Automotive-grade Class D molded-alloy and ferrite dual inductors

Eaton ACDL is a complete family of automotive-grade Class D dual inductors consisting of ACDL1V (molded-alloy construction) and the ACDL2V (ferrite construction).

Product description

Eaton ACDL is a complete family of automotive-grade Class D dual inductors consisting of ACDL1V (molded-alloy construction) and the ACDL2V (ferrite construction). The ACDL1V's molded construction is ideal for high currents requiring soft inductance saturation and performance stability over a wide temperature range, while the ACDL2V's ferrite construction offers high efficiency and low DCR. Moreover, the high power density of Eaton's ACDL1V/ACDL2V inductors allow automotive engineers to increase Class D amplifier sound quality while achieving greater efficiency (due to less heat) and taking up less space. Both ACDL1V/ACDL2V are magnetically shielded for EMI immunity in electronic applications.

Features and benefits

- Molded (ACDL1V) and ferrite (ACDL2V) constructions for a wide range of audio Class-D filtering performance options
- Wide inductances range; from 4.7 uH to 33 uH; ACDL1V (5.6 uH to 33 uH) and ACDL2V (4.7 uH to 22 uH)
- High power density
- EMI shielded construction
- Robust molded and ferrite construction
- Wide operating temperature range
- AECQ-200

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Product specifications

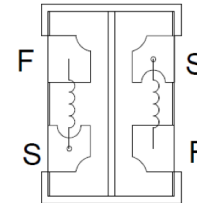| Family	OCL (µH) ± 20%	I_{rms} (A)	I_{sat} (A)	DCR (mΩ) typical @ +25 °C	DCR (mΩ) maximum @ +25 °C	SRF (MHz)
ACDL1V1004	5.6 to 33	2.8 to 6	4 to 9	20 to 100	24 to 120	7.0 to 15
ACDL2V0910	4.7 to 22	2.5 to 5.2	3.5 to 10	15 to 43	18 to 50	18 to 40

Mechanical parameters, schematic, pad layout (mm)
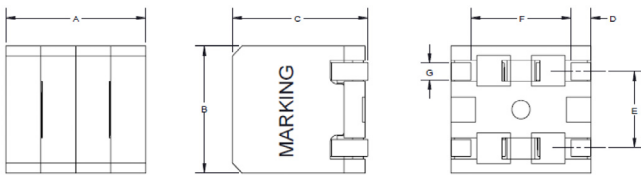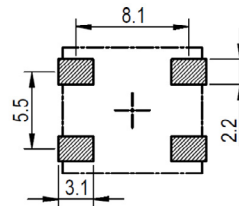
ACDL1V1004
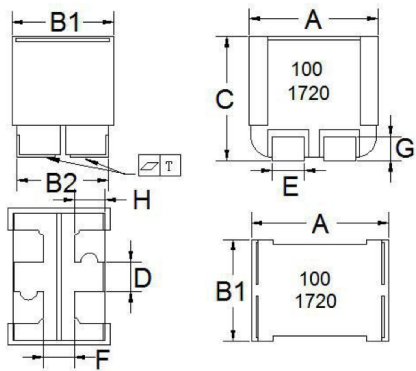
Recommended pad layout
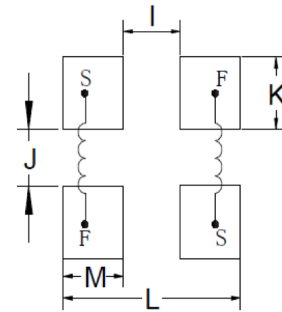
Schematic

Part number	A	B1	B2	C	D	E	F	G	H	I	J	K	L	M	T
ACDL1V1004	12 ± 0.20	9.6 ± 0.20	8.7 ± 0.25	11.3 ± 0.30	1.95 ± 0.15	2.8 ± 0.10	3.4 minimum	2.3 ± 0.30	2.5 ± 0.30	2.9	1.5	3.3	9.7	3.4	≤ 0.1

ACDL2V0910

Recommended pad layout

Schematic
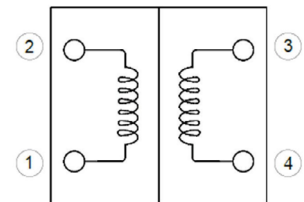
Bottom view

Part number	A	B	C	D	E	F	G
ACDL2V0910	10.0 ± 0.50	9.0 ± 0.50	10.0 maximum	1.9 ± 0.50	5.5 ± 0.40	6.2 ± 1.0	1.2 ± 0.2

See data sheet for details

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