AST144

Rev E
2026-09-01

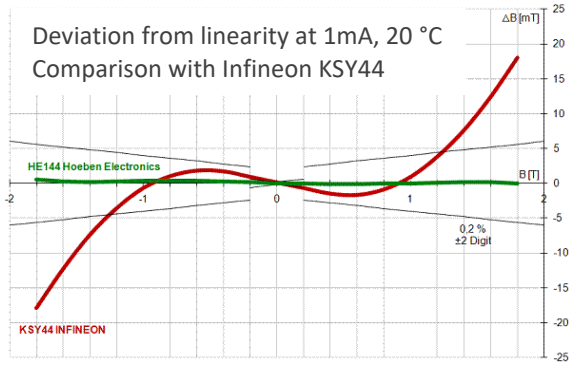
Advanced Sensor Technology

Linear High Precision

Analog Hall Sensor AST144

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
- The sensor is by nature radiation hardened



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

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When Performance Matters

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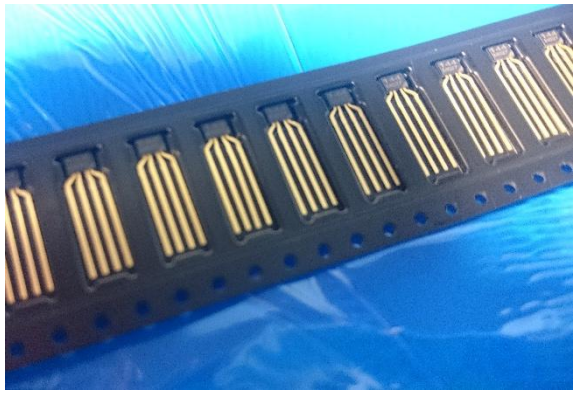
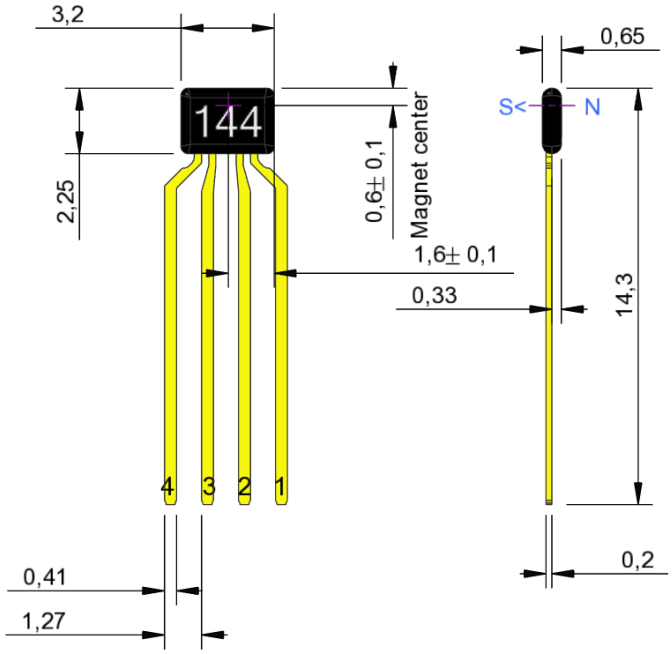
Different packages AST144

AST144P – Pin version

Standard component on lead frame.
Total length 14,3 mm, pitch 1,27 mm.
Body size 2,2 x 3,2 mm, max. thickness 0,70 mm.

