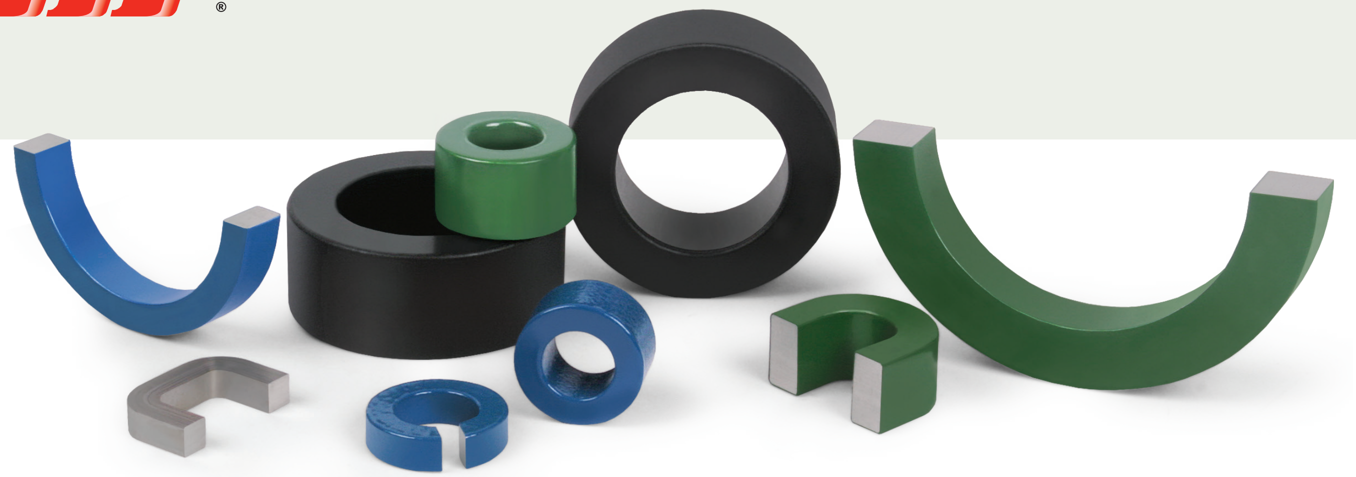
Nanocrystalline Cores

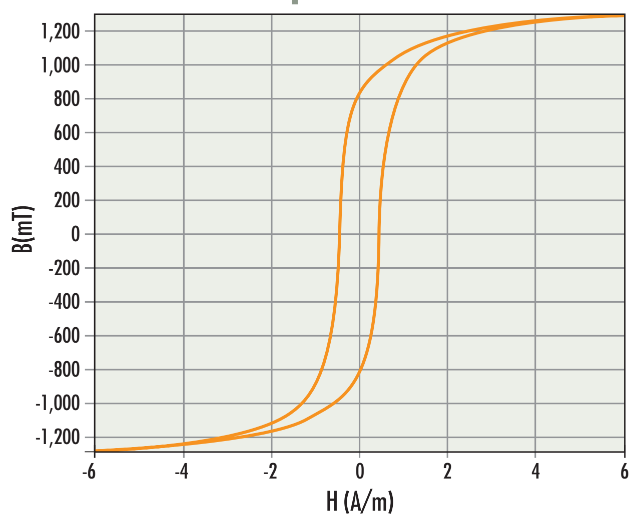


Nanocrystalline cores are an optimal choice for applications such as common mode chokes and current transformers as they exhibit high permeability, low power loss, and high saturation. Available in toroids, cut toroids, slotted toroids, and cut cores from 5 mm to 145 mm, Magnetics' nanocrystalline cores can also be used in switched-mode power supplies (SMPS), uninterruptible power supplies (UPS), solar inverters, frequency converters, EMC filters, EV chargers, and automotive and welding applications.

