

PRELIMINARY

High-Reliability Power Inductors MS566PNB



- High current, low DCR shielded power inductors
- High temperature materials allow operation in ambient temperatures up to 165°C.
- Tin-lead (Sn-Pb) terminations for the best possible board adhesion

Core material Ferrite

Terminations Tin-lead (63/37) over tin over nickel over phos bronze.

Weight: 2.3 g – 2.5 g

Ambient temperature –55°C to +105°C with I_{rms} current, +105°C to +155°C with derated current

Storage temperature Component: –55°C to +155°C.
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 200/7" reel; 800/13" reel;
Plastic tape: 24 mm wide, 0.35 mm thick, 16 mm pocket spacing, 4.7mm pocket depth

Part number ¹	Inductance ² (μ H)	DCR ³ (mOhms)		SRF (MHz) ⁴		Isat (A) ⁵			Irms (A) ⁶	
		typ	max	min	typ	10% drop	20% drop	30% drop	20°C rise	40°C rise
MS566PNB102MSZ	1.0 ±20%	5.6	6.3	70.0	100	18.14	20.64	22.24	6.00	8.00
MS566PNB152MSZ	1.5 ±20%	8.7	9.7	60.0	85.0	14.06	15.90	17.08	5.80	7.80
MS566PNB272MSZ	2.7 ±20%	10.3	11.5	49.0	70.0	11.66	13.16	14.16	5.00	6.80
MS566PNB332MSZ	3.3 ±20%	15.1	16.8	46.0	65.0	9.74	11.08	11.98	4.50	6.30
MS566PNB472MSZ	4.7 ±20%	19.1	21.3	30.0	42.0	8.62	9.70	10.42	4.40	6.00
MS566PNB562MSZ	5.6 ±20%	22.1	24.6	26.0	37.0	7.62	8.74	9.44	3.95	5.75
MS566PNB682MSZ	6.8 ±20%	24.9	27.7	23.0	33.0	7.38	8.36	9.00	3.70	5.20
MS566PNB822MSZ	8.2 ±20%	27.4	30.5	22.0	31.0	6.84	7.70	8.32	3.35	4.67
MS566PNB103MSZ	10 ±20%	36.8	40.9	19.0	27.0	5.88	6.66	7.18	2.85	3.90
MS566PNB123MSZ	12 ±20%	38.9	43.3	17.0	24.0	5.34	6.04	6.52	2.69	3.65
MS566PNB153MSZ	15 ±20%	48.6	54.1	15.0	22.0	4.68	5.36	5.78	2.50	3.40
MS566PNB183MSZ	18 ±20%	51.0	56.7	13.0	19.0	4.32	4.92	5.32	2.41	3.19
MS566PNB223MSZ	22 ±20%	60.3	67.0	12.6	18.0	3.84	4.34	4.75	2.30	3.14
MS566PNB273MSZ	27 ±20%	67.5	75.0	11.2	16.0	3.54	4.02	4.32	2.06	2.86
MS566PNB333MSZ	33 ±20%	81.7	90.8	10.5	15.0	3.24	3.66	3.96	1.90	2.60
MS566PNB393MSZ	39 ±20%	95.2	105.8	9.3	13.3	3.04	3.46	3.72	1.73	2.39
MS566PNB473MSZ	47 ±20%	120.6	134.0	8.4	12.0	2.70	3.08	3.34	1.50	2.10
MS566PNB563MSZ	56 ±20%	133.8	148.7	7.4	10.6	2.46	2.80	3.02	1.44	2.01
MS566PNB683MSZ	68 ±20%	167.3	185.9	6.8	9.7	2.26	2.54	2.74	1.30	1.80
MS566PNB823MSZ	82 ±20%	188.5	209.5	6.2	8.8	1.98	2.26	2.46	1.24	1.72
MS566PNB104MSZ	100 ±20%	216.8	240.9	5.6	8.0	1.84	2.08	2.24	1.19	1.65
MS566PNB124KSZ	120 ±10%	287.2	319.2	5.0	7.2	1.62	1.86	2.04	1.03	1.42
MS566PNB154KSZ	150 ±10%	326.7	363.0	4.6	6.6	1.48	1.70	1.82	0.95	1.30
MS566PNB184KSZ	180 ±10%	379.5	421.7	4.1	5.9	1.36	1.56	1.68	0.89	1.21
MS566PNB224KSZ	220 ±10%	488.2	542.5	3.7	5.3	1.22	1.38	1.50	0.76	1.00
MS566PNB274KSZ	270 ±10%	560.1	622.4	3.3	4.7	1.12	1.26	1.36	0.72	0.95
MS566PNB334KSZ	330 ±10%	731.4	812.7	2.9	4.1	1.00	1.10	1.20	0.65	0.87
MS566PNB394KSZ	390 ±10%	813.7	904.2	2.7	3.8	0.946	1.00	1.10	0.59	0.79
MS566PNB474KSZ	470 ±10%	935.1	1039	2.5	3.5	0.864	0.978	1.00	0.56	0.76
MS566PNB564KSZ	560 ±10%	1193	1326	2.1	3.0	0.776	0.884	0.956	0.50	0.67
MS566PNB684KSZ	680 ±10%	1370	1523	2.0	2.8	0.720	0.818	0.882	0.46	0.62
MS566PNB824KSZ	820 ±10%	1590	1767	1.8	2.6	0.634	0.728	0.792	0.43	0.58
MS566PNB105KSZ	1000 ±10%	2090	2323	1.7	2.4	0.594	0.676	0.728	0.36	0.50

1. When ordering, please specify testing code:

MS566PNB105KSZ

Testing: Z = COTS

H = Screening per Coilcraft
CP-SA-10001

N = Screening per Coilcraft
CP-SA-10004

C = Custom screening (please
specify when ordering)

2. Inductance measured at 100 kHz, 0.1
 V_{rms} , 0 Adc using a Coilcraft SMD-A fixture
in an Agilent/HP 4263B LCR meter or
equivalent.

