

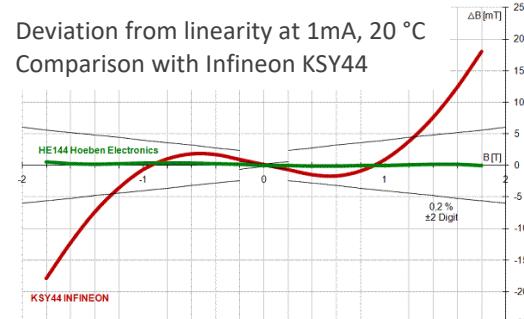


Advanced Sensor Technology

Linear High Precision Analog Hall Sensor HE144

Features

- Large magnetic field range - below milli-Tesla to over 10 Tesla
- Very small linearity error - typically 0,1 % up to 1,5 T
- Optimized for low Hall sensor current - typical 1000 Ohm and 0,2 Volt/Tesla at 1 mA
- Very high sensitivity
- Low noise
- Low drift
- Low inductive zero component, low EMC pickup
- 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

- Magnetic field measurements
- Oil drill measurement
- Position and rotation sensing
- Distance and thickness measurements
- Aerospace
- Current and power measurement
- Multi-sensor and differential usage
- Control of motor flux strength
- Windmills
- Movement sensing

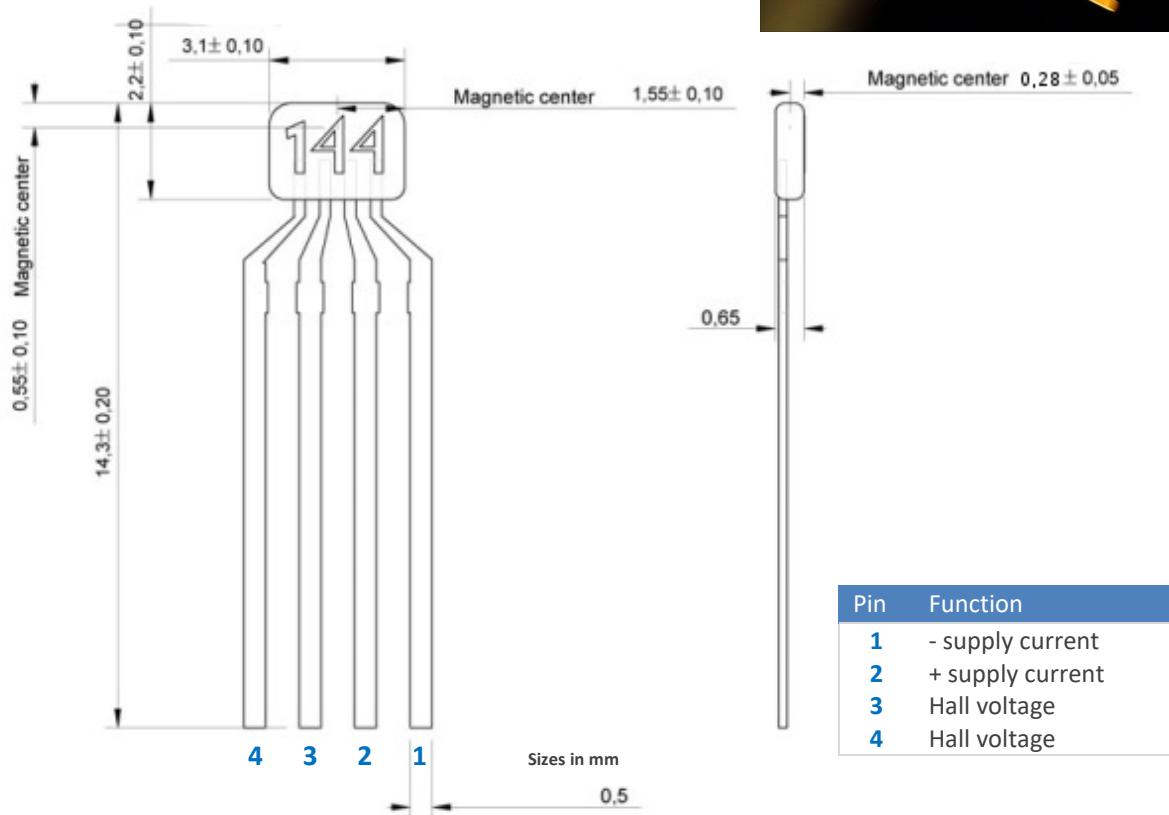
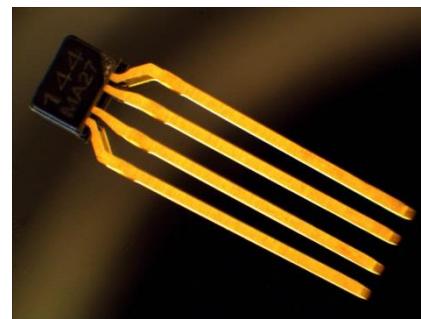
Different packages HE144