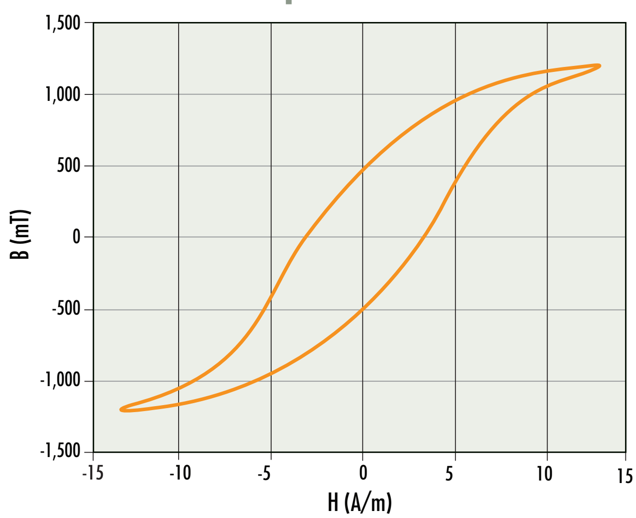
When compared to ferrite cores, nanocrystalline cores provide significantly higher impedance at high frequencies. Due to nanocrystalline's high permeability, common mode chokes and current transformers can be smaller in size, lighter in weight, and handle higher current. Saturation induction of 1.25T and a wide temperature range mean that common mode chokes, current transformers, and magnetic amplifiers (mag amps) made with nanocrystalline cores are less vulnerable to current imbalance and loss of performance at high temperature.

Nanocrystalline cores are a lower cost alternative to permalloy and exhibit improved accuracy compared to silicon steel. The material's low AC losses result in excellent efficiency, and the option of durable cases - available in polyester (<130°C) and rynite polyester (<155°C) - makes cores suitable for winding with thick wire.

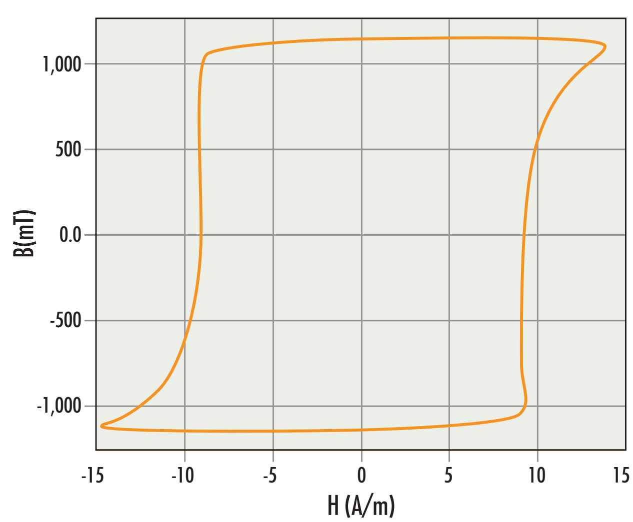
BH Loop Current Transformer (CT)



BH Loop Common Mode Choke (CM)

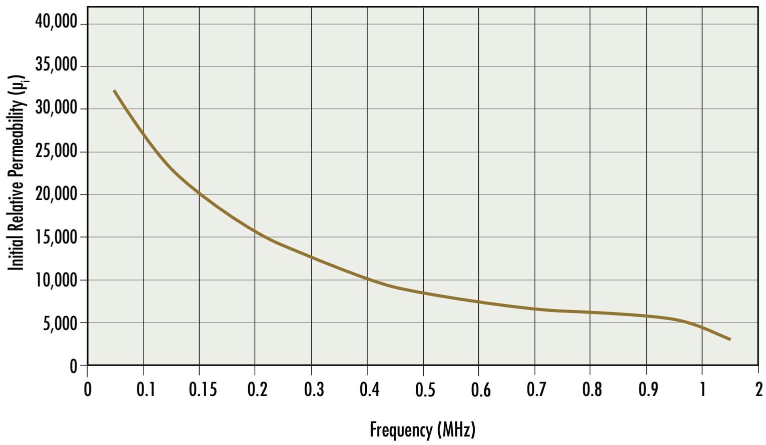


BH Loop Mag Amp (MA)