3. DCR measured on a micro-ohmmeter and
a Coilcraft CCF858 test fixture.

4. SRF measured using an Agilent/HP 8753D
network analyzer.

5. DC current at which the inductance drops
the specified amount from its value without
current.

6. 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.

Coilcraft CPS
CRITICAL PRODUCTS & SERVICES

These parts are preproduction products for electrical evaluation only.
Specification subject to change without notice.

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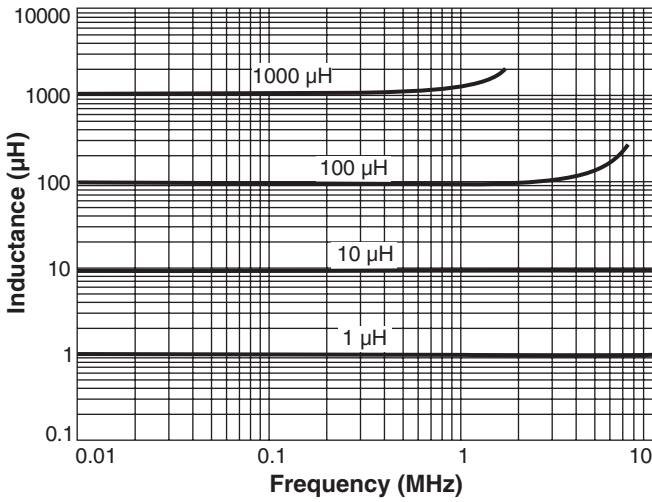
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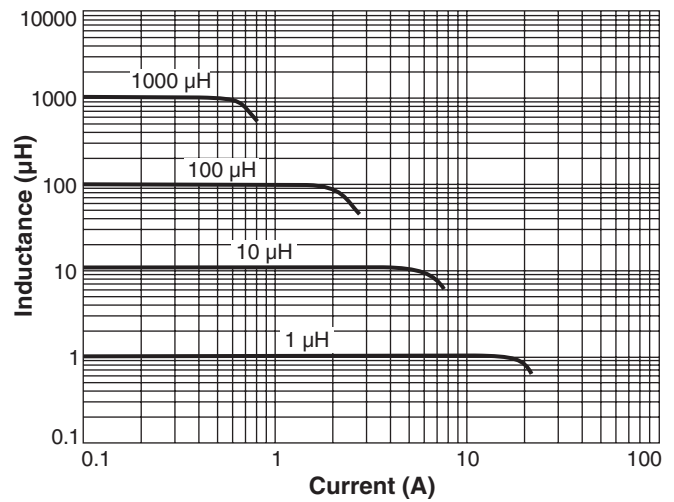
PRELIMINARY

MS566PNB Series

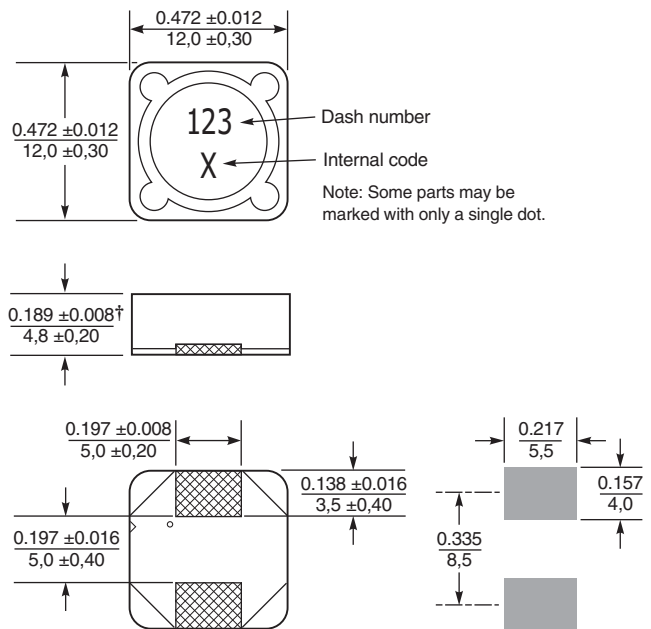
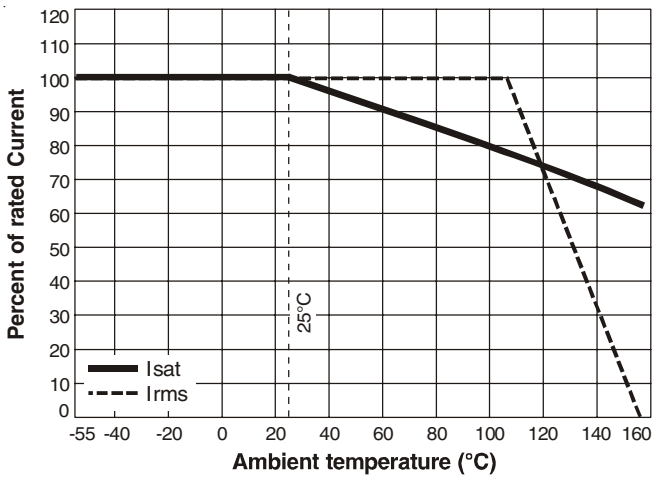
Typical L vs Frequency



Typical L vs Current



Current Derating



† Height dimension is after mounting. For maximum height dimension before mounting, add 0.006 in / 0.152 mm.

Suggested Land Pattern

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