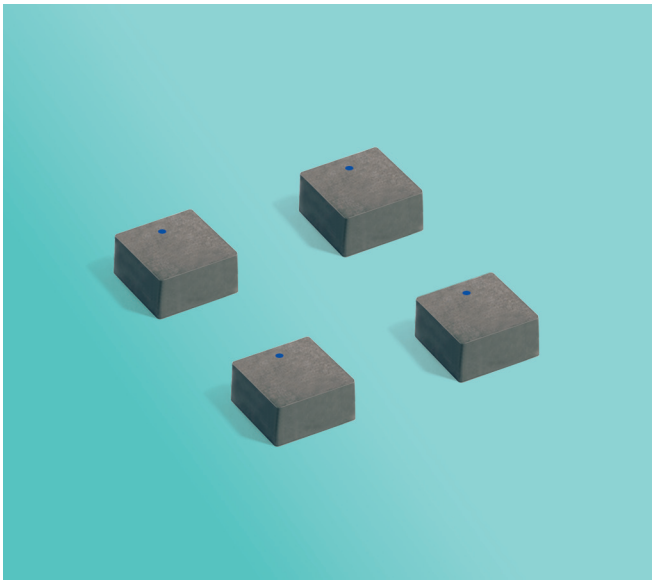
Outgassing Compliant Power Inductors AE486PYA



- High temperature materials allow operation in ambient temperatures up to 155°C
- Passes NASA low outgassing specifications
- Passes vibration testing to 80 G and shock testing to 1000 G
- Tin-lead (Sn-Pb) termination for the best possible board adhesion
- High current and very low DCR
- Soft saturation makes them ideal for VRM/VRD applications.

Core material Composite
Terminations Tin-lead (63/37) over copper.
Weight 0.44 – 0.51 g
Ambient temperature –55°C to +105°C with Irms current, +105°C to +155°C with derated current
Storage temperature Component: –55°C to +155°C. Tape and reel packaging: –55°C to +80°C
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)
Enhanced crush-resistant packaging 250 per 7″reel
Plastic tape: 16 mm wide, 0.3 mm thick, 8 mm pocket spacing, 5.21 mm pocket depth

Part number[1]	Inductance[2] ±20% (µH)	DCR (mOhms)[3] typ	DCR (mOhms)[3] max	SRF (MHz)[4] min	SRF (MHz)[4] typ	Isat (A)[5]	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise
AE486PYA161MSZ	0.16	2.15	2.36	146	183	31.0	10.7	16.7
AE486PYA331MSZ	0.33	3.20	3.52	86	108	23.0	10.4	14.4
AE486PYA601MSZ	0.60	4.11	4.52	60	75	17.6	10.2	13.3
AE486PYA801MSZ	0.80	5.14	5.65	50	63	15.1	7.5	9.8
AE486PYA122MSZ	1.2	8.50	9.40	49	61	12.5	6.5	8.3
AE486PYA222MSZ	2.2	13.20	14.50	30	38	9.1	5.4	7.3
AE486PYA332MSZ	3.3	21.20	23.30	22	28	7.1	4.4	6.1
AE486PYA472MSZ	4.7	32.70	36.00	18	23	5.8	3.2	4.4

1. When ordering, please specify **testing** code:
   AE486PYA472MSZ
   Testing: Z = COTS
   H = Screening per Coilcraft CP-SA-10001
   N = Screening per Coilcraft CP-SA-10004
2. Inductance tested at 100 kHz, 0.1 Vrms using an Agilent/HP 4192A.
3. DCR measured on a micro-ohmmeter.
4. SRF measured using Agilent/HP 4395A or equivalent.
5. Typical dc current at which the inductance drops 30% from its value without current.
6. Typical current that causes the specified temperature rise from 25°C ambient.
7. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Irms Testing

Irms testing was performed on a 0.060″ thick pcb with 4 oz. copper traces optimized to minimize additional temperature rise.

Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions.

