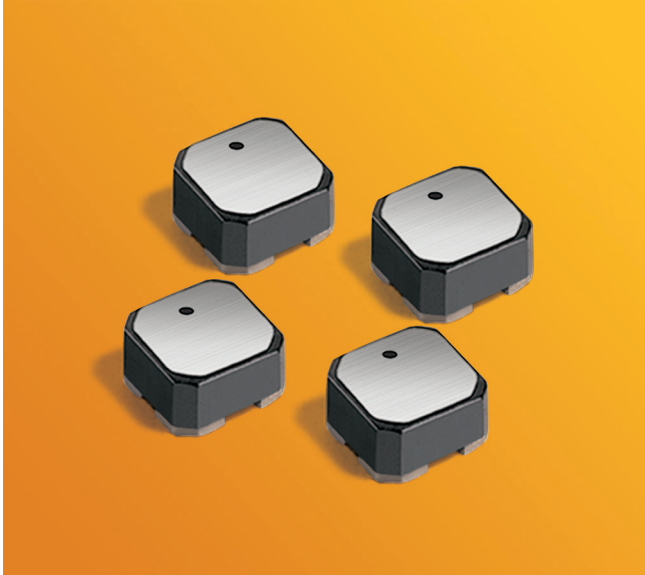
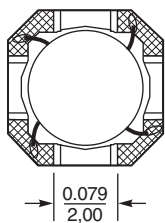
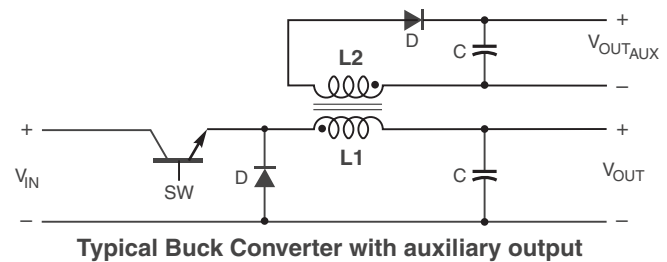
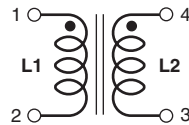
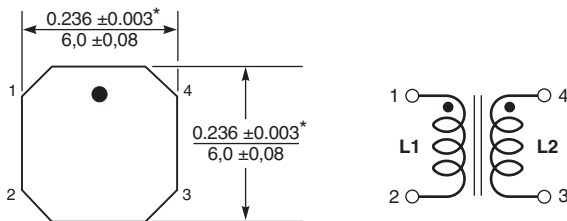
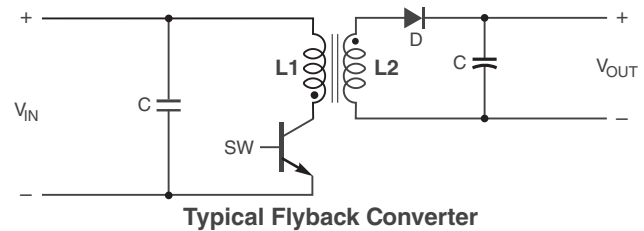


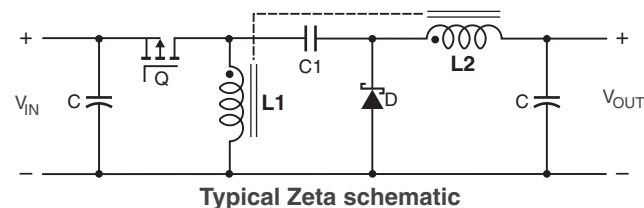
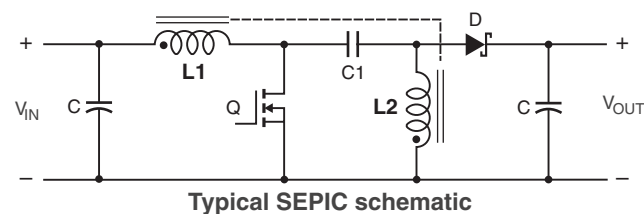
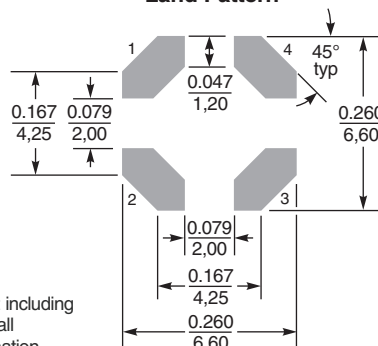
Outgassing Compliant Coupled Inductors AE512PJD



- Only 3.5 mm high and 6 mm square
- Passes NASA low outgassing specifications
- Tight coupling ($k \geq 0.97$) makes the AE512PJD series of coupled inductors ideal for use in flyback, multi-output buck and SEPIC applications.
- Tin-lead (Sn-Pb) termination offers the best possible board adhesion.
- 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.



