

BOURNS

SPECIFICATION FOR APPROVAL

Title	Bidirectional DC-DC Boost Inductor		
Reference Design	TIDA-010938		
Bourns Part Number	145452	Rev	X1
Customer			
Customer Part Number		Rev	

Designed		
Drawn	MD	07/Aug/2024
Checked		
Approved		

Customer Approval	
Name	
Position	
Date	

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF BOURNS AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT EXPRESS WRITTEN PERMISSION FROM BOURNS

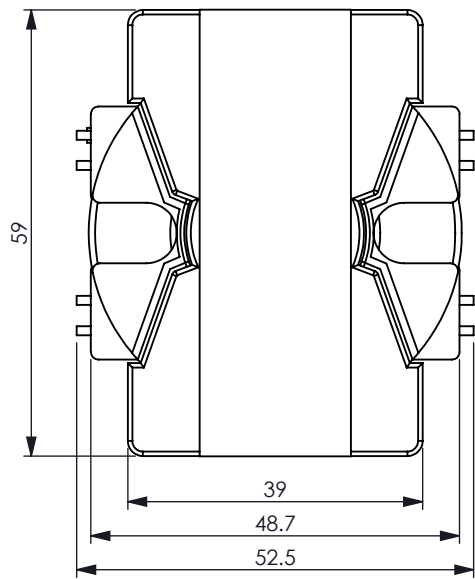
Preliminary

CHANGE HISTORY

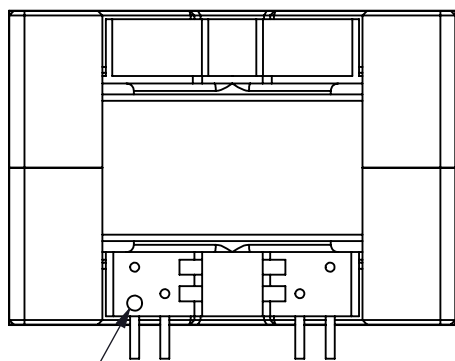
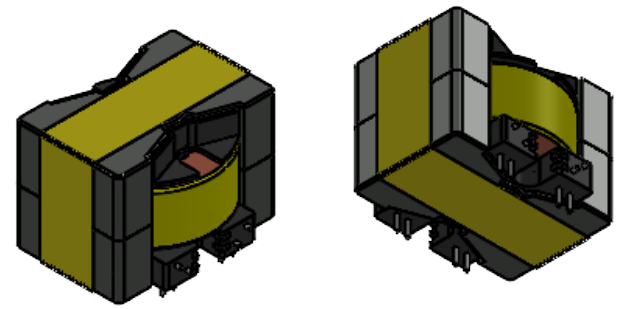
Revision	Date	Description of Change	Approved	Date
X1	14/08/2024	Minor Updates		

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF BOURNS AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OF SALE OF APPARATUS OR DEVICES WITHOUT EXPRESS WRITTEN PERMISSION FROM BOURNS

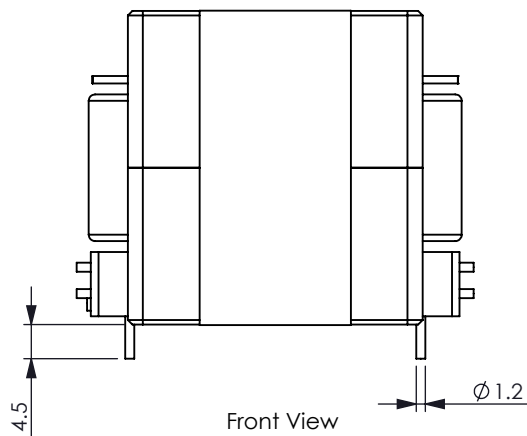
BOURNS	Title <h2 style="margin: 0;">Bidirectional DC-DC Boost Inductor</h2>	Tolerance <small>(Unless Otherwise Specified)</small> 0 < L < 5 : ±0.1 Angle 5 < L < 16 : ±0.3 ± 1° 16 < L < 50 : ±0.5		
	Project Number <h3 style="margin: 0;">MAD-3001904</h3>	Bourns P/N <h3 style="margin: 0;">145452</h3>	Rev <h3 style="margin: 0;">X1</h3>	Units: mm Scale: NTS <small>DRAWN IN THIRD ANGLE PROJECTION.</small>
Customer B181128 V2 D6755	Customer P/N	Rev	RoHS and REACH Compliant	Page: 2 of 9



