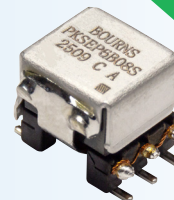


PKSEP6 SERIES

SMD Transformer for Ultrasonic Sensors



*RoHS COMPLIANT
& AEC-Q200 COMPLIANT

Features

- Ferrite core
- EP 6 SMD type
- Shielding for optimized EMC-behavior
- Five U-shape terminals
- AEC-Q200 compliant & automotive grade
- RoHS compliant*

Applications

- Ultrasonic sensors
- Ultrasonic park assist
- Industrial distance measuring
- Robotics

Sustainability

- Small size reduces material use
- Eco-logistics-friendly packing
- Recyclable ESD-safe packaging
- ISO 14001, low impact energy
- Responsibly sourced and produced
- Meets EU 94/62/EC standards

Product Overview

Bourns® PKSEP6 Series Impedance Matching Transformers are available with 0.23 ~ 5.0 mH inductance and various turns ratios, with extended values and customized values encouraged. This series also features frequency ranges between 50 kHz and 300 kHz and above and temperature ratings from -40°C to +90°C.

The PKSEP6 Series Impedance Matching Transformer platform enables ideal impedance matching between ultrasonic transducers and driver integrated circuits. Target applications include, but are not limited to, automotive parking assistance, industrial robots, drones, logistics robots, automated guided vehicles (AGVs), and fill level measurement systems.

Electrical Specifications (@ T_A = 25 °C Unless Otherwise Noted)

Bourns Part Number	Inductance (4-6) @ 52 kHz, 0.1 V	Rdc N1-1, N1-2	Rdc N2	Turns Ratio N1-1:N1-2:N2	Hi-Pot N1-1, N1-2 to N2	Weight
PKSEP6A09S	0.23 mH ±10 %	0.26 Ω Max.	7.2 Ω Max.	1:1:9 ±2 %	200 Vrms 50 Hz, 1 s No Breakdown	Approximately 1.15 g
PKSEP6A08S	3.0 mH ±10 %	0.72 Ω Max.	28.5 Ω Max.	1:1:8.42 ±2 %		
PKSEP6B08S	3.18 mH ±8 %	1.8 Ω Max.	37.5 Ω Max.	1:1:7.9 ±2 %		
PKSEP6A15S	4.2 mH ±10 %	0.62 Ω Max.	34.5 Ω Max.	1:1:15 ±2 %		
PKSEP6A10S	5.0 mH ±10 %	0.9 Ω Max.	36 Ω Max.	1:1:10.1 ±2 %		

Environmental Specifications

Operating Temperature -40 °C to +90 °C
(Temperature Rise Included)

Storage Temperature -25 °C to +85 °C

Moisture Sensitivity Level 1

Materials

Bobbin Phenolic

Wire Copper

Core Ferrite

Glue Epoxy

Contact Information

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The Americas	+1-951 781-5500	americus@bourns.com

* 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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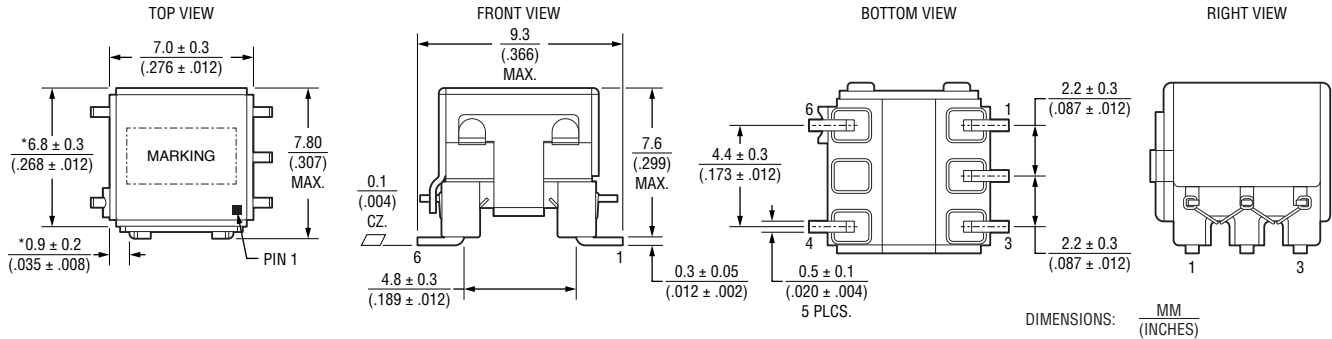
PKSEP6 SERIES

