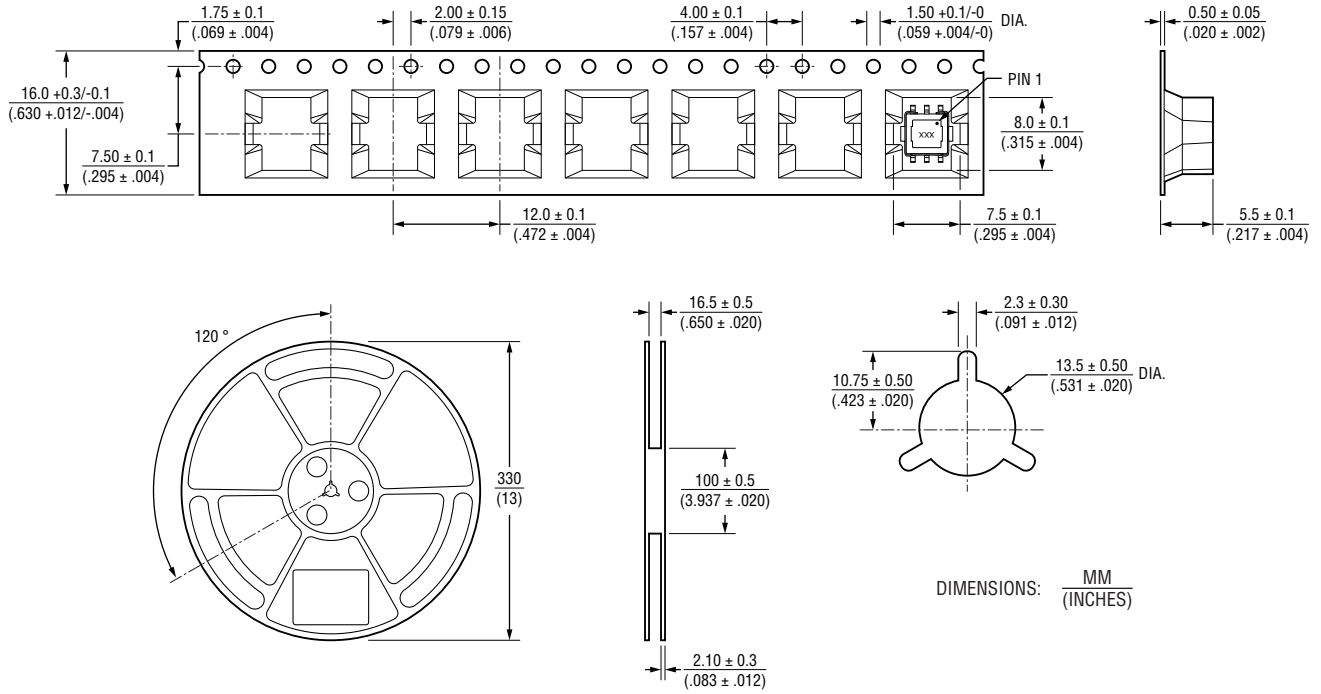
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# PCS Series Current Sense Transformers

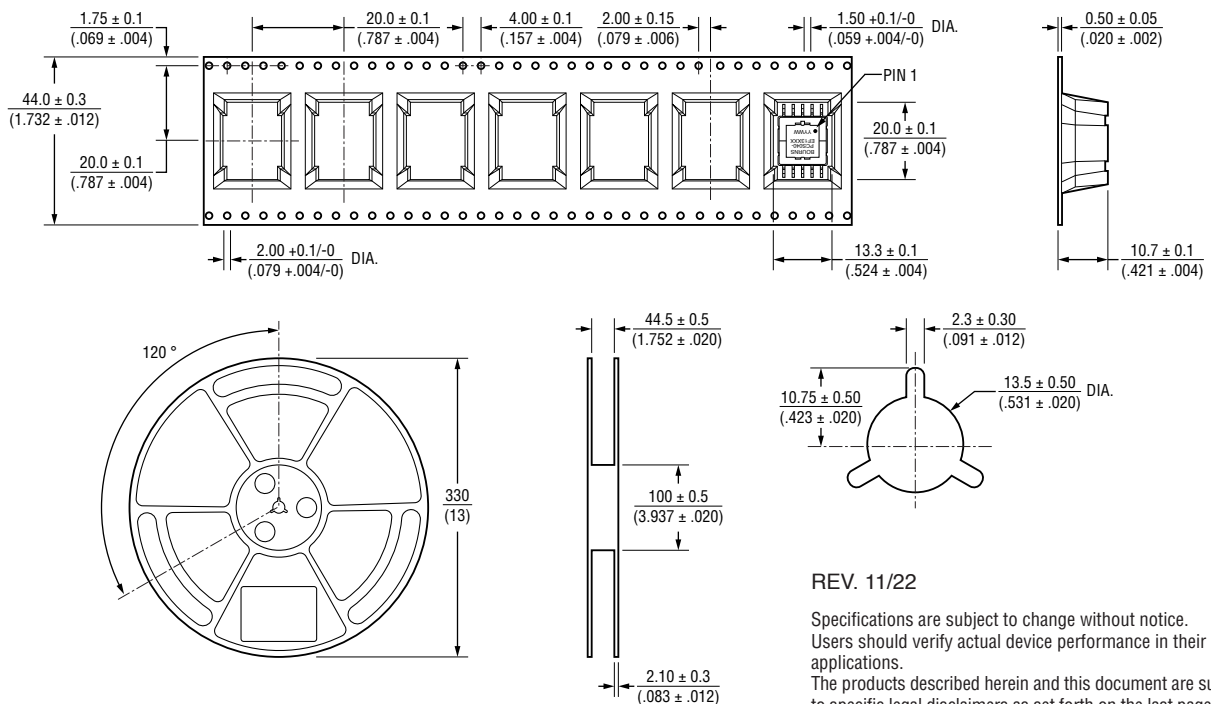
**BOURNS®**

## Packaging Specifications

### PCS020



### PCS040



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