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

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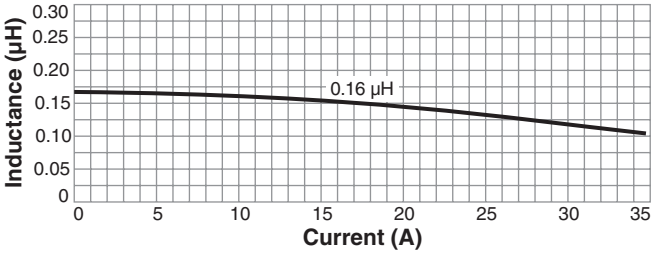
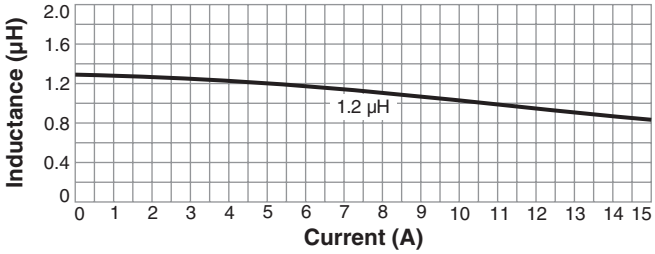
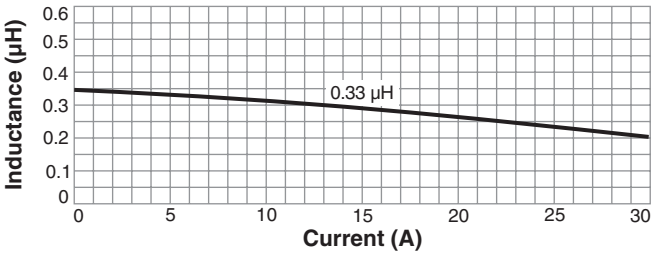
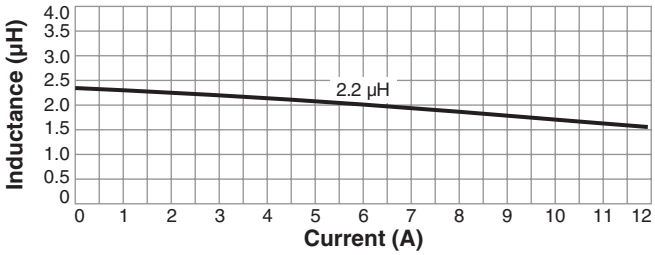
AE486PYA Series (5030)

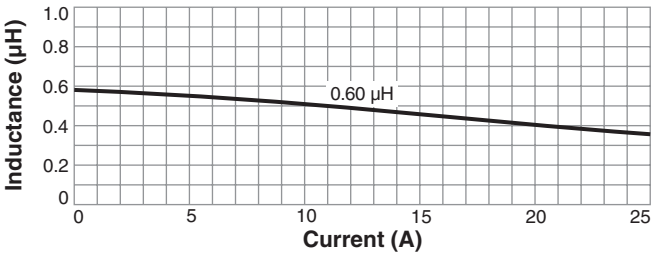
L vs Current

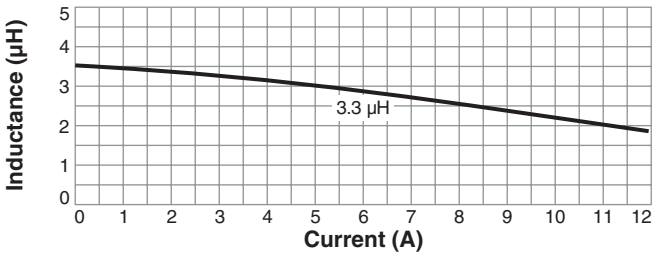


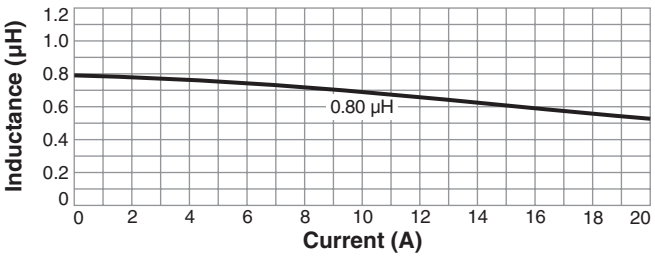


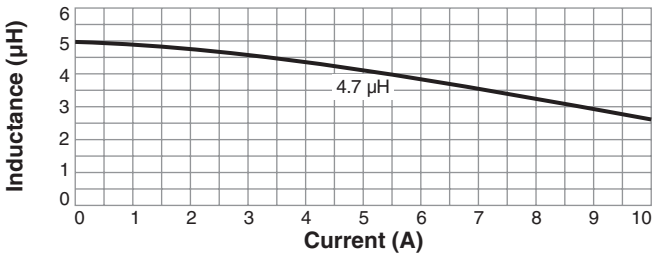












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1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

