ACME Electronics Corporation
越峯電子材料股份有限公司

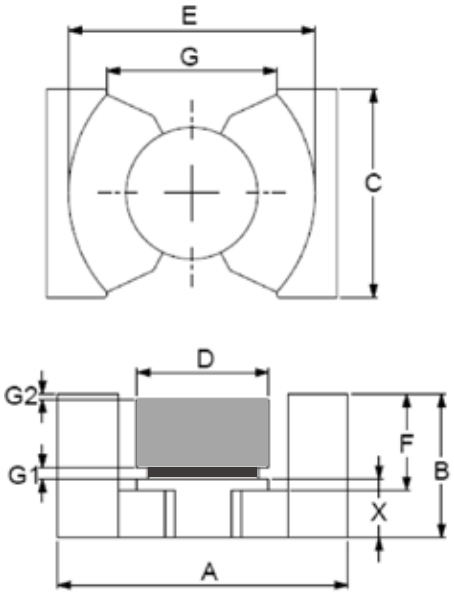
Multi-gap Composite Core

P453 PQH30/30-AG

2026/Jul. Version 1.0

Multi-gap Composite Core

PQH30/30-AG



Core dimensions:

A	30.00	± 0.50
B	15.00	± 0.15
C	23.00	± 0.50
D	13.30	± 0.30
E	25.50	± 0.50
F	11.70	± 0.15
G	20.70	± 0.50
X	3.60	± 0.20

Application Fields:

1. PFC Choke
2. High Inductance
3. High Current Power Inductor

Characteristics:

$\Sigma L/A$	L_e	A_e	A_{min}	V_e	W_t/set
0.548 mm^{-1}	70.6 mm	128.8 mm^2	96.8 mm^2	9094mm^3	50 g

Material	Part no.	G1(mm)	G2 (mm)	Inductance Factor A_L(nH/N^2)
Housing core P453 ROD core AG060	P453PQH30/30G123-AG	0.40	0.20	123 ±10%
	P453PQH30/30G94-AG	0.60	0.30	94 ±10%
	P453PQH30/30G66-AG	1.00	0.50	66 ±10%

Custom A_L values, air gaps, and materials are available upon request.

Wide Temperature/Low Loss Material

P453

Material properties:

	Symbol	Unit	Measuring Conditions			P453
			Freq.	Flux den.	Temp.	
Initial Permeability	μi		10kHz	0.25mT	25°C	**3500** ±25%
Amplitude Permeability	μa		25kHz	200mT	25°C	**> 5000**
					100°C	**> 5000**
Power Loss	Pv	kW/m^3	100kHz	200mT	25°C	**230**
					100°C	**260**
			300kHz	100mT	25°C	**240**
					100°C	**300**
			500kHz	50mT	25°C	**145**
					100°C	**180**
Saturation Flux Density	Bs	mT	10kHz	1200A/m	25°C	**535**
					100°C	**425**
Remanence	Br	mT	10kHz	1200A/m	25°C	**67**
					100°C	**60**
Coercivity	Hc	A/m	10kHz	1200A/m	25°C	**8**
					100°C	**7**
Hysteresis Material Constant	η_B	$10^{-6}/mT$	10kHz	1.5-3.0mT	25°C	**< 0.6**
Disaccommodation Factor	D_F	10^{-6}	10kHz	< 0.25mT	25°C	**< 1**
Curie Temperature	Tc	°C				**> 215**
Resistivity	ρ	Ωm				**5.00**
Density	d	g/cm^3				**4.90**

