



Rev. A

Advanced Sensor Technology

Linear High Precision Analog Hall Sensor 214

Features

- Large magnetic field range - a few μ -Tesla to over 10 Tesla
- Very small linearity error - typically 0,1 % up to 1,5 T
- Optimized for low Hall sensor current - typical 500 Ohm and 0,2 Volt/Tesla at 2 mA
- High sensitivity
- Low noise
- Extremely low offset voltage and offset drift
- Low inductive zero component, low EMC pickup
- Very low temperature coefficients
- Very wide operating temperature range
- Very low PHE, Planar Hall Effect Error
- Very flat miniature package
- Pin compatible with Siemens®/Infineon® KSY14 and KSY44

Our products are lead free devices, compliant with RoHS, REACH and 'Japan green' demands.

Typical applications

- Precise magnetic field measurements
- High accuracy in homogenous fields
- Position, rotation sensing
- Movement sensing
- Aerospace
- 3D compass
- Precise current and power measurements
- Measurements in small metal, magnet and ferrite gaps
- Sensing low DC current in strong AC current, as for example in windmills
- NMR, MRI (nuclear spin)



Different packages 214X/2 or 3

214S – Solder pad version

Not standard component. Only available on request.

Minimum order quantity applies.

/2 Size 2,0 x 5,0 mm, max. thickness 0,60 mm

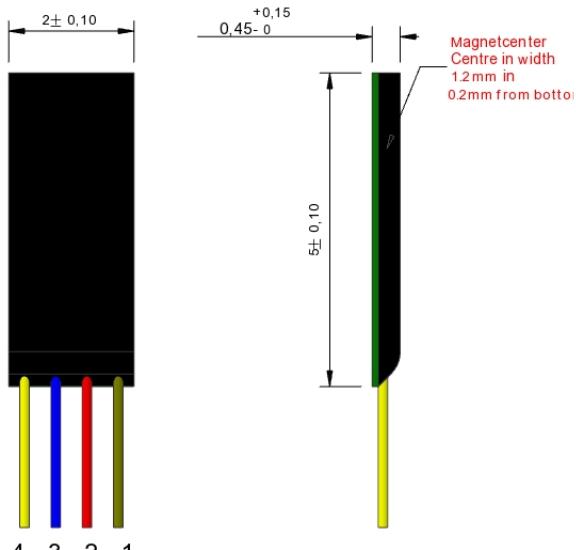
/3 Size 3,0 x 5,0 mm, max. thickness 0,60 mm.

214T/HT – Wired versions

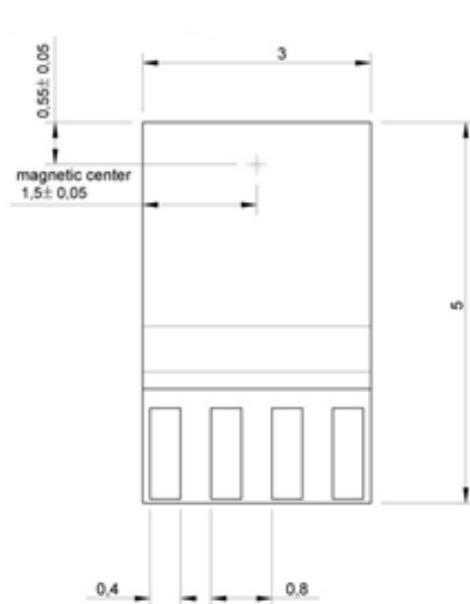
Standard component. As the HE214S, but with fine twisted pair wires welded to the contacts. The standard version, HE244T, has a maximum temperature of 125 °C. A version with high temperature wires, HE244HT, which can handle temperatures up to 200 °C, is also available. Wire length is 20 cm, other lengths deliverable on request.

HE214S / HE214T/HT

2mm width version



3mm width version



For 2mm version: Pad 300um & pitch 500um

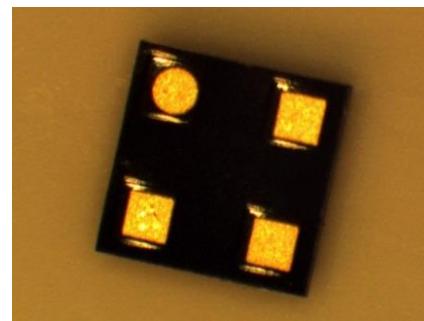
Pin	Function	Wire color HE244T 125°C	Wire color HE244HT 200°C
1	- supply current	Green	Green
2	+ supply current	Red	Red
3	Hall voltage	Blue	Black
4	Hall voltage	Gold	Gold

