

DC BIAS (SATURATION CURRENT) TEST REPORT

直流叠加（饱和电流）测试报告

MODEL / 型号: **PMC-EQ32-750** 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-20260718-02	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

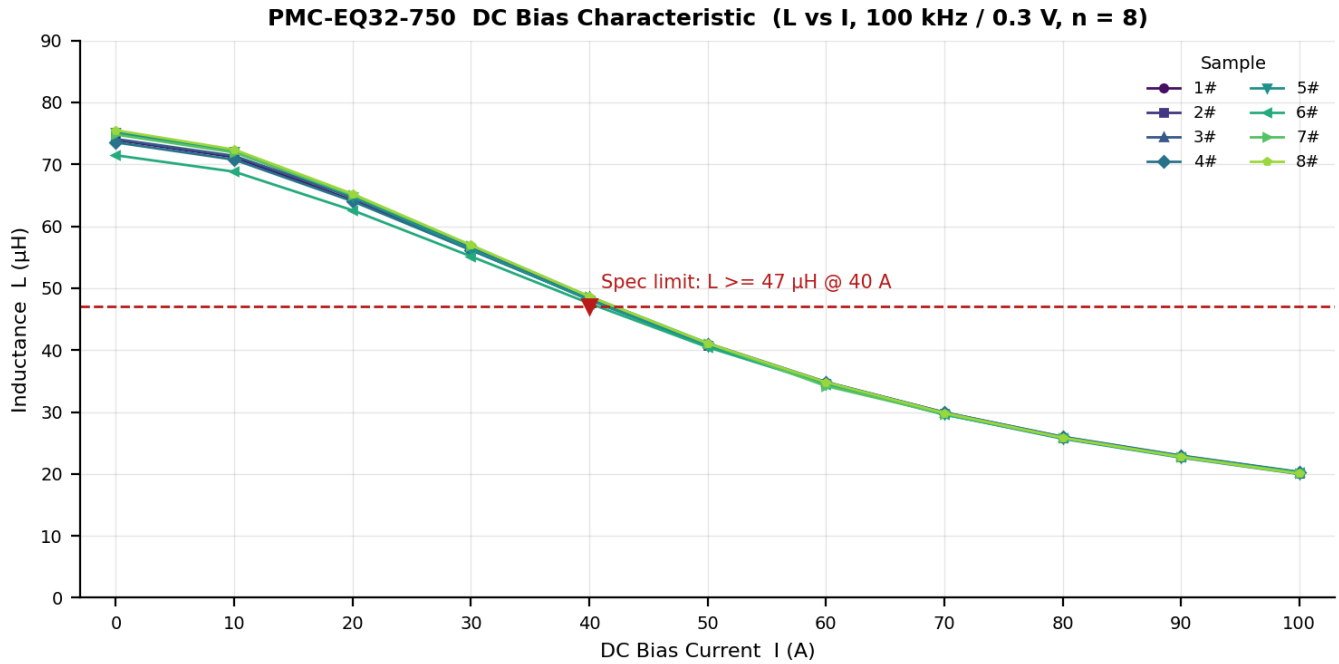
Test Item 测试项目	Condition 条件	Specification 规格	Measured (8 pcs) 实测	Judgment 判定
Inductance L_0 @ 0 A 初始感量	100 kHz / 0.3 V	75 μ H (Nominal 标称)	71.461 – 75.502 μ H (–4.7 % ~ +0.7 %)	OK
DC Bias L @ 40 A 叠加 40A 感量	100 kHz / 0.3 V + 40 A DC	$L \geq 47 \mu$ H	47.550 – 48.674 μ H (min. 6#)	PASS
DCR (2-1) 直流电阻	Room temp. 室温	< 6 m Ω	4.57 m Ω	PASS
Dielectric Strength 耐压	Winding $\leftrightarrow$ 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: μ H. 0 A = L_0 ; 10 A $\rightarrow$ 100 A in 10 A steps. Samples numbered in test-time order 样品按测试时间顺序编号 (09:26:19 – 09:28:56, 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	73.945	75.101	74.094	73.541	75.181	71.461	74.810	75.502	71.461	74.204
10	71.168	72.081	71.366	70.756	72.159	68.815	71.923	72.382	68.815	71.331
20	64.188	64.646	64.680	64.045	64.766	62.583	65.081	65.228	62.583	64.402
30	56.188	56.321	56.708	56.160	56.340	55.144	56.921	56.951	55.144	56.342
40	48.213	48.154	48.610	48.217	48.108	47.550	48.674	48.656	47.550	48.273
50	40.907	40.759	41.102	40.912	40.658	40.468	41.099	41.080	40.468	40.873
60	34.772	34.630	34.861	34.801	34.503	34.496	34.199	34.813	34.199	34.634
70	29.855	29.767	29.934	29.934	29.630	29.586	29.707	29.849	29.586	29.783
80	25.880	25.833	25.970	26.000	25.692	25.815	25.825	25.854	25.692	25.859
90	22.798	22.787	22.913	22.964	22.643	22.822	22.743	22.759	22.643	22.804
100	20.107	20.132	20.250	20.325	19.979	20.225	20.063	20.052	19.979	20.142

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: All 8 samples of PMC-EQ32-750 meet the specified requirements ($L @ 40 \text{ A} \geq 47 \mu\text{H}$; $\text{DCR}(2-1) < 6 \text{ m}\Omega$; dielectric strength $1.5 \text{ kVAC} / 3 \text{ mA} / 60 \text{ s}$). The lot is judged **PASS / 合格**. 全部 8 颗样品直流叠加、直流电阻及耐压测试均满足规格要求，判定合格。

(1) Initial inductance L_0 measured $71.461 - 75.502 \mu\text{H}$ against the $75 \mu\text{H}$ nominal ($-4.7\% \sim +0.7\%$); group consistency is tight (spread $\approx 5.5\%$). 初始感量相对 $75 \mu\text{H}$ 标称偏差 $-4.7\% \sim +0.7\%$ ，批内一致性良好。

(2) At 40 A the measured range is $47.550 - 48.674 \mu\text{H}$. Worst-case is sample 6# at $47.550 \mu\text{H}$, i.e. $+1.2\%$ above the $47 \mu\text{H}$ limit. 40 A 档实测 $47.550 - 48.674 \mu\text{H}$ ，最差样品 (6#) 高于规格下限 1.2% 。

(3) The L-I curve rolls off smoothly with no hard saturation knee within $0 - 100 \text{ A}$; at 100 A the parts still read $19.979 - 20.325 \mu\text{H}$ ($\approx 27\%$ of L_0) and all readings remain valid. $0-100 \text{ A}$ 范围内感量平滑衰减，无硬饱和拐点； 100 A 时仍有约 $20 \mu\text{H}$ (约为 L_0 的 27%)，全部读数有效。

(4) Data transcribed from instrument records dated 2026/07/18, 09:26 – 09:29 (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)。