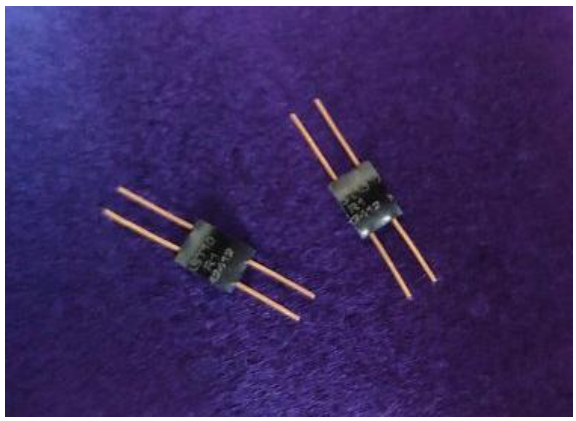




Pin	Function
1	- supply current
2	+ supply current
3	Hall voltage
4	Hall voltage

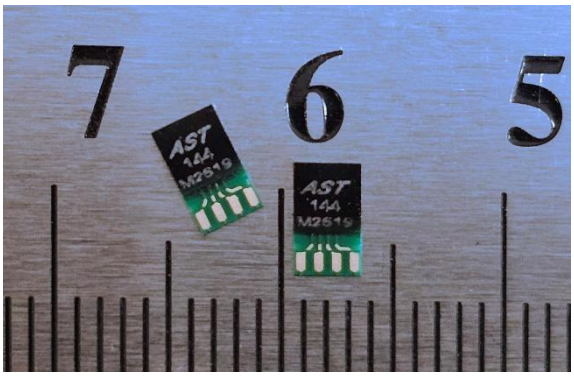
AST-10

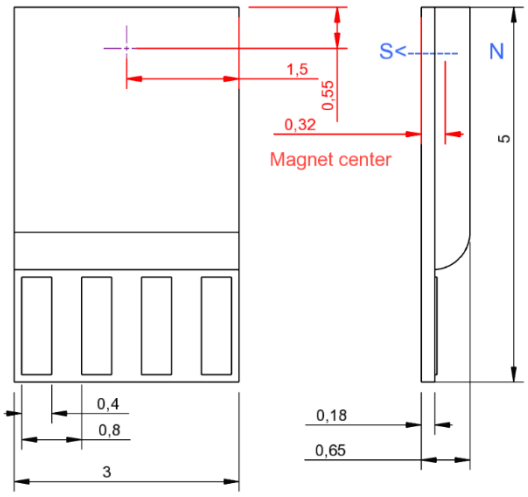
Upon request: Special package pin-compatible with the now obsolete Siemens KSY-10.
Body size: 3,0 x 2,4 mm
Max thickness 0,90 mm



AST144S – Solder pad version

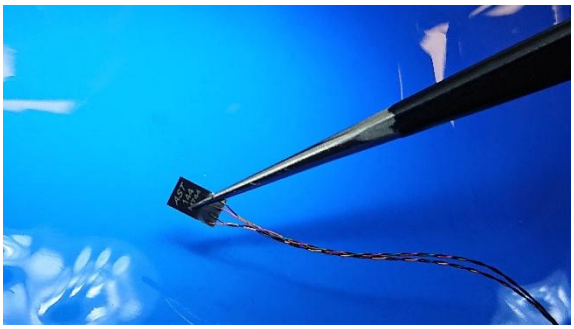
Not a standard component. Only available on request. Minimum order quantity applies.
Size 3,0 x 5,0 mm, max. thickness 0,70 mm

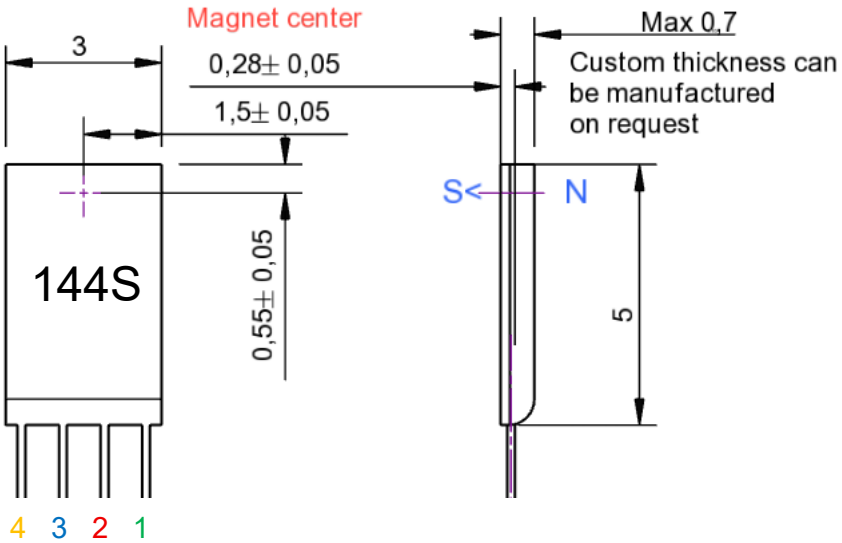




AST144T/AST144HT – Wired version

Standard component. As the AST144S, but with fine pair twisted wires welded to the contacts. The standard version, AST144T, has a maximum temperature of 125 °C.
A version with high temperature wires, AST144HT, which can handle temperatures up to 200 °C, is also available.
Wire length is 20 cm, other lengths are deliverable on request.