Wide Temperature/Low Loss Material

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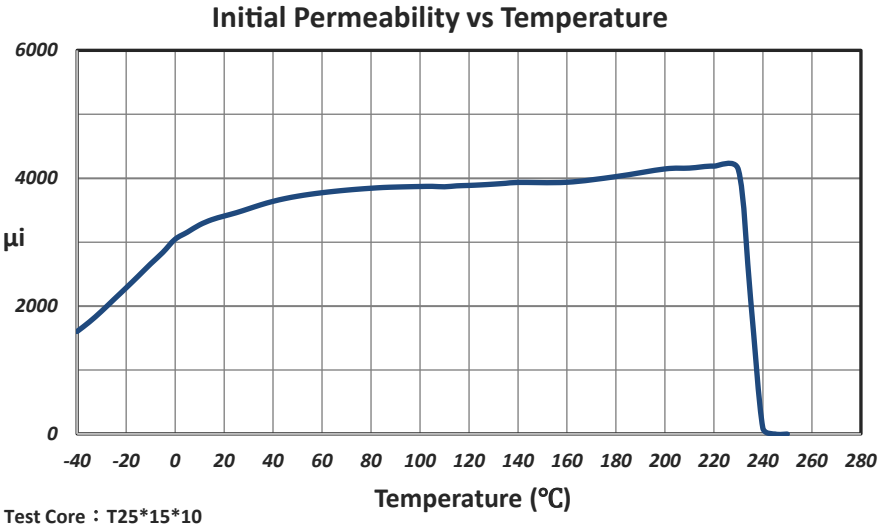
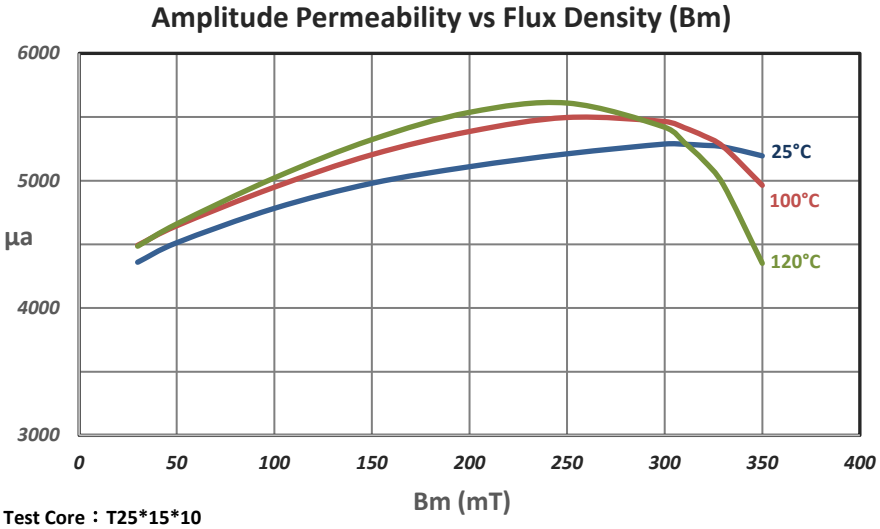


Test Core：T25*15*10



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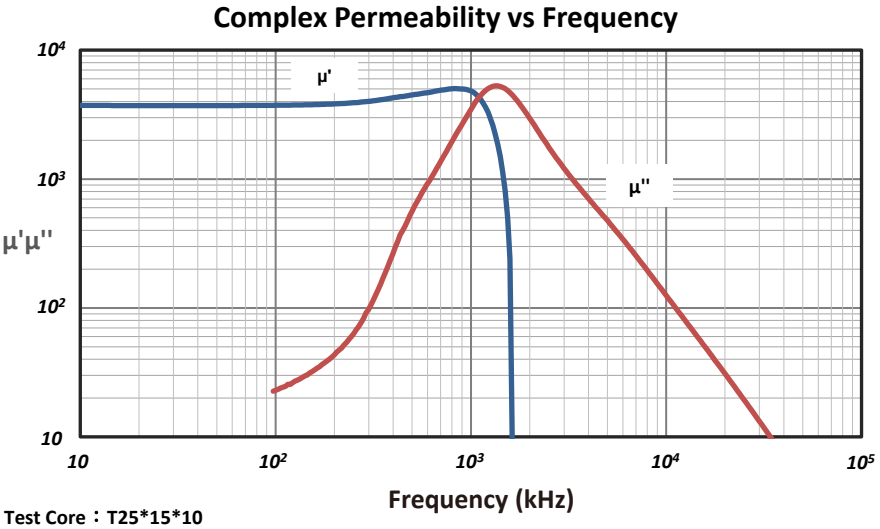

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Wide Temperature/Low Loss Material

