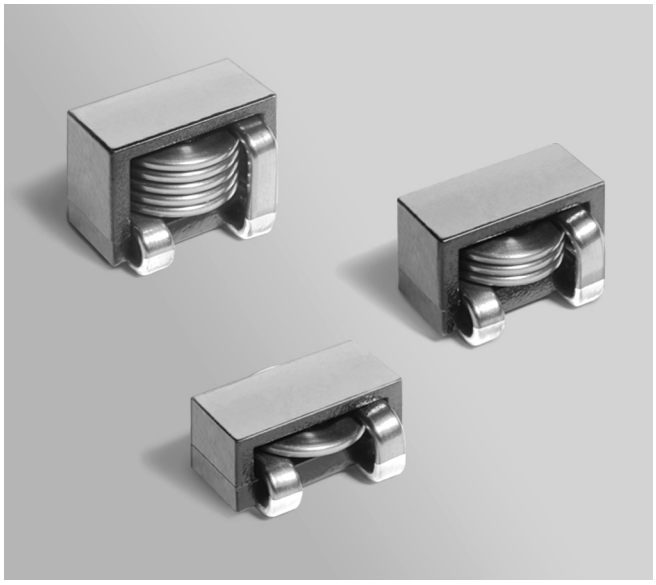
Shielded Power Inductors – ER1400



- Designed for high current power supply applications
- Flat wire windings provide exceptionally low DCR
- Specially formed terminations provide small footprint
- Isat ratings as high as 105.9 A!

Designer's Kit C427 contains 3 each of all values
Core material Ferrite
Core and winding loss
Environment RoHS compliant, halogen free
Terminations RoHS compliant tin-silver over copper. Other terminations available at additional cost.
Ambient temperature –40°C to +125°C with (40°C rise) Irms current.
Maximum part temperature +165°C (ambient + temp rise).
Storage temperature Component: –40°C to +165°C.
Tape and reel packaging: –40°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)
Failures in Time (FIT) / Mean Time Between Failures (MTBF) 38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash.

High Isat for high peak current applications

Part number[1]	Inductance[2] ±20% (µH)	DCR typ[3] (mOhms)	DCR max[3] (mOhms)	SRF typ[4] (MHz)	Isat (A)[5] 10% drop	Isat (A)[5] 20% drop	Isat (A)[5] 30% drop	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise	Height max (inches / mm)
ER1412-301ME_	0.30	1.30	1.43	154	87.0	92.8	105.9	30	37	0.498 / 12,66
ER1412-501ME_	0.50	1.30	1.43	122	56.1	59.3	62.5	30	37	0.498 / 12,66
ER1412-681ME_	0.68	1.30	1.43	100	41.2	43.5	45.8	30	37	0.498 / 12,66
ER1412-102ME_	1.0	1.30	1.43	78	28.9	31.0	32.2	30	37	0.498 / 12,66
ER1412-152ME_	1.5	1.30	1.43	62	21.8	23.6	24.6	30	37	0.498 / 12,66
ER1412-202ME_	2.0	1.30	1.43	50	16.9	18.5	19.4	30	37	0.498 / 12,66
ER1412-362ME_	3.6	1.30	1.43	35	9.6	11.2	12.1	30	37	0.498 / 12,66

Low DCR for high average current applications

Part number[1]	Inductance[2] ±20% (µH)	DCR typ[3] (mOhms)	DCR max[3] (mOhms)	SRF typ[4] (MHz)	Isat (A)[5] 10% drop	Isat (A)[5] 20% drop	Isat (A)[5] 30% drop	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise	Height max (inches / mm)
ER1408-301ME_	0.30	0.48	0.55	140	43.2	49.6	53.0	38	42	0.325 / 8,26
ER1408-501ME_	0.50	0.48	0.55	83	25.8	29.6	31.4	38	42	0.325 / 8,26
ER1408-681ME_	0.68	0.48	0.55	63	18.8	21.6	23.2	38	42	0.325 / 8,26
ER1408-102ME_	1.0	0.48	0.55	48	12.1	14.2	16.1	38	42	0.325 / 8,26
ER1410-152ME_	1.5	0.90	0.99	53	16.8	18.9	20.3	33	39	0.416 / 10,56
ER1410-202ME_	2.0	0.90	0.99	45	12.1	13.9	15.0	33	39	0.416 / 10,56

