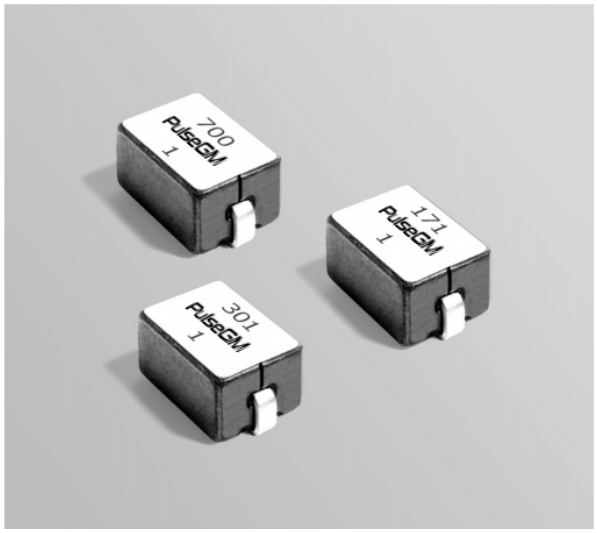
Shielded Power Inductors – HC1175



- Ideal for use in multi-phase VRM/VRD regulators and high current/high frequency DC/DC converters.
- Offers inductance values unavailable in other high current series.

Designer's Kit C467 contains 3 each of select values.
Core material Ferrite
Core and winding loss
Environment RoHS compliant, halogen free
Terminations RoHS compliant matte tin over nickel over copper. Other terminations available at additional cost.
Weight 2.19 – 2.30 g
Ambient temperature –40°C to +85°C with (40°C rise) Irms current.
Maximum part temperature +125°C (ambient + temp rise).
Storage temperature Component: –40°C to +125°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
Packaging 150/7″ reel, 700/13″ reel; Plastic tape: 24 mm wide, 0.4 mm thick, 12 mm pocket spacing, 7.62 mm pocket depth
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash.

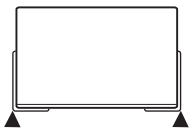
Part number[1]	Inductance[2] ±20% (nH)	DCR (mOhms)[3] min	DCR (mOhms)[3] max	SRF typ[4] (MHz)	Isat (A)[5] 10% drop	Isat (A)[5] 20% drop	Isat (A)[5] 30% drop	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise
HC1175-700ME_	70	0.228	0.252	179	83	100	>100	58	76
HC1175-121ME_	120	0.228	0.252	144	80	84	88	58	76
HC1175-151ME_	150	0.228	0.252	95	64	70	76	58	76
HC1175-171ME_	170	0.228	0.252	73	54	60	63	58	76
HC1175-201ME_	200	0.228	0.252	64	48	53	55	58	76
HC1175-231ME_	230	0.228	0.252	61	41	46	49	58	76
HC1175-271ME_	270	0.228	0.252	52	32	37	40	58	76
HC1175-301ME_	300	0.228	0.252	48	27	31	34	58	76

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

HC1175-301MEC

Packaging: **C** = 7″ machine-ready reel. EIA-481 embossed plastic tape (150 per full reel).
B = Less than full reel. In tape, but not machine ready. To have a leader and trailer added ($25 charge), use code letter C instead.
D = 13″ machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (700 per full reel).

2. Inductance tested at 100 kHz, 0.1 Vrms using an Agilent/HP 4284.
3. DCR is measured between the two points indicated below.



▲Points used for measuring DCR

4. SRF measured using an Agilent/HP 8753ES network analyzer or equivalent.
5. DC current at 25°C that causes the specified inductance drop from its value without current.
6. 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.

Irms Testing

Irms testing was performed on 0.75 inch wide × 0.25 inch thick copper traces in still air.

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.