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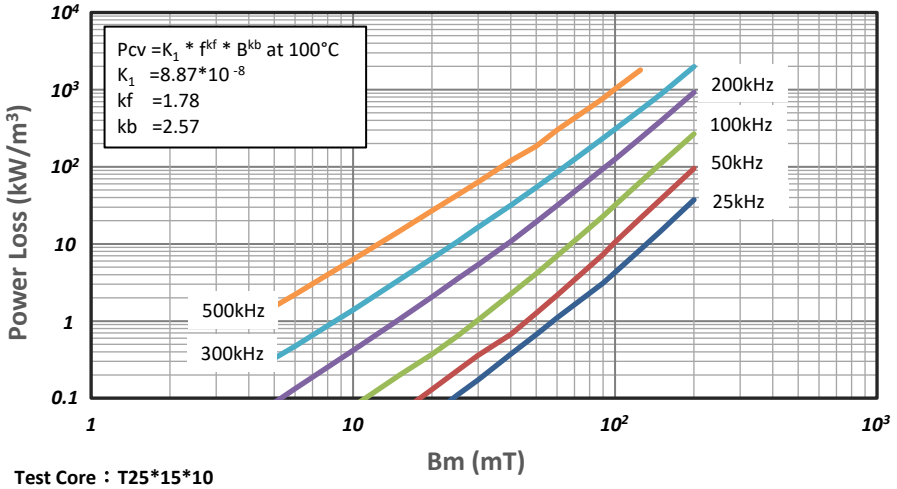
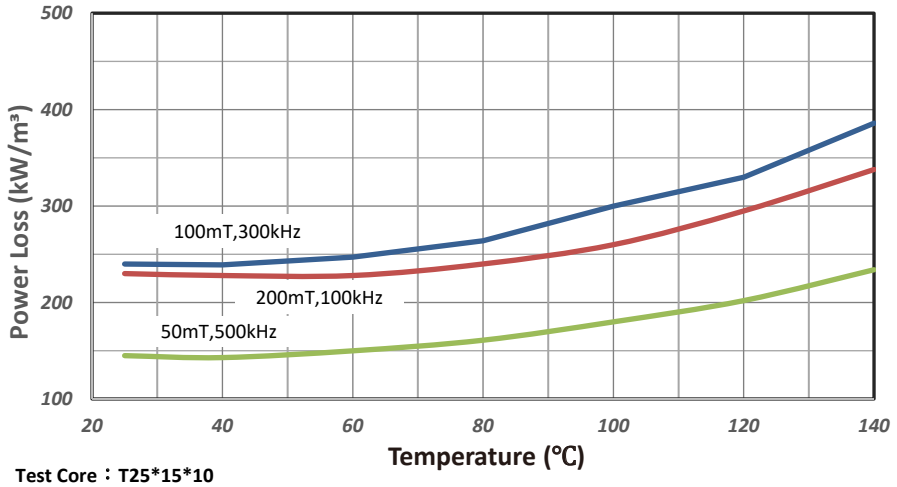
Power Loss vs Temperature/Flux Density/Frequency



