TECHNICAL DATA SHEET

Current Sensor

Current sensor on a Chip
SoC-C01

AMR-Sensor based system
for PCB integration

Description

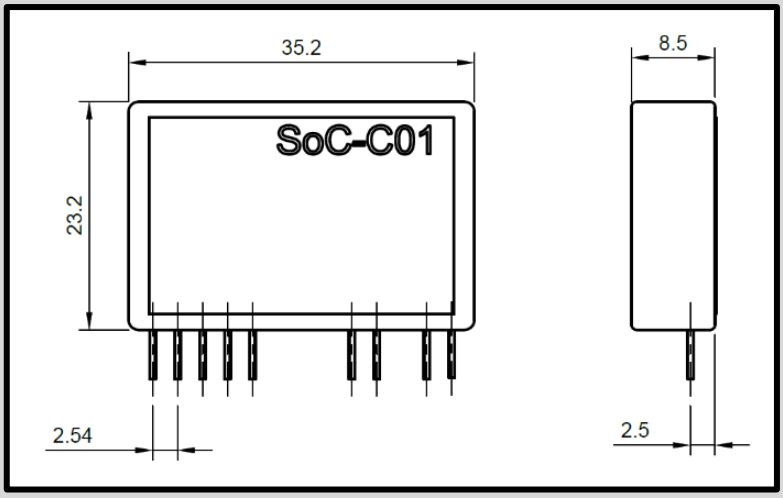
The newest development from GWP brings AMR (Anisotropic magnetoresistance) technology to the energy market. The Sensor on a Chip is an add-on product for the secondary circuit of a standard current transformer. The primary current is lead through the SoC and is capable of transmitting DC up to 2MHz signals. There are two ways to use the chip. The first usage is the detection of fast transients up to 2 MHz. In the second application, the chip acts as a transducer of a higher voltage signal into a voltage signal in the mV range. The chip converts the voltage signal with good bandwidth and linearity.

Features

- DC up to 2MHz
- 0…50A range
- Amplitude accuracy +/-0,5% AC/DC
- Phase accuracy +/- 0,5° AC
- For PCB integration
- Secondary circuit: 1A or 5A

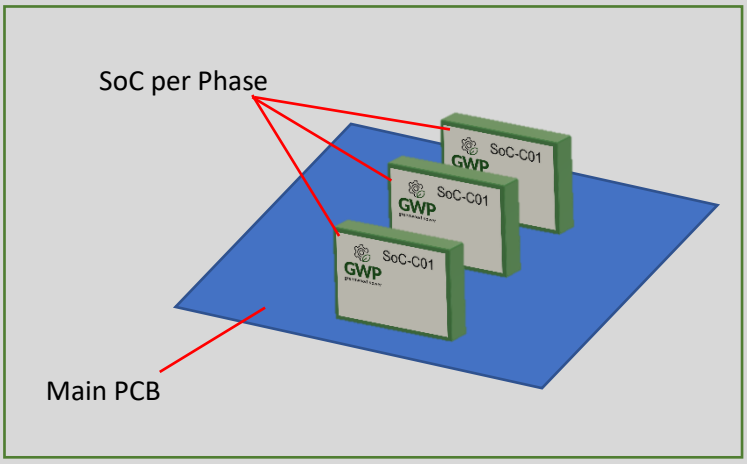
Dimensions

The sensor is embedded in a small plastic housing and casted with epoxy resin to maintain maximum environmental protection.
The Chip is small designed and equipped with a common pitch distance of 2.54mm



Integration

The chip is usually integrated on a PCB, by putting the chip on the main-PCB, whereas the primary conductor is already available.

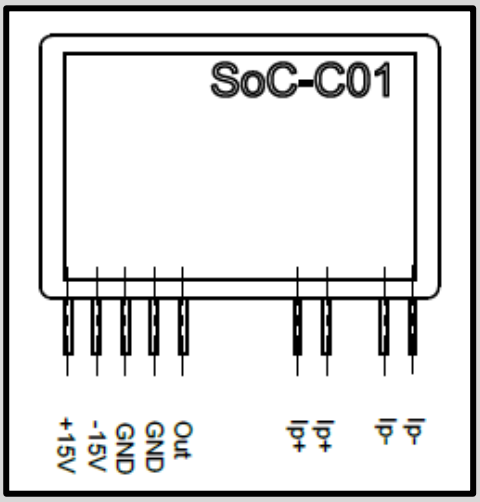


Pinning

The SoC is integrated on a PCB.

+15V… positive Power supply*
-15V… negative Power supply*
GND… Ground potential
Out… Output signal (Secondary)
Ip+(2pin)… Primary input ingoing (Primary)
IP-(2pin)… Primary input outgoing (Primary)

*… could be adjusted



Specification

Nominal primary current:	up to 50A
Power supply:	+/-15V symmetric or alternative
Power consumption:	~10mA
Secondary output:	max. +/-12V or alternative
Burden:	>500Ω
Rated short time thermal current:	max. 100A, 1s
Short circuit behaviour:	No influence or damage
Isolation voltage:	$720V_{AC}$/3kV/- acc. EN60950-1
Accuracy AC:	max. +/-0,5% amplitude error & 0,5° Phase error
Accuracy DC:	max. +/-0,5%
Operating temperature range:	-40°C to +85°C
Storage temperature range:	-50°C to +100°C
Frequency:	DC up to 2MHz

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