

T2

低频低损耗功率材料 LOW-FREQUENCY LOW-LOSS POWER FERRITE

T2 为低频低损耗锰锌功率铁氧体，初始磁导率 (μ_i) 2800，饱和磁通密度 (B_s) 510 mT (25 °C) / 390 mT (100 °C)，居里温度高于 180 °C。损耗谷底落在常温：25 kHz / 200 mT 为 110 kW/m³ (25 °C) → 200 kW/m³ (100 °C)，100 kHz / 100 mT 为 110 → 240 kW/m³，在同群四支中两个条件、两个温度都是最低；2800 的 μ_i 让低频下同一感量所需匝数最少，铜损与绕线体积跟着缩小。典型应用为 100 kHz 以下的电子镇流器电感、低频开关电源变压器、宽频巴伦与电流互感器。在低频高 B_s 群中，T2 是损耗基准：磁芯长时间停在高温、或需要更高的 100 °C B_s 时选 T2M (410 mT， $T_c > 220$ °C)；带直流偏磁的 PFC 与储能扼流圈选 TM82。损耗随温度上升，散热设计要让磁芯保持在中低温，并为 180 °C 的居里温度留裕度。

T2 is a low-frequency low-loss MnZn power ferrite with an initial permeability (μ_i) of 2800, a saturation flux density (B_s) of 510 mT at 25 °C (390 mT at 100 °C) and a Curie temperature above 180 °C. Its loss minimum lies at room temperature: 110 → 200 kW/m³ from 25 °C to 100 °C at 25 kHz / 200 mT and 110 → 240 kW/m³ at 100 kHz / 100 mT — the lowest of the four grades in this group at both conditions and both temperatures. A μ_i of 2800 also minimises the turns for a given inductance at low frequency, shrinking copper loss and winding volume. Typical uses are electronic-ballast inductors below 100 kHz, low-frequency switch-mode transformers, wideband baluns and current transformers. Within the low-frequency high- B_s group T2 is the loss baseline: choose T2M (410 mT at 100 °C, $T_c > 220$ °C) when the core runs hot or needs more 100 °C B_s , and TM82 for PFC and storage chokes under DC bias. Since loss rises with temperature, keep the core cool and leave margin to the 180 °C Curie point.

Electronic Ballast Inductor

Low-Frequency Power Transformer

Wideband Balun

Current Transformer

电磁特性 MAGNETIC CHARACTERISTICS

特性 Characteristic	条件 Condition	25 °C	100 °C	单位 Unit
初始磁导率 Initial Permeability μ_i	100 kHz & <0.2 mT	2800±25%		
增幅磁导率 Amplitude Permeability μ_a	25 kHz/400 mT	> 1000	> 500	
饱和磁通密度 Saturation Flux Density B_s	1200 A/m 100 Hz	510	390	mT
残留磁通密度 Remanence B_r	1200 A/m 100 Hz	135	110	mT
矫顽力 Coercivity H_c	1200 A/m 100 Hz	15	10	A/m
相对损耗因子 Loss Factor	100 kHz & <0.2 mT	< 12		10 ⁻⁶
居里温度 Curie Temperature T_c	100 kHz & <0.2 mT	>180		°C
密度 Density D	阿基米德法 Archimedes method	4.80		g/cm ³
电阻率 Electrical Resistivity ρ	直流电流 DC Current	>5		Ω·m