1. When ordering, please specify **termination** and **packaging** codes:

ER1410-202MED

Termination: E = RoHS compliant tin-silver-over copper. Special order: **T** = RoHS tin-silver-copper over copper (95.5/4/0.5) or **S** = non-RoHS tin-lead (63/37).

Packaging: D = 13″ machine-ready reel. EIA-481 embossed plastic tape.

B = Less than full reel. In tape, but not machine ready. To have a leader and trailer added ($25 charge), use code letter D instead.

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.
3. DCR measured on a Keithley 580 micro-ohmmeter or equivalent.
4. SRF measured using an Agilent/HP 4395A network analyzer and an Agilent/HP 16193A test fixture.
5. Typical dc current at 25°C that causes the specified inductance drop from its value without current.
6. Typical current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
7. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

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Specification subject to change without notice.
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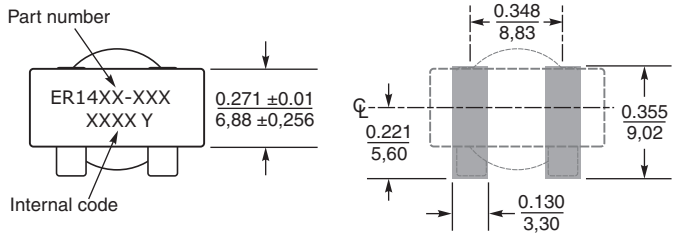
RoHS/ REACH COMPLIANT

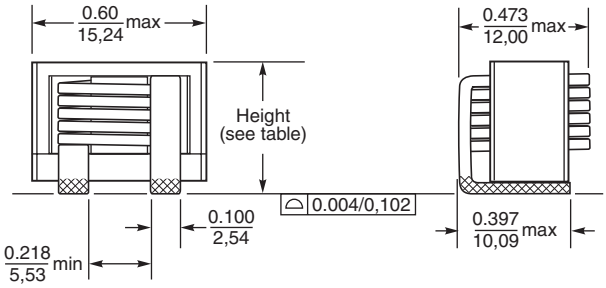
Halogen Free

AEC Q200 +125°C SER1412 only

Shielded Power Inductors – ER1400 Series



Recommended Land Pattern



Dimensions are in inches / mm

Series	Height max (inches/ mm)	Weight
SER1408	0.325 / 8,26	3.5 – 3.8 g
SER1410	0.416 / 10,56	4.8 – 5.2 g
SER1412	0.498 / 12,66	6.1 – 6.7 g

Packaging

SER1408 300/13″ reel Plastic tape: 32 mm wide, 0.5 mm thick, 20 mm pocket spacing, 8.6 mm pocket depth

SER1410 250/13″ reel Plastic tape: 32 mm wide, 0.5 mm thick, 20 mm pocket spacing, 10.8 mm pocket depth

SER1412 250/13″ reel Plastic tape: 32 mm wide, 0.5 mm thick, 20 mm pocket spacing, 12.8 mm pocket depth