214SH – SMD version

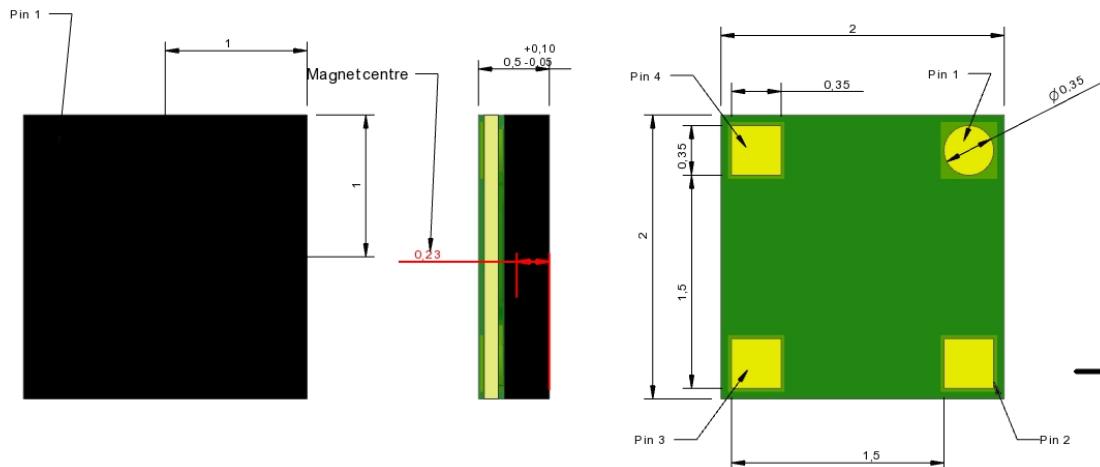
Not standard component. Only available on request.
Minimum order quantity applies.

/2 Size 2,0 x 2,0 mm, max thickness app. 0,60 mm.

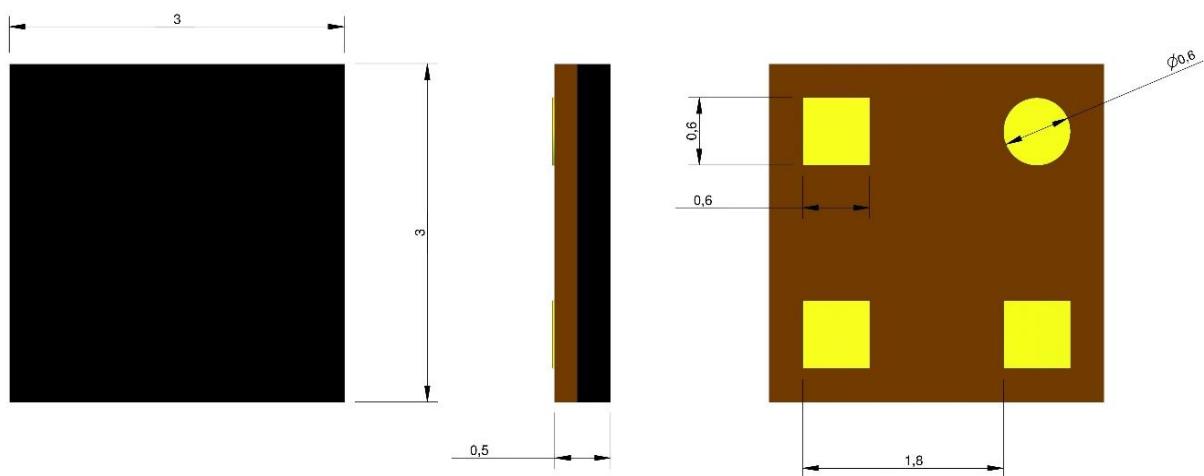
/3 Size 3,0 x 3,0 mm, max thickness app. 0,60 mm.



214SH/2



214SH/3



214SV – Vertical SMD version

Not standard component. Only available on request.

Minimum order quantity applies.

Contact us for discussion

Specifications 214

Electrical specifications	Values
Advised supply current	0,2 to 4,0 mA recommended 2 mA*
Open-circuit Hall voltage B=1 T	typical 200 mV at I=2 mA min 180 to max 360
Temperature coefficient of open-circuit Hall voltage B=1 T, at 25°C	typical -0,015 %/Kat I=2 mA min -0,02 to max 0,02
Ohmic offset voltage B=0 T	≤± 250 µV at I=1 mA ≤± 500 µV at I=2 mA
Temperature coefficient of ohmic offset voltage B=0 T	typical ≤ 5 ppm (<± 0,5 µV/K) at I=2 mA
Linearity of Hall voltage at I=2 mA	B = ± 0 to 1 T typical ≤± 0,1 % B = ± 1 to 2,4 T Limit not specified typical ≤± 0,2 %
Supply side internal resistance B=0 T	450 to 650 Ω typical 500 Ω
Hall side internal resistance B=0 T	450 to 850 Ω typical 500 Ω
Thermal conductivity in air	Not specified
Thermal conductivity soldered	≥ 2,2 mW/K
Bandwidth	Tested up to 200 kHz

* Optimal signal to noise ratio and low power consumption

** Variations within the same production batch are very small.

Absolute maximum ratings	Values
Supply current	10 mA
Operating temperature	N/A
P-version	
SH-version	-40 to +125 °C
T-version	-40 to +125 °C
HT-version	-40 to +200 °C

For very low (cryogenic down to a few Kelvin) or very high (over 200 °C) temperature applications, contact us for more information.