Confidential

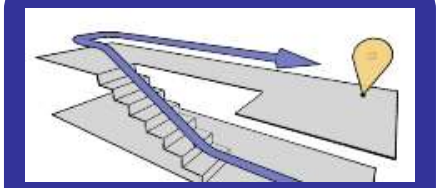
ALAP 传感器产品介绍

Rev06 Sep. 2021

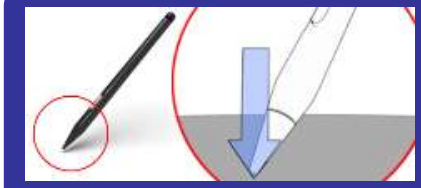
ALPSALPINE

Alps 传感器产品系列

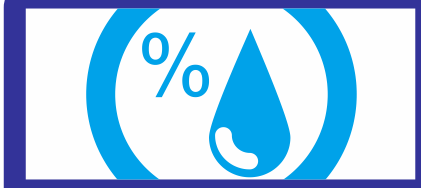
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Indoor Navigation
Barometer , Water depth



Touch Pen Input
Input device for automotive



Environment Log



Electric Compass
Magnetic tracking

气压传感器

HSPPAD143A



3.1×3.1
h=2.6mm

HSPPAD132A



Φ4.0, h=1.85mm
(without FPC)

- 低电流消耗
  (约为竞品1/3)
- 水深检测

压力传感器

HSFPAR004A



2×1.6mm
h=0.66mm

HSFPAR007A



1.5× 0.85mm
h=0.68mm

- 高灵敏度
- 长生命周期

湿度传感器

HSHCAL001B



□2.0,h=1.0mm

HSHCAD140A



24×16mm
h=9.5mm

- 高精度
- 高线性度

3轴地磁传感器

HSCDTD008A

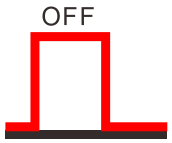


□1.6 h=0.7mm

- 低电流消耗
  (约为竞品1/12)

磁传感器

开闭

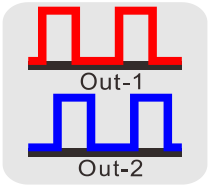


HGDE / HGDF



1.3×0.9mm
h=0.525mm

编码

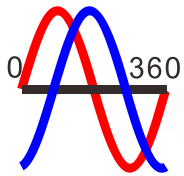


HGPRDT



2.9×2.8mm
h=1.1mm

角度



HGARAP / HGARAN



4.0×2.95mm
h=1.2mm

传感技术路线图

气压传感器

Feature
- 防水封装
- 水深检测
- 低噪声
- 低功耗

2020 | 2021 | 2022 | 2023

Mass production (Altitude)



Size: 3.1 x 3.1 x t2.6 mm
Power: 1.8uA@ Low power setting
Noise: 2.6Pa@ High resolution setting

Low noise & power & thin(POC)

Under development



Size: 2.9 x 2.9 x t0.85 mm
Power: 1.3uA@ 1Hz
Noise: 1.0Pa@ 1Hz

High resistance for gas meter

SOP Q4. 2021



Size: 3.1 x 3.1 x t2.6 mm
Power: 1.8uA@ Low power setting
Noise: 2.6Pa@ High resolution setting
For smart gas meter with gas resistance

Deep depth with chlorine resistance

SOP : Q3 2022



Size: 3.1 x 3.1 x t2.6 mm
Power: 1.8uA@ Low power setting
Water depth: 60/150/300m

Mass production (Altitude)



Resin Size: Φ4.0 x t1.85 mm
Detection range: +9000m to -500m Altitude

Water deep depth

SOP Q1. 2022



Resin Size: Φ4.0 x t1.85 mm
Water depth: 80m

Water deep depth

Under development



Resin Size: Φ4.0 x t1.85 mm
Water depth: 150m

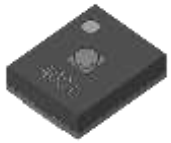
传感技术路线图

压力传感器

Feature
- 高灵敏度
- 高线性度
- 极小尺寸
- 高鲁棒性

2020 | 2021 | 2022 | 2023

Mass production (SMD)



Designed for Consumer

Size: 2.0 x 1.6 x t0.66 mm
Sensitivity: 2.3mV/V/N
Linearity: <2%FS
Max load rating: 55N