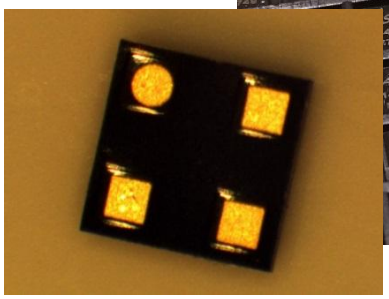




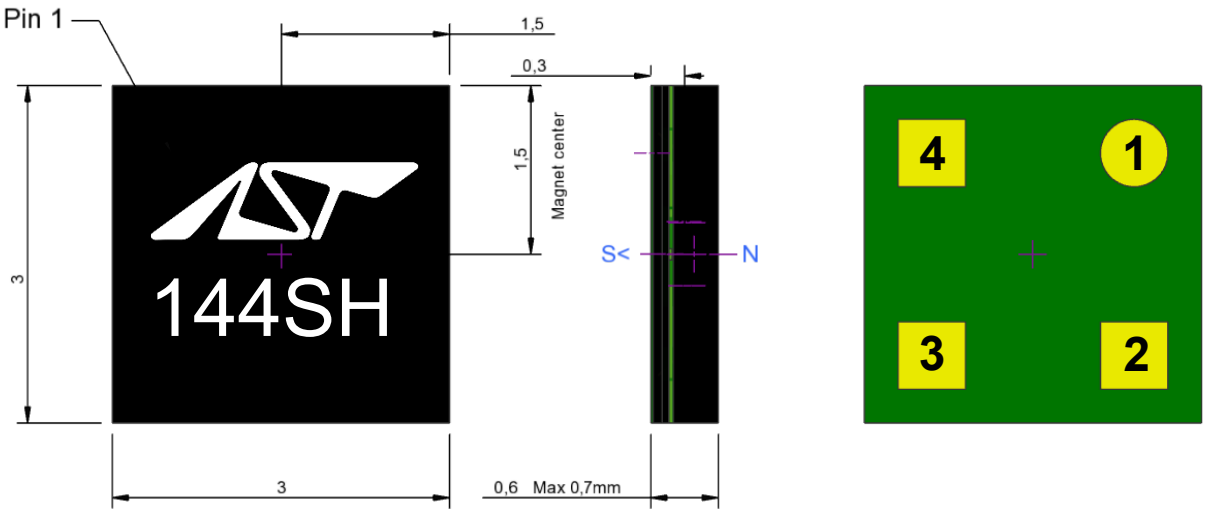
Pin	Function	Wire color AST144T 125°C	Wire color AST144HT 200°C
1	- supply current	Green	Green
2	+ supply current	Red	Red
3	Hall voltage	Blue	Black
4	Hall voltage	Gold	Gold

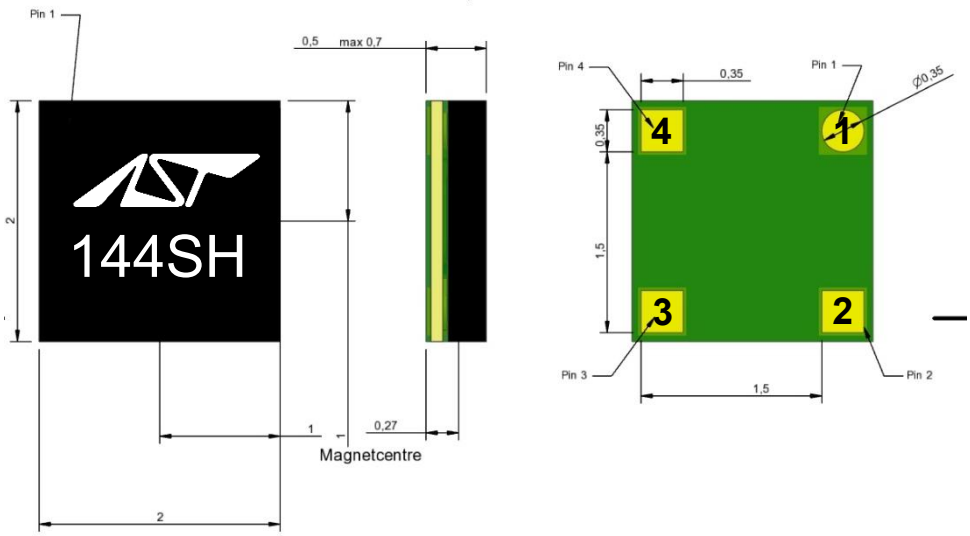
AST144SH – SMD version

Standard component with gold plated pads.
Available in sizes 3.0 x 3.0 mm and 2.0 x 2.0 mm,
max. thickness 0,70 mm.