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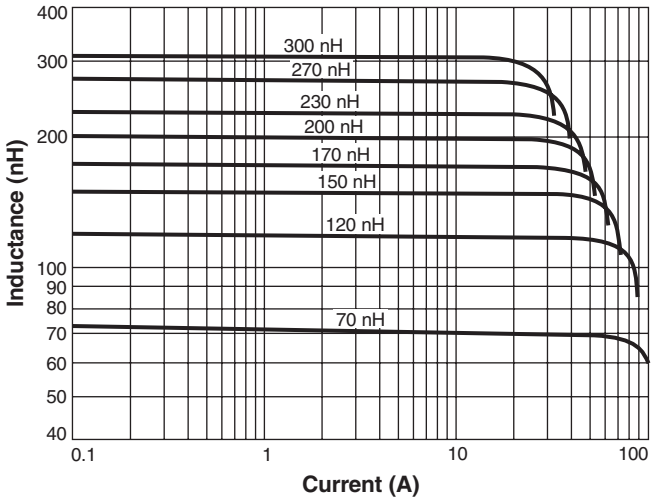
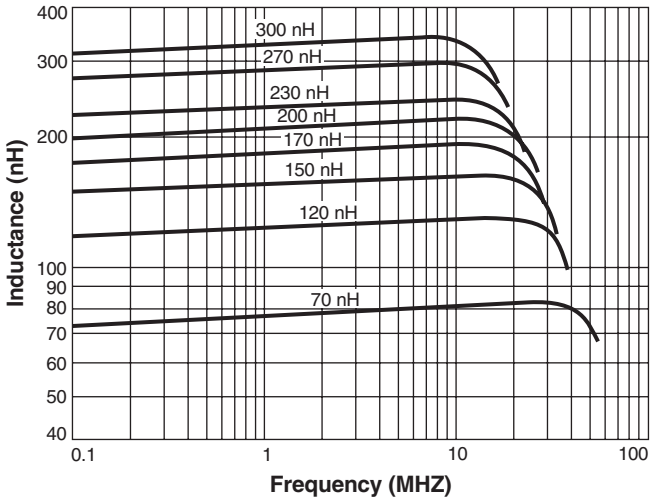
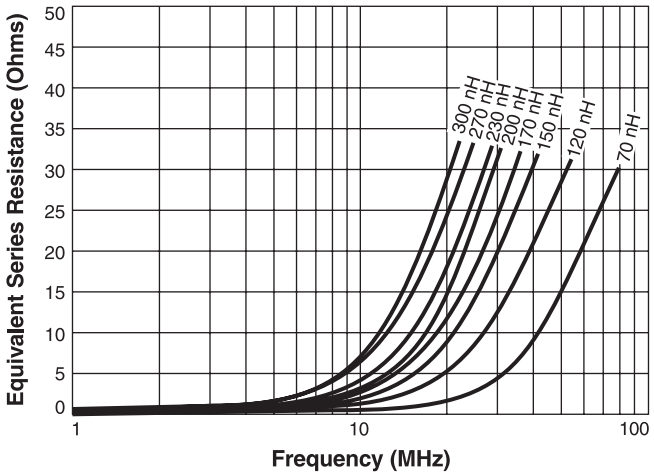
L vs Current

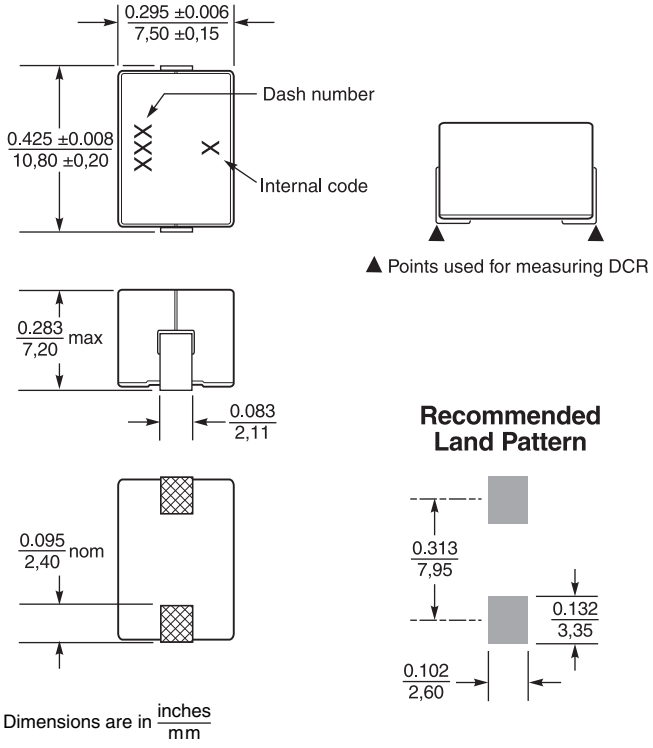


L vs Frequency



ESR vs Frequency





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