

C5-4.5-4.5

Laminated, Soft Ferromagnetic Automotive C-Shaped Core



Description

The C-Core is a laminated soft ferromagnetic core featuring superior material characteristics such as high linearity and very low hysteresis. It is available with two different materials: Ni-Fe and Si-Fe.

The core is designed for high-speed contactless current sensing in combination with a magnetic field sensor, i.e., Hall sensor, and a current conductor. Furthermore, the core protects the sensor from parasitic magnetic fields caused by nearby conductors or other magnetic field sources.

Magnetic Characteristics

Parameter	Material	Typical Value	Unit
Relative Permeability	Ni-Fe Si-Fe	100'000 40'000	a.u.
Initial Relative Permeability	Ni-Fe Si-Fe	7000 2500	a.u.
Saturation Flux Density	Ni-Fe Si-Fe	1 1.5	T
Hysteresis	Ni-Fe Si-Fe	2.8 n/a	A/m
Curie Temperature	Ni-Fe Si-Fe	450 700	°C

Material Specification

Material Specification	Laminations	Ni or Si content
Laminations and Nickel content	0.35mm	48% (Ni)
Laminations and Silicon content	0.35mm	<3.5% (Si)

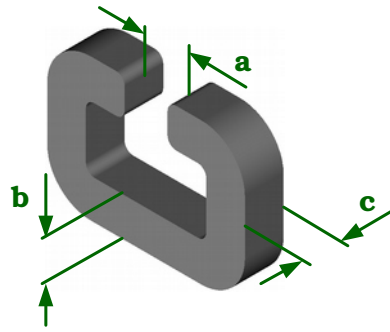
Geometry C5-4.5-4.5 (*)

Ca-b-c

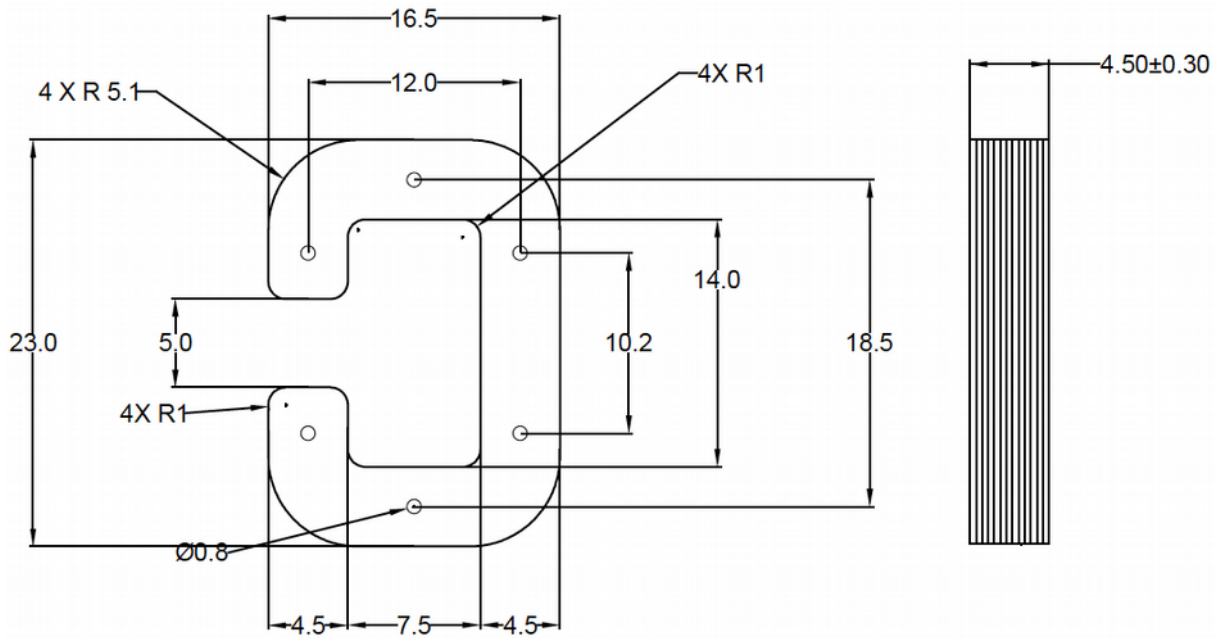
a = airgap

b = thickness

c = length



(all dimensions: mm)



(*) various geometries on request

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