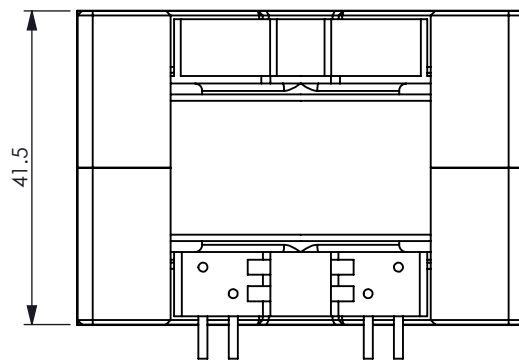
Top View



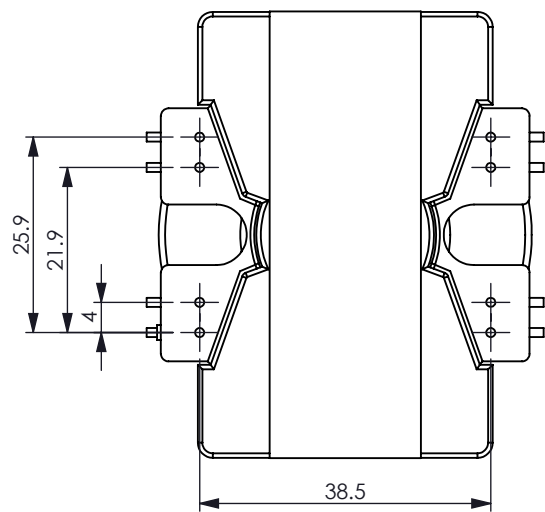
Indicates Pin 1



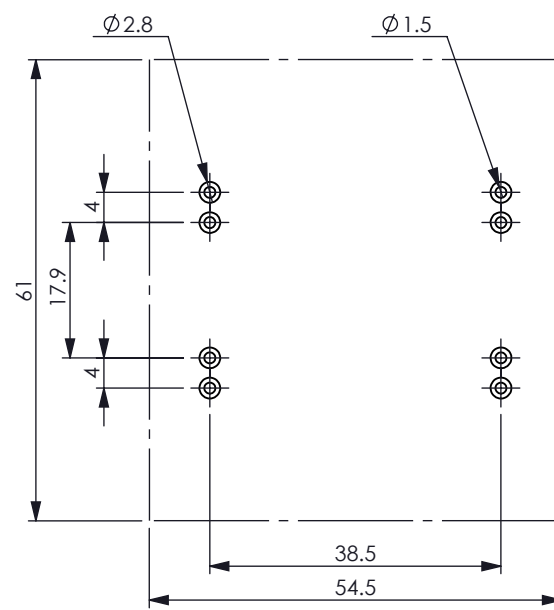
Front View



End View



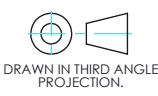
Bottom View

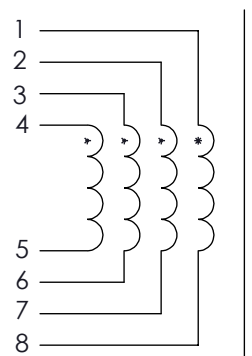


PCB Layout
(Top View)

Preliminary

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF BOURNS AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OF SALE OF APPARATUS OR DEVICES WITHOUT EXPRESS WRITTEN PERMISSION FROM BOURNS