SMD Transformer for Ultrasonic Sensors

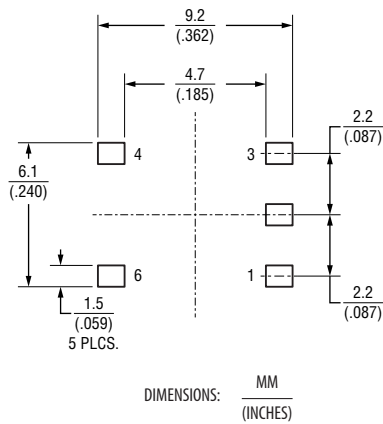


*RoHS COMPLIANT
& AEC-Q200 COMPLIANT

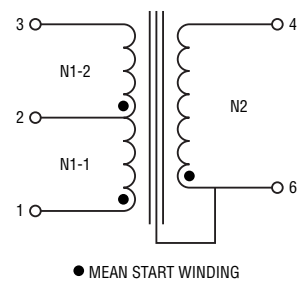
Product Dimensions



Recommended Layout



Electrical Schematic



How to Order

PKS EP6 A 08 S

Series _____
 Core Size _____
 Sub-series _____
 Turns Ratio N_s/N_p _____
 PCB Type _____

PKS = Parking Sensor
 EP6 = EP 6
 A
 B
 08 = Turns Ratio N_s/N_p 1:1:8.42 or 1:1:7.9
 09 = Turns Ratio N_s/N_p 1:1:9
 10 = Turns Ratio N_s/N_p 1:1:10.1
 15 = Turns Ratio N_s/N_p 1:1:15
 S = SMD

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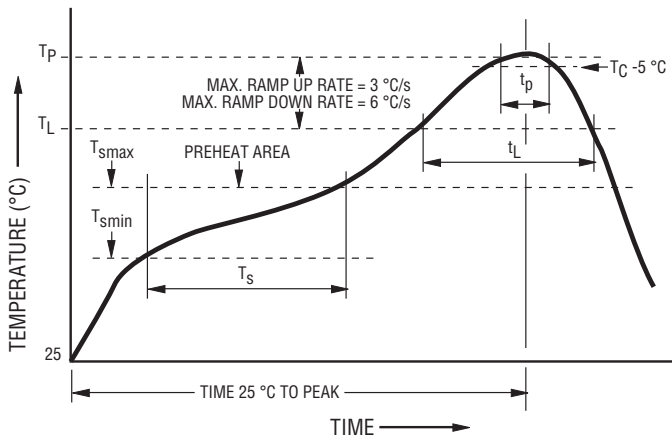
PKSEP6 SERIES

SMD Transformer for Ultrasonic Sensors



*RoHS COMPLIANT
& AEC-Q200 COMPLIANT

Lead-free Soldering Profile



Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. (T_{smin}) Temperature Max. (T_{smax}) Time (t_s) from (T_{smin} to T_{smax})	150 °C 200 °C 60~120 seconds
Ramp Up Rate (T_L to T_p)	3 °C / second max.
Liquidous Temperature (T_L) Time (t_L) maintained above T_L	217 °C 60~150 seconds
Peak Package Body Temperature (T_p)	$T_p \leq T_c$ (see table below)
Time (t_p)* within 5 °C of the specified classification temperature (T_c)	< 30 seconds*
Ramp Down Rate (T_p to T_L)	6 °C / second max.
Time 25 °C to Peak Temperature	8 minutes max.