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

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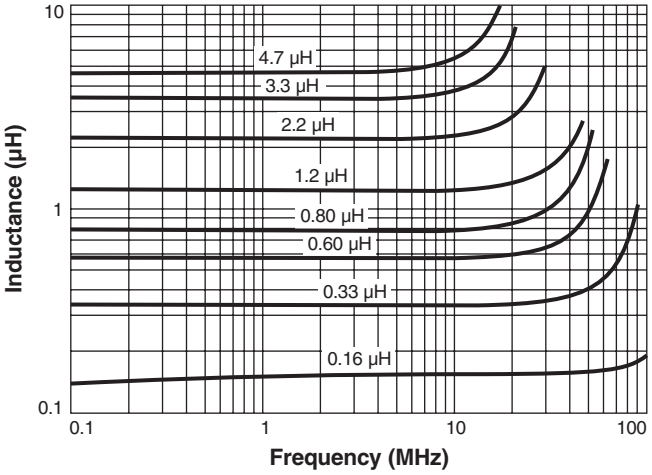
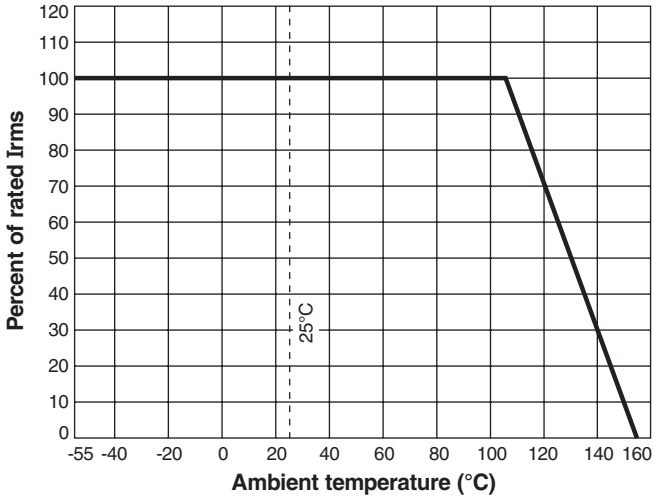
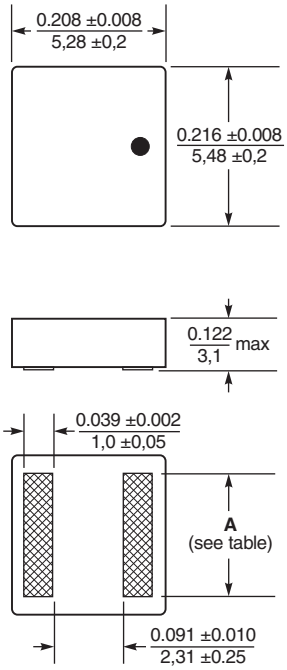
L vs Frequency



Irms Derating

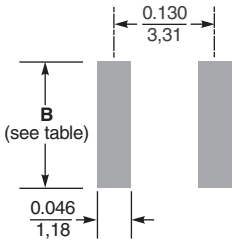




Dimensions are in inches / mm

Dash number	A ±0.008 in ±0,20 mm (in / mm)	B (in / mm)
-161	0.175 / 4.44	0.183 / 4.64
-331	0.175 / 4.44	0.183 / 4.64
-601	0.175 / 4.44	0.183 / 4.64
-801	0.175 / 4.44	0.183 / 4.64
-122	0.168 / 4.28	0.173 / 4.40
-222	0.168 / 4.28	0.173 / 4.40
-332	0.167 / 4.24	0.171 / 4.34
-472	0.165 / 4.18	0.167 / 4.25

Suggested Land Pattern



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