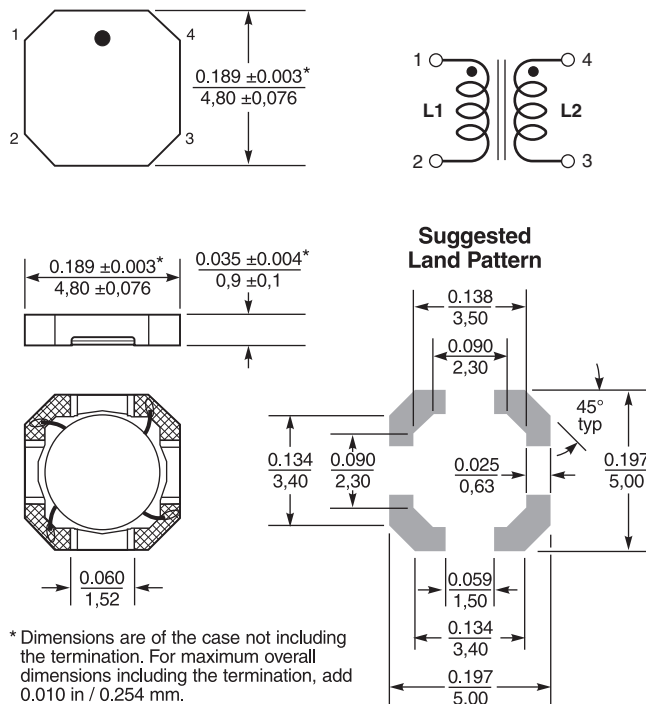
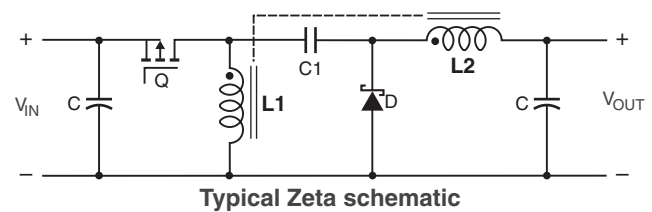
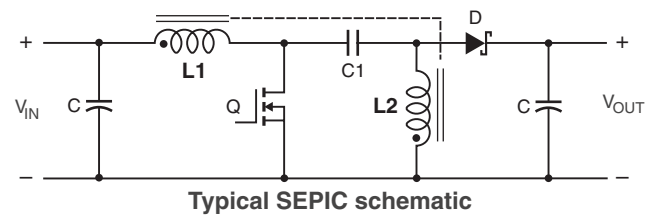
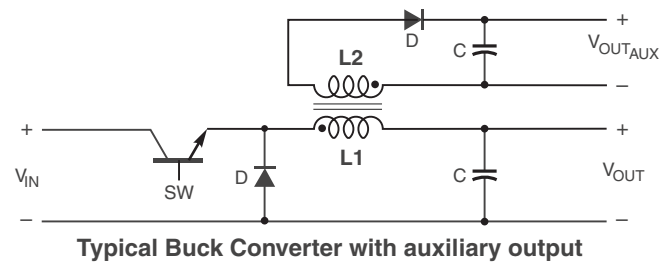
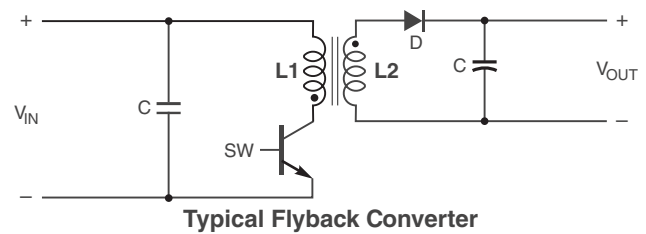


Coupled Inductors for Critical Applications AE420PJD



- Only 1.0 mm high and 5 mm square
- Ideal for use in flyback, multi-output buck, SEPIC and Zeta applications.
- High inductance, high efficiency and excellent current handling
- Can also be used as two single inductors connected in series or parallel or as a common mode choke.
- Passes NASA low outgassing specifications



* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.010 in / 0.254 mm.