BOURNS	Title Bidirectional DC-DC Boost Inductor		Tolerance (Unless Otherwise Specified)	
	Project Number MAD-3001904		0 < L < 5 : ±0.1	Angle ± 1°
B181128 V2 D6755	Bourns P/N 145452	Rev X1	Units: mm Scale: NTS	 <small>DRAWN IN THIRD ANGLE PROJECTION.</small>
Customer	Customer P/N	Rev	RoHS and REACH Compliant	
			Page: 3 of 9	



Schematic
 Note: Join Pins 1, 2, 3, 4 and Pins 5, 6, 7, 8
 On The PCB

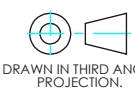
ELECTRICAL SPECIFICATION

No.	Item	Terminal	Value	Tolerance	Condition	Remarks
1	Inductance (0 ADC)	1, 2, 3, 4 To 5, 6, 7, 8	200 μ H	$\pm 10\%$	1V at 100kHz	
2	Saturation Current	1, 2, 3, 4 To 5, 6, 7, 8	23.5 A		30% Roll Off From Initial	
3	DC Resistance	1, 2, 3, 4 To 5, 6, 7, 8	23 m Ω	Typ		

GENERAL INFORMATION

- Operating Temperature: -40°C to $+125^{\circ}\text{C}$ Including Temperature Rise
- Storage Temperature: -40°C to $+85^{\circ}\text{C}$

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF BOURNS AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OF SALE OF APPARATUS OR DEVICES WITHOUT EXPRESS WRITTEN PERMISSION FROM BOURNS

BOURNS	Title Bidirectional DC-DC Boost Inductor		Tolerance (Unless Otherwise Specified)	
	Project Number MAD-3001904		0 < L < 5 : ± 0.1	Angle $\pm 1^{\circ}$
B181128 V2 D6755	Bourns P/N 145452	Rev X1	5 < L < 16 : ± 0.3	16 < L < 50 : ± 0.5
Customer	Customer P/N	Rev	Units: mm Scale: NTS	 DRAWN IN THIRD ANGLE PROJECTION.
			RoHS and REACH Compliant	Page: 4 of 9

BOURNS

Prototype Product / Sample
Disclaimer and Limitation of Liability

This disclaimer and limitation of liability applies to any order or use Bourns® products that are of prototype in nature, regardless of whether the shipment is labeled as a prototype or sample.

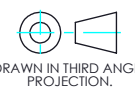
Prototype or sample is a product manufactured prior to completion of applicable design and/or validation testing. It is important for you to understand that these prototypes or samples are not intended for resale or for any purpose other than testing and qualification. A prototype or sample that has been used for destructive qualification tests may not be used any further except for engineering analysis.

The use and level of reliability or compliance with specifications testing applicable to Bourns® product shall be negotiated on a case-by-case basis with Bourns. Absent a written agreement between Bourns and the user regarding the use and level of such testing (e.g., AEC-Q), or any designation of an individual Bourns® product as meeting the requirements of a particular industry standard (e.g., ISO/TS 16949) or a particular qualification (e.g., UL listed or recognized), Bourns is not responsible for any failure of an individual Bourns® product to meet the requirements of such testing, industry standard or particular qualification.

Unless specifically agreed in writing, the prototypes or samples are provided "AS IS" without any warranty whatsoever from Bourns or its affiliates.

BOURNS DISCLAIMS ALL OTHER REPRESENTATIONS AND WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE.

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF BOURNS AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OF SALE OF APPARATUS OR DEVICES WITHOUT EXPRESS WRITTEN PERMISSION FROM BOURNS

BOURNS	Title Bidirectional DC-DC Boost Inductor		Tolerance (Unless Otherwise Specified) 0 < L < 5 : ±0.1 Angle 5 < L < 16 : ±0.3 ± 1° 16 < L < 50 : ±0.5	
	Project Number MAD-3001904			
B181128 V2 D6755	Bourns P/N 145452	Rev X1	Units: mm Scale: NTS	 DRAWN IN THIRD ANGLE PROJECTION.
Customer	Customer P/N	Rev	RoHS and REACH Compliant	Page: 5 of 9