Low-Profile, High-Current Coupled Inductor

Manufactured under one or more of the following:
US Patents; 6,198,375/6,204,744/6,449,829/6,460,244.
Several foreign patents, and other patents pending.

FEATURES

- High temperature, up to 155 °C
- Shielded construction
- Frequency range up to 5.0 MHz
- Lowest DCR/µH in this package size
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- Coupling is > 90 % - optimized for SEPIC converters
- AEC-Q200 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE

Pb-free

RoHS COMPLIANT

HALOGEN FREE

GREEN (5-2008)

APPLICATIONS

- SEPIC converters
- DC/DC converters
- Common mode applications
- LED lighting

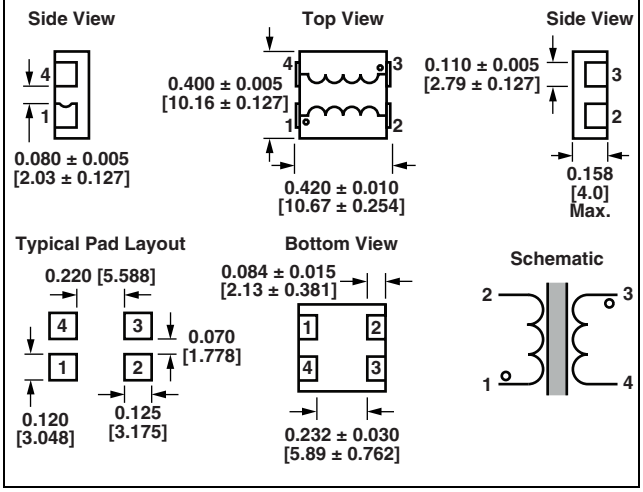
STANDARD ELECTRICAL SPECIFICATIONS

	L_0 INDUCTANCE ± 20 % AT 100 kHz, 0.25 V, 0 A (µH)	DCR NOM. 25 °C (mΩ)	DCR MAX. 25 °C (mΩ)	HEAT RATING CURRENT DC TYP. (A) (3)	SATURATION CURRENT DC TYP. (A) (4)
L_{1-2}	4.7	28.0	30.0	6.2	9.0
L_{3-4}	4.7	27.0	28.7	6.5	11.5
L_{1-4} (L_{2-3} shorted)	19	55.0	58.7	4.3	3.7
L_{1-3} (L_{2-4} shorted)	0.6	55.0	58.7	4.3	See note (6)
$L_{Common\ Mode}$ (1-3 and 2-4 shorted)	4.7	14.0	14.5	10.5	9.5
$L_{Differential\ Mode}$ (1-4 and 2-3 shorted)	0.0	14.0	14.5	10.5	See note (6)

Notes

(1) All test data is referenced to 25 °C ambient
(2) Operating temperature range -55 °C to +155 °C
(3) DC current (A) that will cause an approximate ΔT of 40 °C
(4) DC current (A) that will cause L_0 to drop approximately 20 %
(5) The part temperature (ambient + temp. rise) should not exceed 155 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
(6) In this configuration, current flowing opposite directions through coils cancels and the 0.6 µH inductance is very stable with varying current. Observe the heat rating current to avoid excessive temperature rise in this configuration.

DIMENSIONS in inches [millimeters]



DESCRIPTION

IHCL-4040DZ-5A	4.7 µH	± 20 %	ER	e3
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

I	H	C	L	4	0	4	0	D	Z	E	R	4	R	7	M	5	A
PRODUCT FAMILY				SIZE						PACKAGE CODE		INDUCTANCE VALUE			TOL.	SERIES	

For technical questions, contact: magnetics@vishay.com

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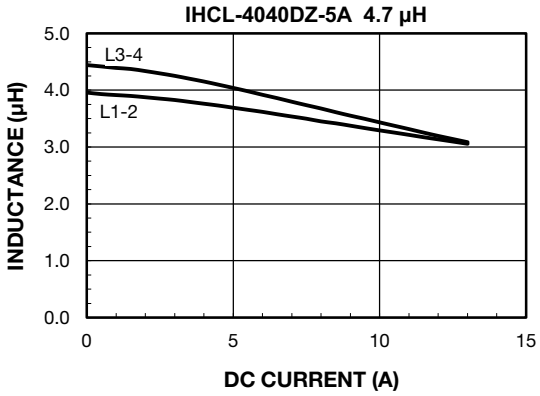
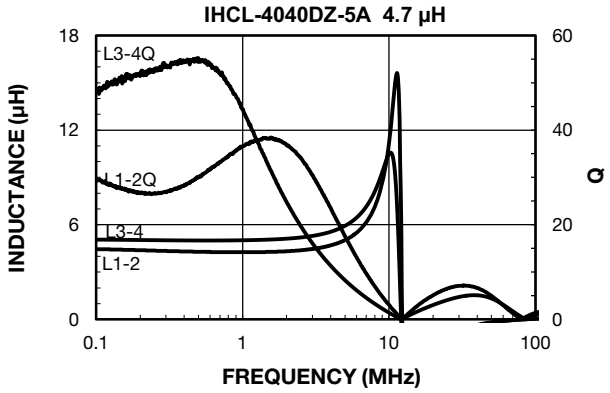
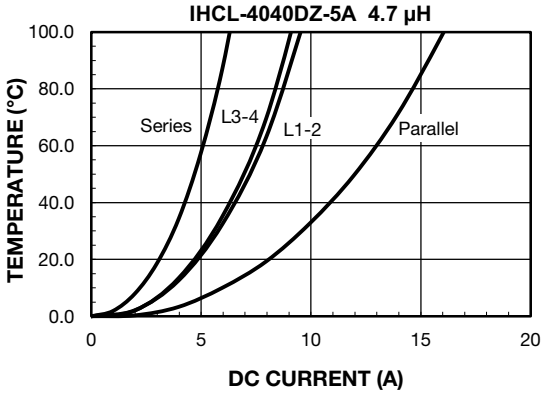
PERFORMANCE GRAPHS







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