For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.006 in / 0.152 mm.

Dimensions are in $\frac{\text{inches}}{\text{mm}}$



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Document AE820-1 Revised 04/12/23

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

AE420PJD Series Coupled Inductors

Part number ¹	Inductance ² ±20% (µH)	DCR max ³ (Ohms)	SRF typ ⁴ (MHz)	Coupling coefficient typ	Leakage L typ ⁵ (µH)	Isat (A) ⁶			Irms (A)	
						10% drop	20% drop	30% drop	both windings ⁷	one winding ⁸
AE420PJD102MP_	1.0	0.10	150	0.95	0.09	2.1	2.1	2.2	1.50	2.12
AE420PJD152MP_	1.5	0.15	134	0.97	0.09	1.7	1.8	1.8	1.20	1.70
AE420PJD222MP_	2.2	0.20	108	0.97	0.11	1.5	1.6	1.6	1.10	1.56
AE420PJD332MP_	3.3	0.27	83	0.98	0.13	1.2	1.3	1.3	0.95	1.34
AE420PJD472MP_	4.7	0.40	68	0.98	0.15	0.98	1.0	1.1	0.75	1.06
AE420PJD562MP_	5.6	0.45	60	0.99	0.16	0.90	0.93	0.94	0.70	0.99
AE420PJD682MP_	6.8	0.53	55	0.99	0.19	0.83	0.86	0.87	0.60	0.85
AE420PJD822MP_	8.2	0.70	50	0.99	0.22	0.74	0.77	0.78	0.50	0.71
AE420PJD103MP_	10	0.78	46	0.99	0.27	0.67	0.69	0.70	0.50	0.71
AE420PJD153MP_	15	1.19	33	0.99	0.34	0.53	0.55	0.56	0.42	0.59
AE420PJD223MP_	22	1.58	26	0.99	0.40	0.45	0.47	0.48	0.35	0.49
AE420PJD333MP_	33	2.50	23	0.99	0.48	0.37	0.38	0.39	0.30	0.42
AE420PJD473MP_	47	3.48	17.0	0.99	0.63	0.31	0.32	0.33	0.25	0.35
AE420PJD683MP_	68	5.10	14.9	0.99	0.90	0.25	0.26	0.27	0.19	0.26
AE420PJD104MP_	100	8.0	11.2	0.99	1.39	0.21	0.22	0.22	0.15	0.21
AE420PJD154MP_	150	11.7	9.90	0.99	2.10	0.17	0.17	0.18	0.12	0.16
AE420PJD224MP_	220	15.2	8.05	0.99	3.02	0.14	0.15	0.15	0.11	0.15

1. Please specify **termination** and **screening** codes:

AE420PJD224MPZ

Screening:

- Z** = Unscreened
- Y** = Unscreened (SLDC Option A)
- W** = Unscreened (SLDC Option B)
- H** = Coilcraft CP-SA-10001 Group A
- G** = Coilcraft CP-SA-10001 Group A (SLDC Option A)
- D** = Coilcraft CP-SA-10001 Group A (SLDC Option B)
- 1** = EEE-INST-002 (Family 1) Level 1
- 2** = EEE-INST-002 (Family 1) Level 2
- 3** = EEE-INST-002 (Family 1) Level 3
- 4** = MIL-STD-981 (Family 04) Class B
- 5** = MIL-STD-981 (Family 04) Class S
- F** = ESCC3201 (F4 operational life performed at 105°C)
- Screening performed to the document's latest revision.
- Lot qualification (Group B) available.
- Testing T and U have been replaced with more detailed codes 4, 5, and 1, 2, 3, respectively. Codes T and U can still be used, if necessary. Custom testing also available.
- Country of origin restrictions available; prefix options G or F.

