

HIGH-CURRENT INDUCTANCE TEST REPORT — Linc(I)

大电流感量测试报告（脉冲法增量电感 Linc-I）

MODEL / 型号: **PMT-NPV100X70-300A** High-Current Flat-Wire Power Inductor (NPV100×70 core) / 大电流扁平线功率电感

Public edition — customer-specific information removed. 公开版 — 已删除客户相关信息。

1. General Information / 基本信息

Report No. 报告编号	PMC-TR-20260828-01	Revision 版本	P1 (Public 公开版)
Test Date 测试日期	2026-08-28	Sample Qty 样品数量	1 pc
Test Method 测试方法	Large-signal pulse method: incremental inductance Linc vs. instantaneous current, derived from a single voltage pulse. 大信号脉冲法: 施加单次电压脉冲, 按瞬时电流计算增量电感 Linc。		
Test Conditions 测试条件	Pulse voltage 100 V; peak current 320.0 A; pulse width 796 μs (limit 5000 μs). 脉冲电压 100 V, 峰值电流 320.0 A, 脉宽 796 μs (上限 5000 μs)。		
Equipment 测试设备	Pulse inductance (saturation) tester 脉冲式电感饱和测试仪 DPG-10		

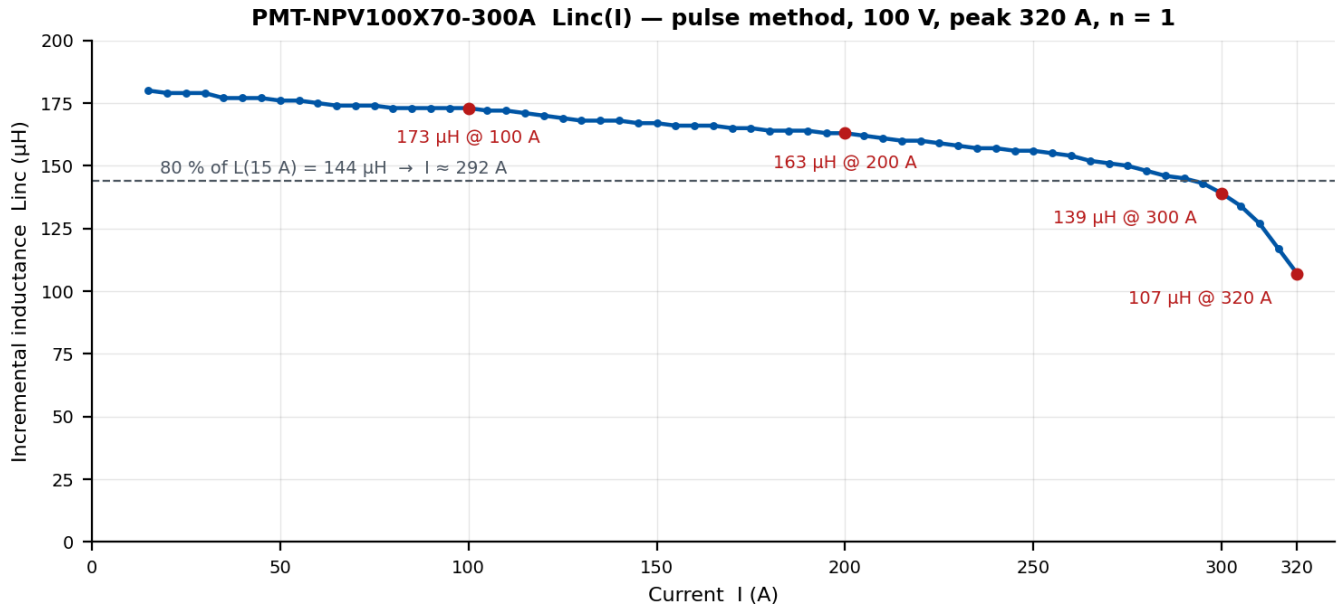
2. Key Results / 关键结果

Item 项目	Current 电流	Measured Linc 实测	vs. Linc(15 A) 相对 15A
Low-current inductance 小电流感量	15 A	180 μH	100 %
Linc @ 100 A	100 A	173 μH	96.1 %
Linc @ 200 A	200 A	163 μH	90.6 %
Linc @ 300 A (rated 额定)	300 A	139 μH	77.2 %
Linc @ 320 A (max. tested 最大测试点)	320 A	107 μH	59.4 %
Current at 90 % / 80 % of Linc(15 A)	≈ 205 A / ≈ 292 A (linear interpolation 线性插值)		

3. Linc – I Data / 感量-电流数据 (5 A 步进)

I (A)	Linc (μH)	I (A)	Linc (μH)	I (A)	Linc (μH)	I (A)	Linc (μH)	I (A)	Linc (μH)
15.0	180	80.0	173	145.0	167	210.0	161	275.0	150
20.0	179	85.0	173	150.0	167	215.0	160	280.0	148
25.0	179	90.0	173	155.0	166	220.0	160	285.0	146
30.0	179	95.0	173	160.0	166	225.0	159	290.0	145
35.0	177	100.0	173	165.0	166	230.0	158	295.0	143
40.0	177	105.0	172	170.0	165	235.0	157	300.0	139
45.0	177	110.0	172	175.0	165	240.0	157	305.0	134
50.0	176	115.0	171	180.0	164	245.0	156	310.0	127
55.0	176	120.0	170	185.0	164	250.0	156	315.0	117
60.0	175	125.0	169	190.0	164	255.0	155	320.0	107
65.0	174	130.0	168	195.0	163	260.0	154		
70.0	174	135.0	168	200.0	163	265.0	152		
75.0	174	140.0	168	205.0	162	270.0	151		

4. Linc – I Characteristic Curve / 感量-电流特性曲线



5. Conclusion & Engineering Notes / 结论与工程说明

Conclusion 结论: Up to the 300 A rated point the sample retains 139 μH (77.2 % of Linc(15 A)); the curve rolls off gradually to ≈ 250 A and the saturation knee begins above ≈ 290 A. 样品在 300 A 额定点仍保持 139 μH (为 15A 感量的 77.2 %)；约 250 A 以内感量平缓下降，约 290 A 以上开始进入饱和拐点。

- (1) From 15 A to 250 A inductance decreases gradually from 180 μH to 156 μH (soft roll-off). 15–250 A 感量由 180 μH 平缓降至 156 μH。
- (2) Above 300 A the roll-off steepens: 139 μH @ 300 A → 107 μH @ 320 A. Designs with peak current above 300 A should include this margin. 300 A 以上感量下降加快，峰值电流超过 300 A 的应用须考虑此余量。
- (3) Pulse-method Linc is a large-signal value and is not directly comparable with small-signal LCR readings (e.g. 100 kHz / 0.3 V + DC bias). 脉冲法 Linc 为大信号值，与 LCR 小信号叠加测试结果不可直接等同比较。
- (4) Single-sample result (n = 1). DCR, temperature rise and hipot are not included in this report. 本报告为单颗样品结果；不含直流电阻、温升和耐压数据。
- (5) Data transcribed from the tester record dated 2026/08/28 (original on file). 数据转录自 2026 年 8 月 28 日测试仪记录（原始记录存档）。