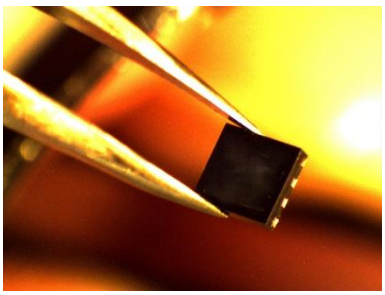
Use normal soldering methods.
pin 1 – supply current
pin 2 + supply current
pin 3 and 4 Hall outputs



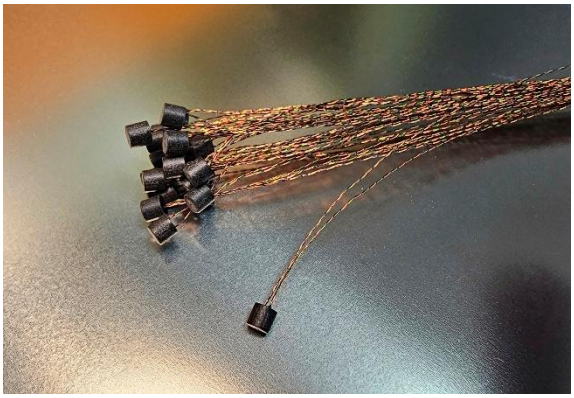


HE144SV – Vertical SMD version

Not standard component. Only available on request.
Minimum order quantity applies.
Size 3,0 x 3,0 mm, max thickness 1,0 mm.



AST144AT-P
Axial wired version

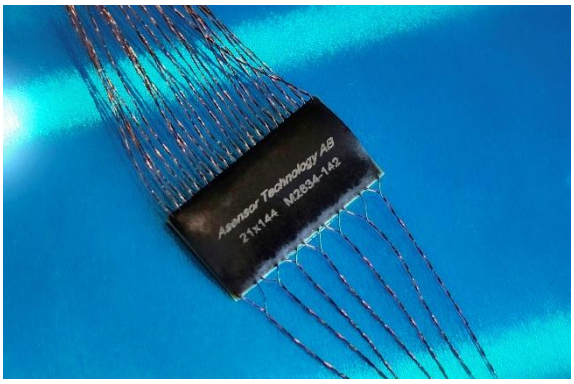


Standard component with maximum temperature of 100°C. Standard wire length is 20 cm, other lengths available on request.

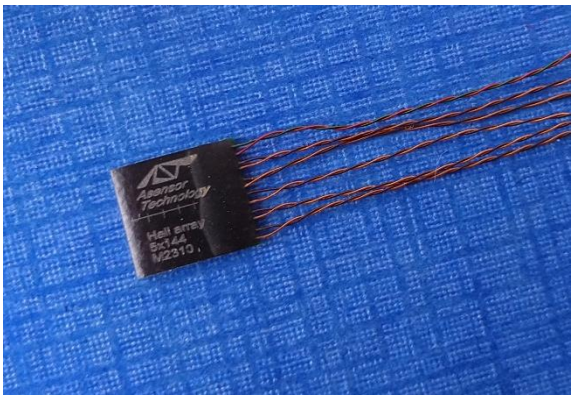
AST144AT-C
Ceramic axial wired version

Standard component. Temperature span from zero Kelvin up of 125 °C. Standard wire length is 20 cm, other lengths available on request.
Corresponding version with high temperature wires AST144AHT-C, can be used for temperatures between zero Kelvin up to 200 °C.

AST144 array packages



Array packages can be manufactured in different lengths and configurations. Current supply side can be parallel or in series (or as a combination thereof)
Already existing array configurations include 21-chip arrays and 5-chip arrays.
Arrays are always made to order.
See also separate data sheet.



Specifications AST144

Electrical specifications		Values
Advised supply current		0,1 to 2,0 mA recommended 1 mA*
Open-circuit Hall voltage B=1 T		typical 210 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		≤± 12 mV at I=1 mA typical -3 mV **
Temperature coefficient of ohmic offset voltage B=0 T		typical 40 ppm/K (6,7 µT/K) at I=1 mA
Linearity of Hall voltage at I=1 mA	B = ± 0 to 1 T B = ± 1 to 2,4 T	≤± 0,2 % typical ≤± 0,1 % Limit not specified typical ≤± 0,2 %
Supply side internal resistance B=0 T		900 to 1400 Ω typical 1250 Ω
Hall side internal resistance B=0 T		900 to 1700 Ω typical 1250 Ω
Thermal conductivity in air		≥ 1,5 mW/K
Thermal conductivity soldered		≥ 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		5 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.