Mass production (Small footprint)



Designed for Consumer

Size: 1.5 x 0.85 x t0.68 mm
Sensitivity: 2.5mV/V/N
Linearity: <2%FS
Max load rating: 55N

Mass production (SMD)

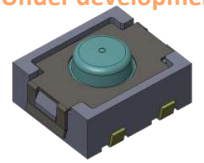


Designed for consumer With AEC-Q200

Size: 2.0 x 1.6 x t0.66 mm
Sensitivity: 2.3mV/V/N
Linearity: <2%FS
Max load rating: 55N

SMD + Overload stopper

Under development (ES : Avaiable)



For Automotive

Size: 4.67 x 4.05 x t2.06 mm
Sensitivity: 2.3mV/V/N
Linearity: <2%FS
Max load rating: >200N

传感技术路线图

湿度和环境传感器

2020 | 2021 | 2022 | 2023

Feature
- 相对湿度检测
- 高精度
- 低功耗

Mass production (Digital output SMD)



Size: 2.0 x 2.0 x t 1.0 mm
Power supply: 1.71-1.89V
Resolution: 0.02 %RH

Partnership with Sensirion AG

Mass production (Digital output Board)



Size: 24 x 16 x t 7 mm
Power supply: 2.5-5.5V
Resolution: 0.02 %RH
Accuracy: ±5%

Mass production (High resolution & accuracy)



Size: 24 x 16 x t 9.5 mm
Power supply: 2.5-5.5V
Resolution: 0.01 %RH
Accuracy: ±4.5%(Typ ±2.5%)

New

CO_2 sensor module
Under development



Size: 24 x 16 x t 7.8 mm
Power supply: 2.4-5.5V
Measurement range: 400-5000 ppm
Accuracy: ±40ppm + 5%

Mass production (Analog output)



Size: 2.5 x 2.2 x t 1.0 mm
Power supply: 2.2-3.6V
Resolution: 0.02 %RH



Size: 30 x 13 x t 7 mm
Power supply: 5.0V
Resolution: 0.02 %RH

Upcoming products

VOC



Next generation of Humidity

传感技术路线图

3轴地磁传感器

2020 | 2021 | 2022 | 2023

Feature
- 高稳定性
- 低噪声
- 低功耗
- 高灵敏度

Mass production(Compass)



Size: 1.6 x 1.6 x t0.65 mm
Current consumption: 573uA @100Hz
Hysteresis: 15uT @±1.2mT

Mass production
(Small size & Low hysteresis for Industry)



Size: 1.55 x 1.55 x t0.59 mm
Current consumption: 285uA @100Hz
Hysteresis: 4.0uT @±1.2mT
Self-test coil function: 20uT

Good temperature dependency & Low current consumption(Magnetic tracking)

Under development



Size: 1.55 x 1.55 x t0.59 mm
Current consumption: 190uA @100Hz
Temperature dependency: 0.1uT/℃
Hysteresis: 4.0uT @±1.2mT

传感技术路线图

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Confidential

磁传感器

2020 | 2021 | 2022 | 2023

Feature
- 高稳定性
- 低噪声
- 地功耗
- 高灵敏度

Mass production (Switch)



Size: 1.3 x 0.9 x t0.525 mm



Size: 2.9 x 2.8 x t1.1 mm

Automotive



Size: 2.9 x 2.8 x t1.1 mm



Size: 14.0 x 9.0 x t5.0 mm

Mass production (Pitch free Encoder)



Automotive

Size: 2.9 x 2.8 x t1.1 mm
Ta(Max): 140℃
VDD: 3-30V
ESD(CDM): 2kV

High robustness

Under development

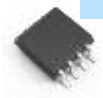
Automotive



Size: 2.9 x 2.8 x t1.1 mm
Ta(Max): 150℃
VDD: 3-30V
ESD(CDM): 4kV

Mass production (Angle)

Automotive



Size: 2.95 x 4.0 x t1.3 mm
Output: Sin/Cos dual phase
Ta(Max): 105℃

Mass production (Small size)



Size: 1.8 x 1.05 x t0.65 mm
Output: Sin/Cos dual phase
Ta(Max): 105℃

High sensitivity 6.0Vpp (with AMP) & Hi Temp.