功率损耗 P_{cv} POWER LOSS · KW/M³

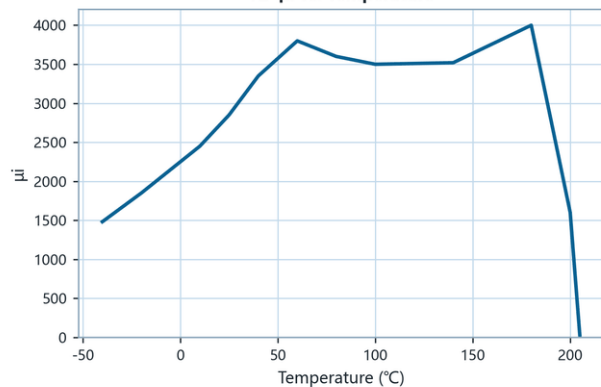
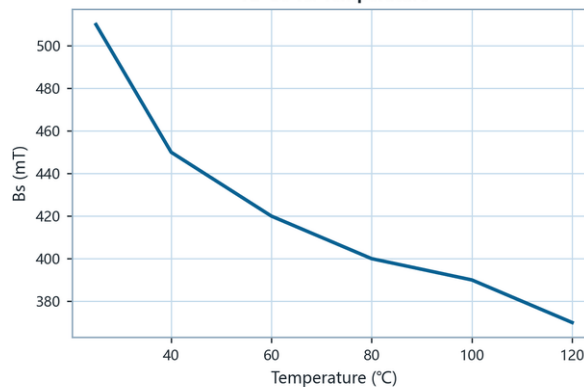
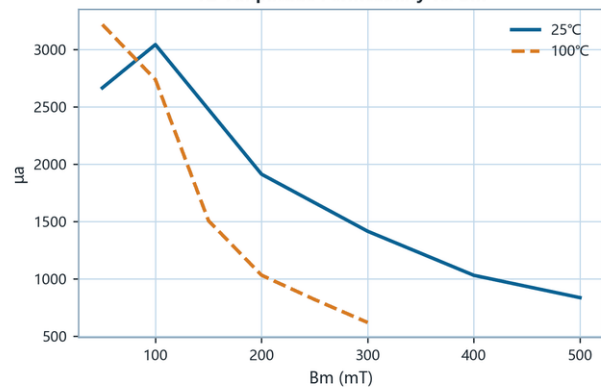
测试条件 Condition	25 °C	100 °C
25 kHz/200 mT	110	200
100 kHz/100 mT	110	240

特性曲线详见次页 CHARACTERISTIC CURVES — SEE NEXT PAGE

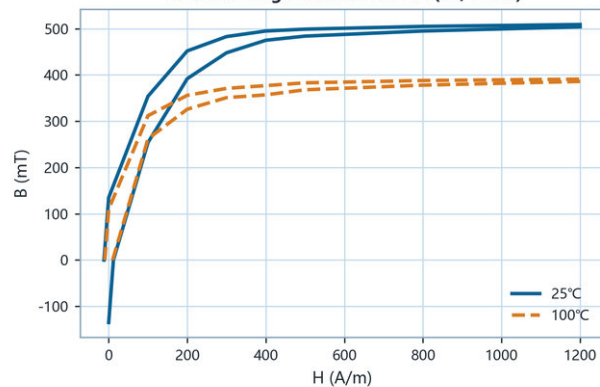
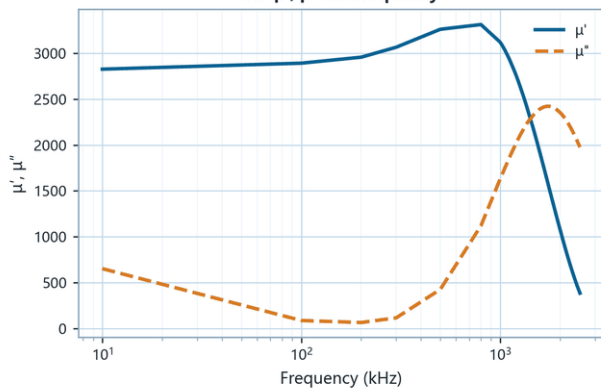
T2

特性曲线

CHARACTERISTIC CURVES

T2 μ_i vs. TemperatureT2 B_s vs. TemperatureT2 Amplitude Permeability vs. B_m 

T2 Static Magnetization Curves (25/100°C)

T2 μ' , μ'' vs. Frequency

T2 Core Loss vs. Temperature