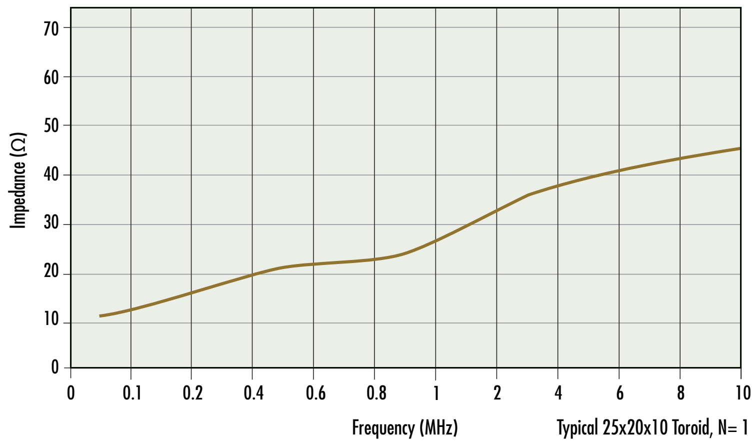
Permeability vs. Frequency

Common Mode Choke (CM)



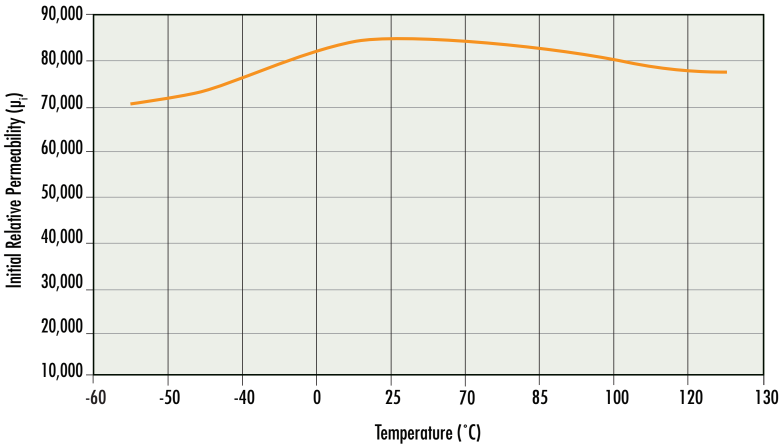
Impedance vs. Frequency 100 kHz – 10 MHz

Common Mode Choke (CM)



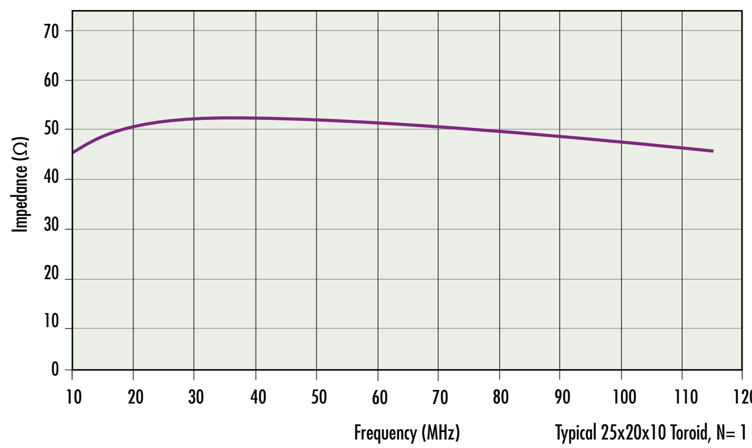
Permeability vs. Temperature @ 10kHz

Common Mode Choke (CM)



Impedance vs. Frequency 10 MHz – 120 MHz

Common Mode Choke (CM)



NANOCRYSTALLINE CORE IDENTIFICATION

CM C 016 010 008 H 85 C

- C — Additional Specifications; C = Cut, EL = Oval Shape, ELC = Cut Oval Shape
- 85 — Material and Anneal Identifiers; 85 = Common Mode Choke, 81 = Current Transformer, etc.
- H — Category of Material; H = High, L = Low, M= Mag Amp
- 008 — HT (rounded mm)
- 010 — ID (rounded mm)
- 016 — OD (rounded mm)
- C — Case or Painted; C = Standard Case, P = Painted, B = Bare, F = FR530 Case
- CM — Application; CM = Common Mode Choke, CT = Current Transformer, MA = Mag Amp

MAGNETICS®

www.mag-inc.com

HEADQUARTERS
110 Delta Drive
Pittsburgh, PA 15238
(p) **+1.412.696.1333**
+1.800.245.3984
magnetics@spang.com

MAGNETICS INTERNATIONAL
13/F 1-3 Chatham Road South
Tsim Sha Tsui, Kowloon, Hong Kong
(p) **+852.2731.9700**
+86.139.1147.1417
asiasales@spang.com