SOP : Q4 2021



Automotive

Size: 3.0 x 4.9 x t1.1 mm
Output: 2 directions & 2 full bridges
Ta(Max): 150℃

SOP : Q4 2021



Automotive

Size: 5.0 x 6.4 x t1.1 mm
Output: 2x2 directions & 4 full bridges
Ta(Max): 150℃

Confidential

防水气压传感器

ALPSALPINE

防水气压传感器

ALPSALPINE

Confidential

Standard product

HSPPAD143A



SMD cylinder type



Fitness Tracker



Smart watch



Smart phone

Features

- 防水封装
- SMD 类型
- 17 位数字输出 (内置16 字节 FIFO)
- 1.7 to 3.6 V供电
- 300 to 2100 hPa
  (+9000m 海拔 和 10m 水深)

Specifications

Size	3.1 x 3.1 x 2.6mm
Current Consumption	1.8uA @ Low power setting
RMS noise	2.6Pa (0.22m) @ High resolution setting
Pressure Range	300 ~ 2100hPa
Pressure Resolution	2Pa/LSB
Accuracy	+/- 2hPa

Applications

- 智能手表
- 可穿戴设备

防水气压传感器 （燃气表用抗腐蚀型号）

ALPSALPINE

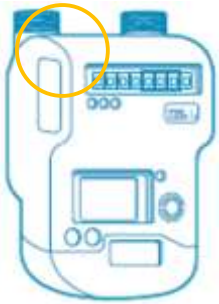
Confidential

Under Development

HSPPAD143C



SMD cylinder type



Smart gas meter

Features

- 防水封装
- SMD类型
- 17 位数字输出 (内置16 字节 FIFO)
- 1.7 to 3.6 V供电
- 高精度范围 800 to 1200 hPa
- 高精度温度传感器内置

Specifications

Size	3.1 x 3.1 x 2.6mm
Current Consumption	1.8uA @ Low power setting
RMS noise	2.6Pa (0.22m) @ High resolution setting
Pressure Range	300 ~ 2000hPa
Pressure Resolution	2Pa/LSB
Accuracy	+/- 2hPa (@ 800~1200hPa, -25 ~ 65°C)

Applications

- 智能燃气表

防水气压传感器（水深检测）

Under Development

HSPPAD172A



✓ 耐氯树脂封装
✓ 新型 MEMS传感元件



Fitness Tracker



Smart watch



Diving watch

Features

- 防水封装
- 至150m水深检测
- ESD鲁棒性
- 高耐氯腐蚀
- 1.7 to 3.6 V供电
- 30 to 1700 kPa (150m水深检测)

Specifications

Size	3.1 x 3.1 x 2.6mm
Current Consumption	1.8uA @ Low power setting
RMS noise	17Pa (1.7mm in depth) @ High resolution setting
Pressure Range	30 ~ 1700kPa
Pressure Resolution	13Pa/LSB
Accuracy	+/- 2kPa (@ 30 ~ 700kPa) +/- 4kPa (@ 700 ~ 1100kPa)

Applications

- 智能手表，可穿戴设备
- 潜水设备

防水气压传感器（水深检测）

ALPSALPINE

Confidential

Under Development

HSPPAD148A



- ✓ Chlorine durable potting gel
- ✓ New MEMS sensor element



Fitness Tracker



Smart watch



Diving watch

Features

- •防水封装
- •至300m水深检测
- • ESD鲁棒性
- •高耐氯腐蚀
- • 1.7 to 3.6 V供电
- • 30 to 3200 kPa (300m in Depth)

Specifications

Size	3.1 x 3.1 x 2.6mm
Current Consumption	1.8uA @ Low power setting
RMS noise	33Pa (3.3mm in depth) @ High resolution setting
Pressure Range	30 ~ 3200kPa
Pressure Resolution	25Pa/LSB
Accuracy	+/- 3kPa (@ 30 ~ 200kPa) +/- 6kPa (@ 200 ~ 3000kPa)

Applications

- • 智能手表，可穿戴设备
- • 潜水设备

防水气压传感器（FPC连接）

ALPSALPINE

Confidential

Standard product

HSPPAD132A (Water proof type)



Features

- Φ4.0mm防水 (IPX7) 封装.
- MEMS 气压传感器.
- 内置16 bit ADC，温度补偿.
- 无铅，无卤，RoHS对应.

