

DC BIAS (SATURATION CURRENT) TEST REPORT

直流叠加（饱和电流）测试报告

MODEL / 型号: **PMC-EQ32-970** High-Current Flat-Wire Power Inductor, EQ32 core / 大电流扁平线功率电感, EQ32 磁芯

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-20260718-03	Revision 版本	P1 (Public 公开版)
Test Date 测试日期	2026-07-18	Report Date 报告日期	2026-07-19
Sample Qty 样品数量	8 pcs (1# – 8#)	Test Signal 测试信号	100 kHz / 0.3 V
Equipment 测试设备	LCR meter with DC-bias scan program + CH7230 30 A Programmable DC Bias Current Source (stacked, up to 100 A) / LCR 电桥（直流叠加扫描程序）+ CH7230 30A 程控直流叠加偏流源（多台叠加至 100A）		
Ambient 环境条件	Room temperature 室温	Test Method 测试方式	4-terminal fixture 四端子夹具

2. Test Items, Specifications & Results / 测试项目、规格与结果

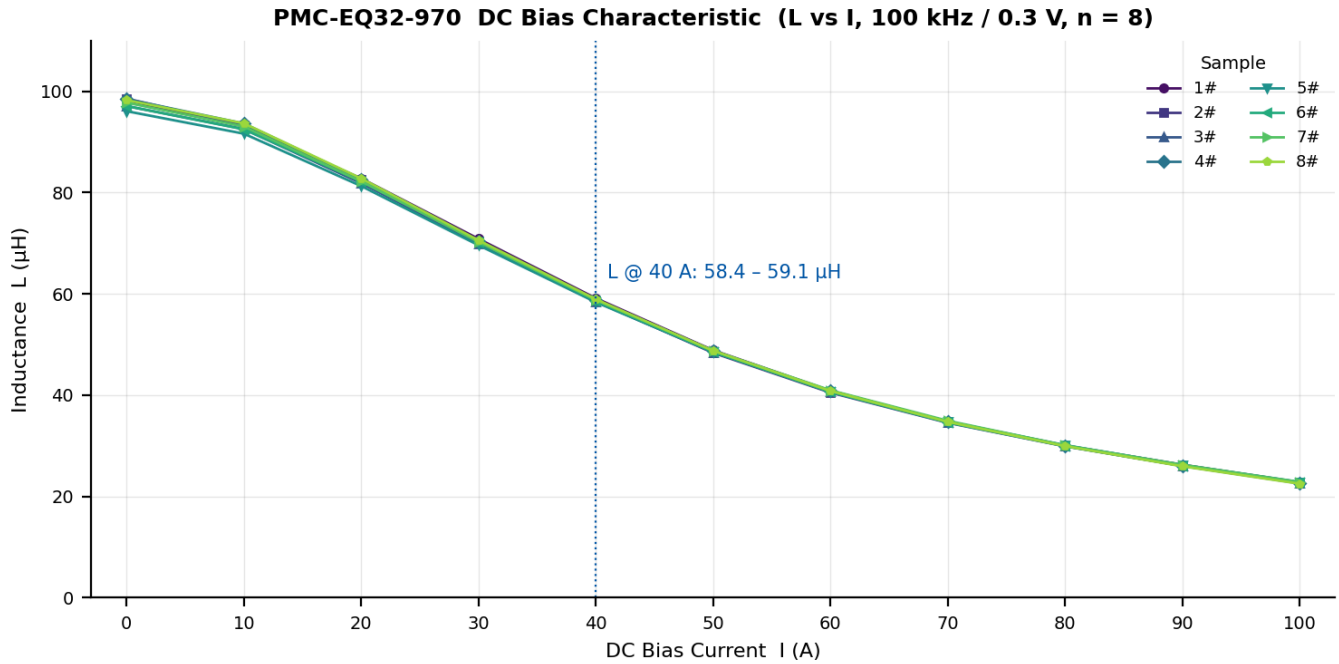
Test Item 测试项目	Condition 条件	Specification 规格	Measured (8 pcs) 实测	Judgment 判定
Inductance L ₀ @ 0 A 初始感量	100 kHz / 0.3 V	97 µH (Typ. 典型)	96.052 – 98.535 µH	Ref.
DC Bias L @ 40 A 叠加 40A 感量	100 kHz / 0.3 V + 40 A DC	Characterization 特性值	58.354 – 59.128 µH (avg. 58.711)	Ref.
DCR (2-1) 直流电阻	Room temp. 室温	< 7 mΩ	5.42 mΩ	PASS
Dielectric Strength 耐压	Winding ↔ Core 绕组对磁芯, 1.5 kVAC / 3 mA / 60 s	No breakdown 无击穿	No breakdown / no flashover	PASS