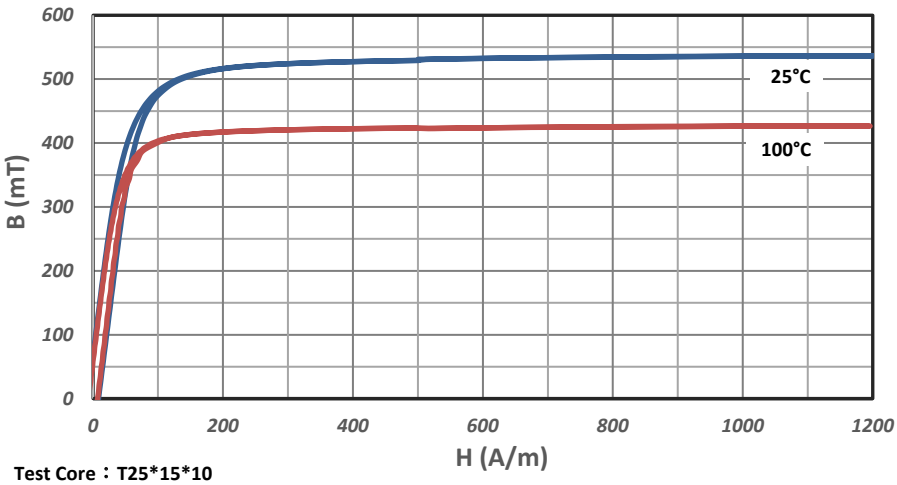
Test Core：T25*15*10

Power Loss vs Temperature



Test Core：T25*15*10

Saturation Flux Density vs Magnetic Field



Test Core：T25*15*10

AG series

Features

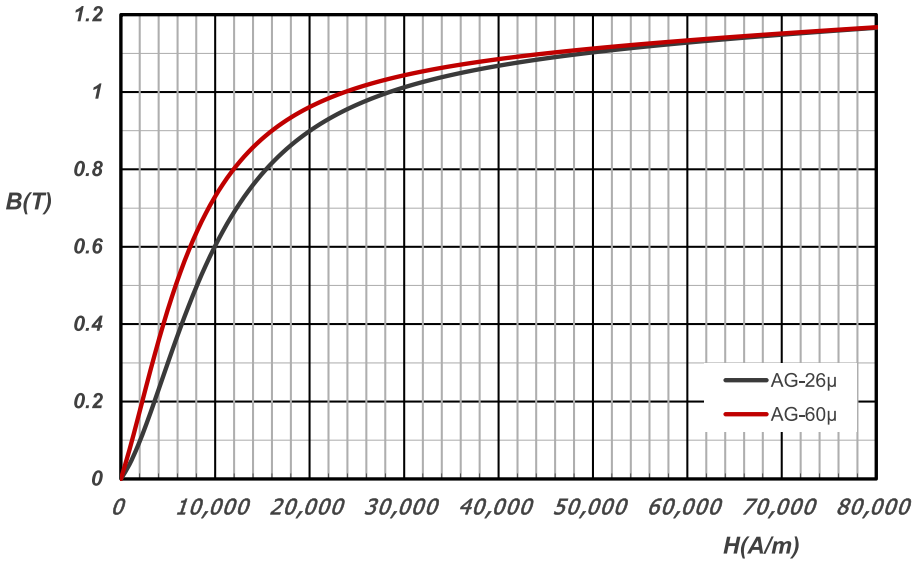
- Lowest core loss characteristics
- Good DC-bias performance
- Excellent temp. and freq. stability

Applications

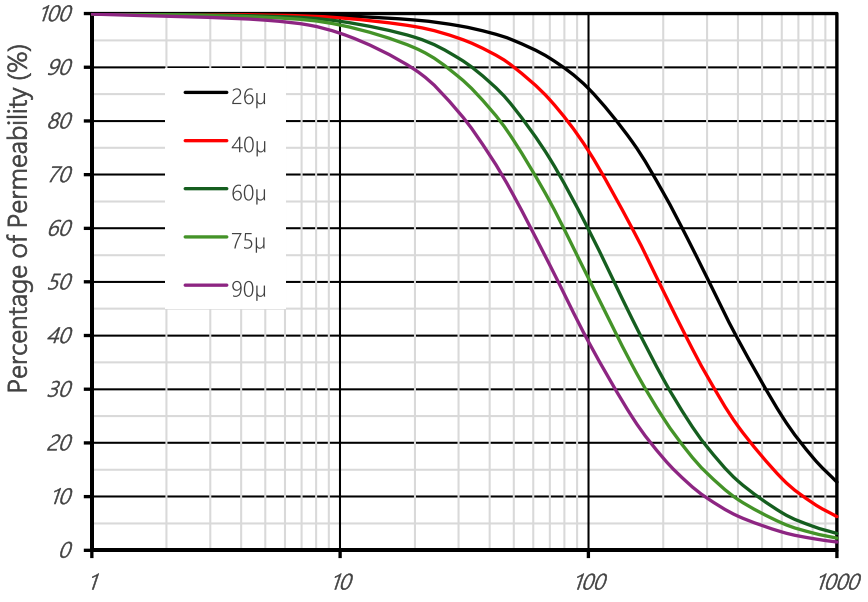
- Server power supply
- PFC inductor
- >50kHz power applications

Property / Material	Permeability	Bs (Tesla)	Core Loss (@50kHz, 1000G)	DC-Bias (% of 60μ@100Oe)
AG Fe-Si-Al (Gas atomized)	26-90	1.2	250kW/m³	60%

Saturation Flux Density vs Magnetic Field



Percent Initial Permeability vs DC Magnetizing Force



Material Characteristics

AG series

The curve fitting process gives rise to the following core loss density Pv(mW/cm³) equation:

$$Pv(mW/cm^3) = Cm \cdot f^x \cdot B^y$$

*frequency(f) unit in kHz and flux density(B) unit in kGauss

μ_e	C_m	x	y
26 & 40	1.872	1.21	2.16
60 & 75 90	0.935	1.43	2.13