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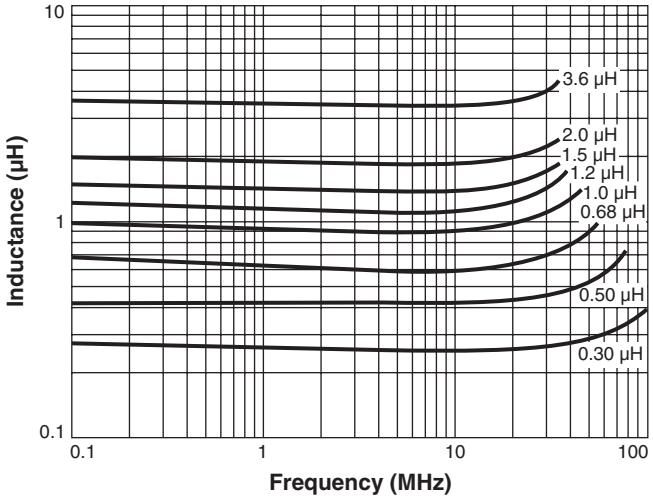
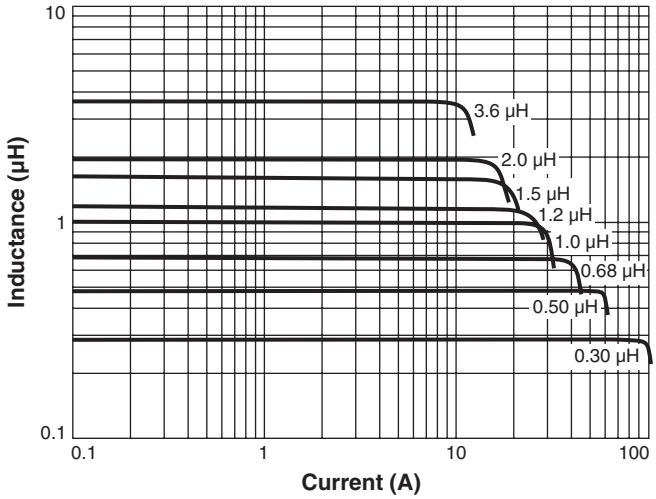
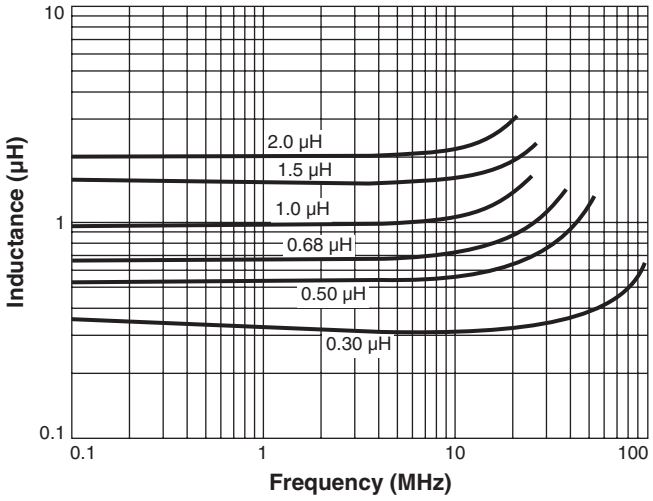
L vs Frequency (High Isat Versions)



L vs Current (High Isat Versions)



L vs Frequency (Low DCR Versions)



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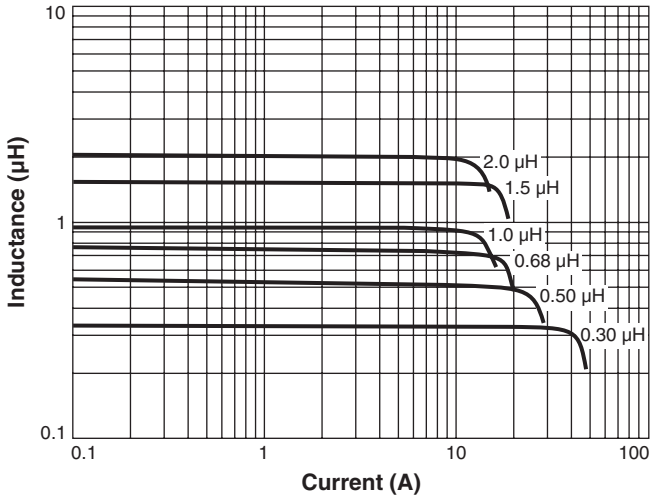

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