3. DC Bias Superposition Data — Inductance vs Current / 直流叠加测试数据（感量-电流）

Unit 单位: µH. 0 A = L₀; 10 A → 100 A in 10 A steps. Samples numbered in test-time order 样品按测试时间顺序编号 (09:29:51 – 09:32:29, 2026-07-18). All readings valid up to 100 A 全部电流档读数有效.

I (A)	1#	2#	3#	4#	5#	6#	7#	8#	Min 最小	Avg 平均
0	98.201	98.535	97.068	98.428	96.052	97.068	97.732	98.240	96.052	97.665
10	93.057	93.232	92.522	93.618	91.611	92.468	93.018	93.647	91.611	92.897
20	82.776	82.515	81.846	82.627	81.273	82.178	82.197	82.776	81.273	82.273
30	70.856	70.350	69.923	70.485	69.596	70.292	70.221	70.574	69.596	70.287
40	59.128	58.551	58.446	58.831	58.354	58.668	58.770	58.942	58.354	58.711
50	48.862	48.357	48.469	48.713	48.528	48.523	48.772	48.756	48.357	48.623
60	40.874	40.507	40.660	40.817	40.778	40.618	40.958	40.817	40.507	40.754
70	34.793	34.545	34.671	34.756	34.802	34.598	34.940	34.726	34.545	34.729
80	30.067	29.900	29.979	29.998	30.123	29.926	30.087	29.943	29.900	30.003
90	26.263	26.038	26.075	26.021	26.224	26.053	26.257	25.955	25.955	26.111
100	22.793	22.695	22.709	22.568	22.861	22.717	22.841	22.512	22.512	22.712

4. DC Bias Characteristic Curve (L – I) / 直流叠加特性曲线



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

Conclusion 结论: DCR(2-1) = 5.42 mΩ (< 7 mΩ) and dielectric strength (1.5 kVAC / 3 mA / 60 s) **PASS**. DC-bias inductance is published as characterization data for design reference; the application-specific bias-inductance limit must be agreed per project. 直流电阻与耐压合格；直流叠加感量作为特性数据供设计参考，具体应用的叠加感量下限须按项目确认。

- (1) Initial inductance L_0 measured 96.052 – 98.535 μH; group consistency is tight (spread $\approx$ 2.6 %), indicating a stable process. 初始感量 96.052 – 98.535 μH, 批内一致性好 (约 2.6 %), 工艺稳定。
- (2) At 40 A the measured range is 58.354 – 59.128 μH (avg. 58.711 μH); all 8 pcs fall within a 0.8 μH band. 40A 档实测 58.354 – 59.128 μH, 8 颗集中在 0.8 μH 带宽内。
- (3) The L-I curve rolls off smoothly with no hard saturation knee within 0 – 100 A; at 100 A the parts still read 22.512 – 22.861 μH. No saturation-runaway behaviour is indicated within the tested range. 0–100A 内感量平滑衰减，无硬饱和拐点，100A 时仍有约 22.5 μH。
- (4) If a higher inductance is required at the operating current, the design can be adjusted (core gap / turns / material). 如工作电流点需要更高感量，可通过气隙、匝数或材料调整设计。
- (5) Data transcribed from instrument records dated 2026/07/18, 09:29 – 09:33 (screen photos on file). 数据转录自 2026 年 7 月 18 日仪器测试记录 (截屏存档)。