HE144P – Pin version

Standard component on lead frame.

Total length 14,3 mm, pitch 1,27 mm.

Body size 2,2 x 3,1 mm, max. thickness 0,70 mm.

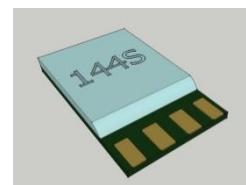


HE144S – Solder pad version

Not a standard component. Only available on request.

Minimum order quantity applies.

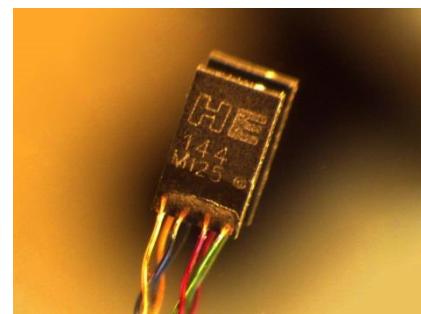
Size 3,0 x 5,0 mm, max. thickness 0,50 mm

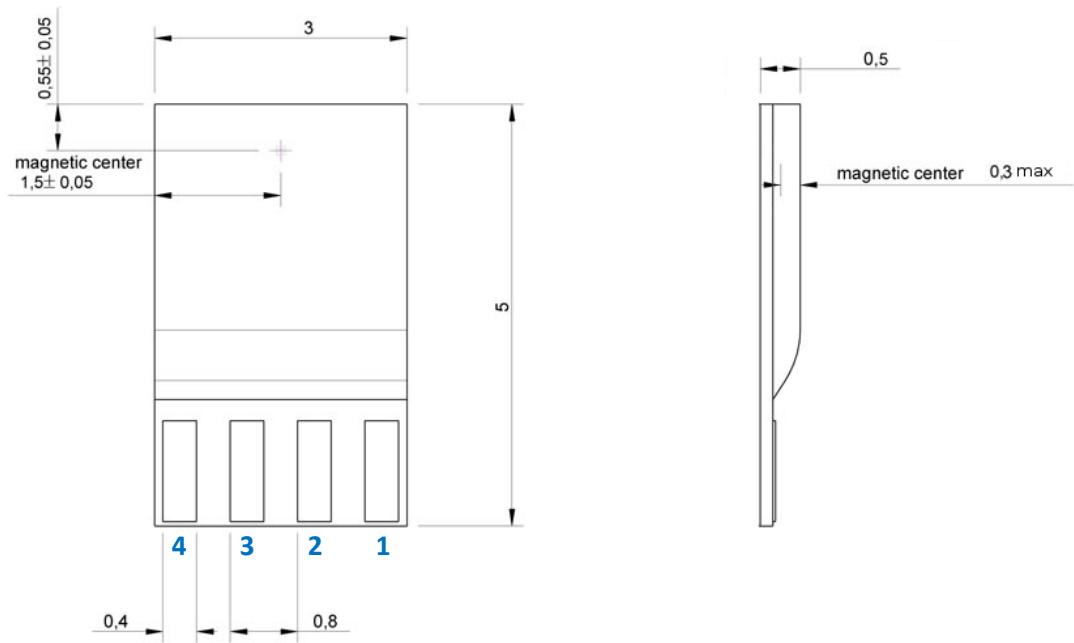


HE144T – Wired version

Standard component. As the HE144S, but with fine pair twisted wires welded to the contacts. The standard version, HE144T, has a maximum temperature of 125 °C. Wire length is 20 cm, other lengths deliverable on request.

A version with high temperature wires, HE144HT, temperatures up to 200 °C, is available upon request.