2. Inductance shown for each winding, measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A LCR meter or equivalent. When leads are connected in parallel, inductance is the same value. When leads are connected in series, inductance is four times the value.
3. DCR is for each winding. When leads are connected in parallel, DCR is half the value. When leads are connected in series, DCR is twice the value.
4. SRF measured using an Agilent/HP 4191A or equivalent. When leads are connected in parallel, SRF is the same value.
5. Leakage Inductance is for L1 and is measured with L2 shorted.
6. DC current at 25°C that causes the specified inductance drop from its value without current. It is the sum of the current flowing in both windings.

7. Equal current when applied to each winding simultaneously that causes a 40°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

8. Maximum current when applied to one winding that causes a 40°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

9. Electrical specifications at 25°C.

Refer to Doc 639 "Selecting Coupled Inductors for SEPIC Applications."
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Coupled Inductor Core and Winding Loss Calculator

This web-based utility allows you to enter frequency, peak-to-peak (ripple) current, and Irms current to predict temperature rise and overall losses, including core loss. [Go to online calculator.](#)

Core material Ferrite

Core and winding loss [Go to online calculator](#)

Weight 77 – 88 mg

Terminations Tin-lead (63/37). Other terminations available at additional cost.

Ambient temperature –55°C to +105°C with Irms current.

Maximum part temperature +155°C (ambient + temp rise).

Storage temperature Component: –55°C to +155°C.

Tape and reel packaging: –55°C to +80°C

Winding to winding isolation 100 Vrms, one minute

Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Packaging 1000/7" reel; Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 1.02 mm pocket depth

Recommended pick and place nozzle OD: 5 mm; ID: ≤ 2.5 mm

PCB washing Tested with pure water or alcohol only. For other solvents, see [Doc787_PCB_Washing.pdf](#).



CRITICAL PRODUCTS & SERVICES

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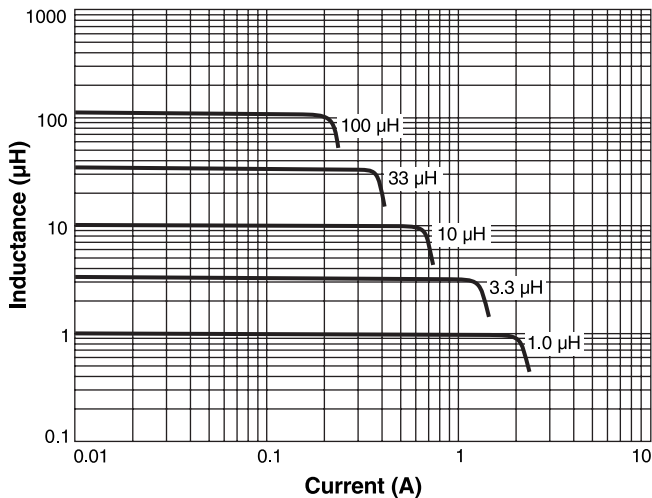
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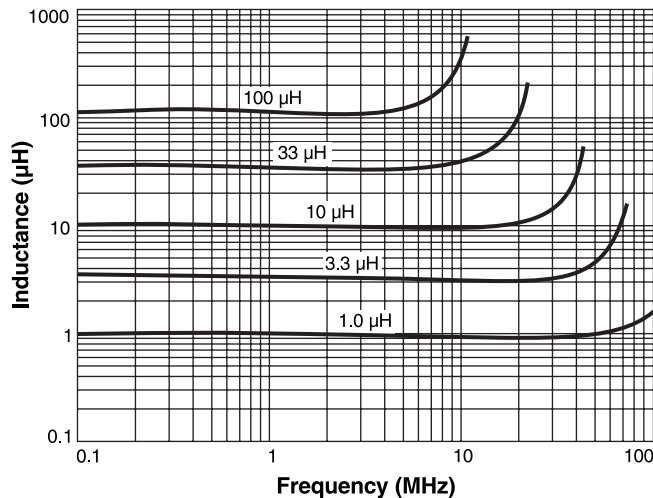
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AE420PJD Series Coupled Inductors

Typical L vs Current



Typical L vs Frequency



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