Pb-Free Process Classification Temperatures (T_c)

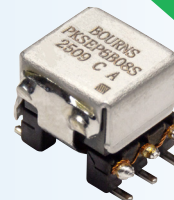
Package Thickness	Volume mm ³ < 350	Volume mm ³ 350 - 2000	Volume mm ³ > 2000
< 1.6 mm	260 °C	260 °C	260 °C
1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
> 2.5 mm	250 °C	245 °C	245 °C

NOTE: The product has been tested under this reflow condition. Deviations from this, especially higher temperatures for longer duration, could impact performance.

Refer to IPC/JEDEC J-STD-020

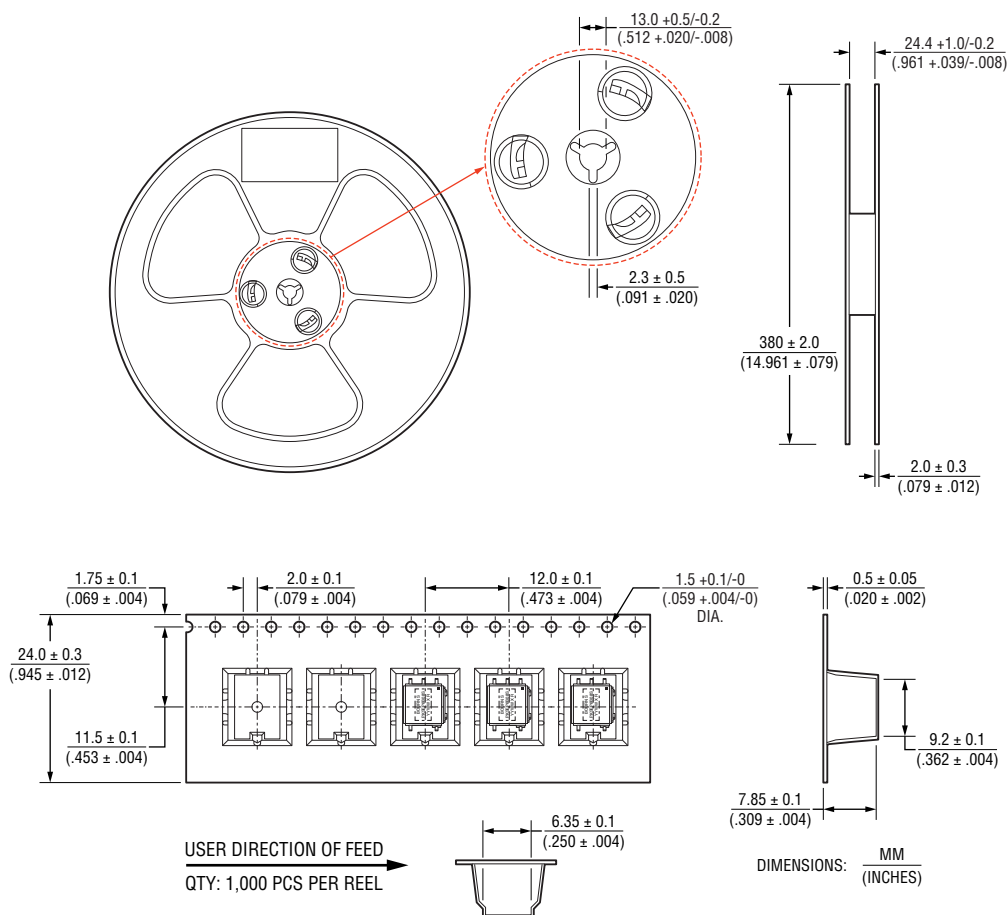
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Packaging Specifications

1000 pieces per reel, 5 reels per carton.



REV. 11/25

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