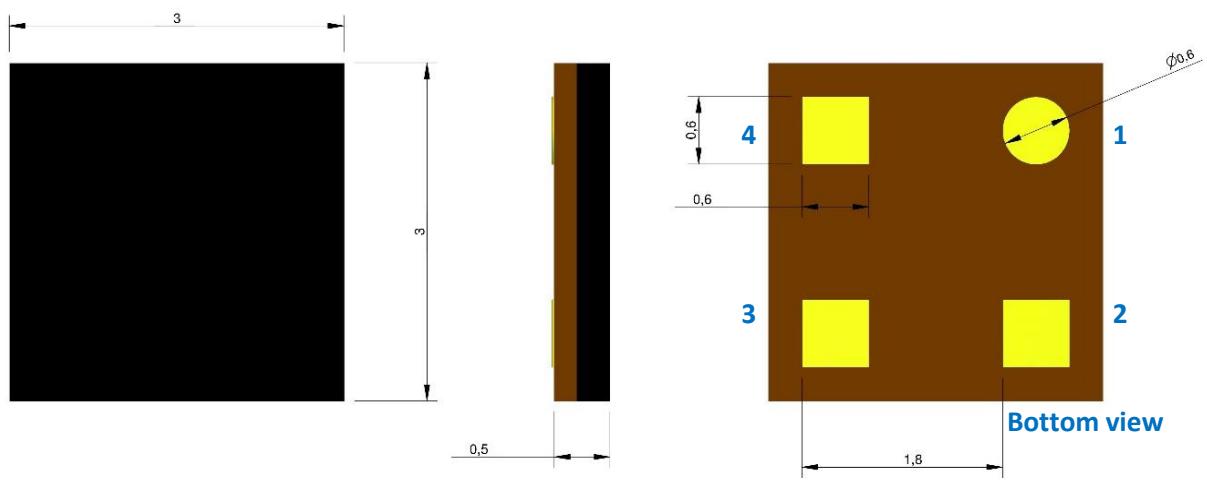
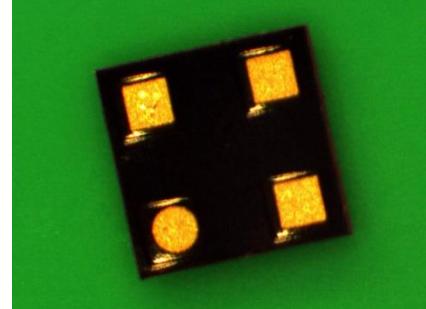
Pin	Function	Wire color HE144T 125°C	Wire color HE144HT 200°C
1	- supply current	Green	Green
2	+ supply current	Red	Red
3	Hall voltage	Blue	Black
4	Hall voltage	Gold	Gold

HE144SH – SMD version

Standard component.

Size 3.0 x 3.0 mm, max. thickness 0,50 mm.

The pads are gold plated. Use normal soldering methods.
Pin 1 is the – supply current, pin 2 is the + supply current,
pin 3 and 4 are the Hall outputs.



Specifications HE144

Electrical specifications		Values
Advised supply current		0,1 to 2,0 mA recommended 1 mA*
Open-circuit Hall voltage	B=1 T	typical 200 mV at I=1 mA min 180 to max 360
Temperature coefficient of open-circuit Hall voltage	B=1 T, at 25°C	typical -0,015 %/K at I=1 mA min -0,02 to max 0,02
Ohmic offset voltage	B=0 T	$\leq \pm 12$ mV at I=1 mA typical 10 mV **
Temperature coefficient of ohmic offset voltage	B=0 T	typical 40 ppm/K (6,7 μ T/K) at I=1 mA
Linearity of Hall voltage	B = \pm 0 to 1 T at I=1 mA	$\leq \pm 0,2$ % typical $\leq \pm 0,1$ %
	B = \pm 1 to 2,4 T	Limit not specified typical $\leq \pm 0,2$ %
Supply side internal resistance	B=0 T	900 to 1250 Ω typical 1000 Ω
Hall side internal resistance	B=0 T	900 to 1700 Ω typical 1000 Ω
Thermal conductivity in air		$\geq 1,5$ mW/K
Thermal conductivity soldered		$\geq 2,2$ mW/K
Bandwidth		Not specified (contact us)

* 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	P-version	-40 to +170 °C
	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.