Suggested Land Pattern



*Dimensions are of the case not including termination. For maximum overall dimensions including the termination, add 0.010 in / 0,254.

† Height dimension is after mounting. For maximum height dimension before mounting, add 0.006 in / 0,152 mm.

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

Coilcraft CPS
CRITICAL PRODUCTS & SERVICES

1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

Document AE833-1 Revised 09/23/22

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.

AE512PJD Series Coupled Inductors

Part number ¹	Inductance ² ±20% (µH)	DCR max ³ (Ohms)	SRF typ ⁴ (MHz)	Coupling coefficient typ	Leakage ⁵ L typ (µH)	Isat (A) ⁶			Irms (A)	
						10% drop	20% drop	30% drop	both windings ⁷	one winding ⁸
AE512PJD682MSZ	6.8	0.120	31	0.99	0.10	2.80	3.00	3.12	1.40	1.98
AE512PJD103MSZ	10	0.157	26	0.99	0.12	2.50	2.70	2.80	1.30	1.83
AE512PJD223MSZ	22	0.300	15	>0.99	0.15	1.50	1.67	1.73	0.85	1.20
AE512PJD473MSZ	47	0.620	9.7	>0.99	0.21	0.90	0.98	0.99	0.60	0.85
AE512PJD104MSZ	100	1.20	7.0	>0.99	0.45	0.46	0.50	0.51	0.40	0.57
AE512PJD474MSZ	470	3.50	3.0	>0.99	0.61	0.18	0.22	0.23	0.25	0.35
AE512PJD105MSZ	1000	7.00	1.9	>0.99	1.05	0.12	0.14	0.15	0.15	0.21
AE512PJD155MSZ	1500	10.8	1.5	>0.99	1.70	0.10	0.12	0.13	0.14	0.20
AE512PJD205MSZ	2000	16.0	1.3	>0.99	2.10	0.08	0.11	0.12	0.11	0.16

1. When ordering, please specify **screening** code:

AE512PJD205MSZ

Screening: Z = Unscreened

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

• Screening performed to the document's latest revision.

• Lot qualification (Group B) available.

• Custom testing also available.

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.

7. Equal current when applied to each winding simultaneously that causes a 40°C temperature rise from 25°C ambient. [Calculate temperature rise.](#)

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. [Calculate temperature rise.](#)

9. Electrical specifications at 25°C.

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

Weight 400 – 480 mg

Termination Tin-lead (63/37) over tin over nickel

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 V

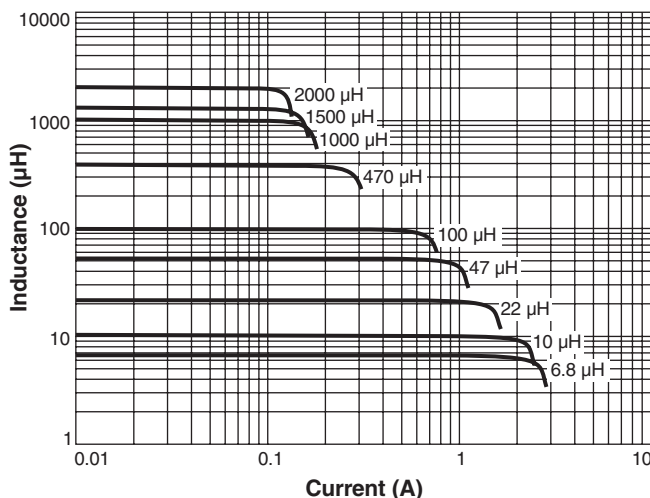
Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

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

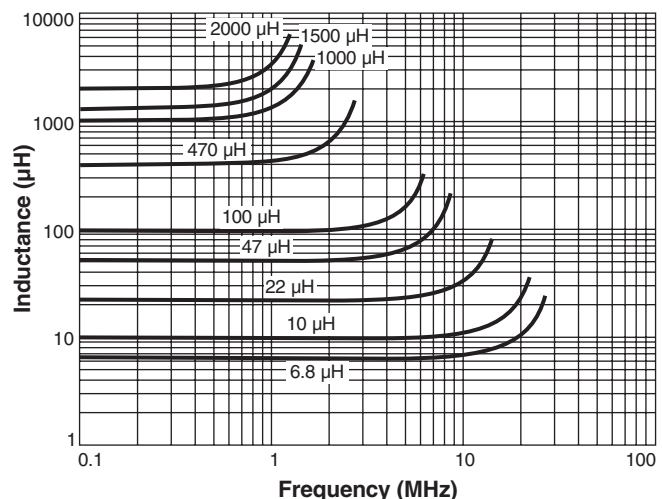
Packaging 750 per 7" reel Plastic tape: 12 mm wide, 0.32 mm thick, 8 mm pocket spacing, 3.1 mm pocket depth

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

L vs Current



L vs Frequency



Coilcraft CPS
CRITICAL PRODUCTS & SERVICES

1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

Document AE833-2 Revised 09/23/22

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.