Specifications

Pressure type	Absolute
Supply voltage	1.7~3.6V
Measurement Range	300~1100 hPa
Consumption	1350 uA (Active state、IDDPeak) 0.07 uA (Sleep state)

Applications

- 智能手表
- GPS手持设备等

防水气压传感器（FPC连接）

Under Development

HSPPAD136A (Water proof type)




Fitness Tracker


Smart watch

Features

- Φ4.0mm防水 (IPX7) 封装.
- 水深检测至 80m.
- 内置16 bit ADC，温度补偿.
- 无铅，无卤，RoHS对应.

Specifications

Pressure type	Absolute
Supply voltage	1.7~3.6V
Measurement Range	53~950 kPa
Consumption	1350 uA (Active state、IDDPeak) 0.07 uA (Sleep state)

Applications

- 智能手表
- 可穿戴设备
- 潜水设备

Confidential

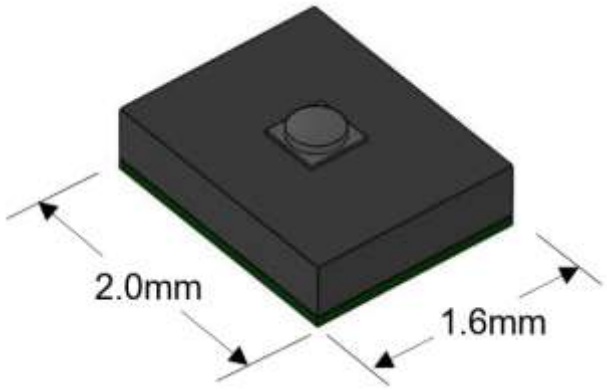
压力传感器

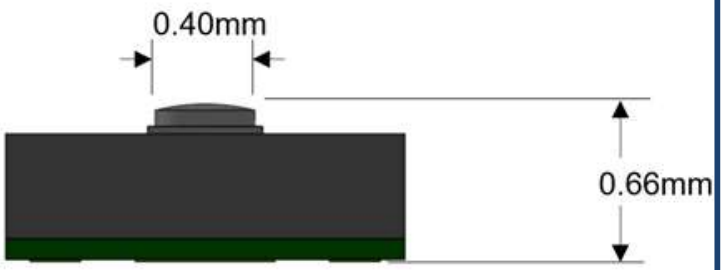
ALPSALPINE

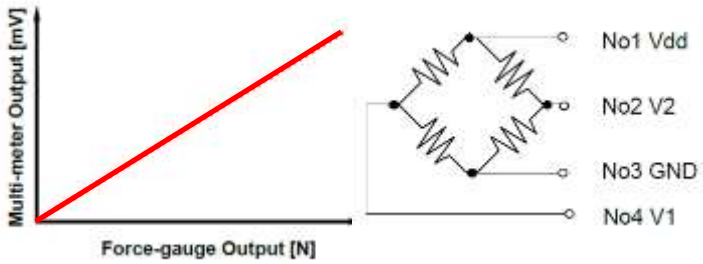
压力传感器（SMD封装）

Standard product

HSFPAR004A







Features

- 极小封装
- 高灵敏度，高线性度
- 高可靠性
- 零行程
- 不受电磁干扰

Specifications

Bridge Resistance	[kOhm]	5.5
Measurement Range	[N]	8
Supply Voltage	[V]	1.5~3.6
Sensitivity	[mV/V/N]	2.3
Linearity	[%FS]	< 2
Offset	[mV/V]	-2.6
Operating Life Time	[Cycles]	Min 1 million(@8N)
Destroyed force	[N]	55

Applications

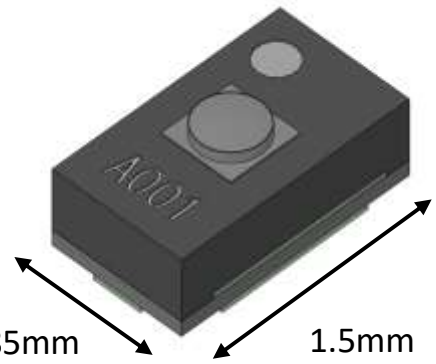
触控笔.
压力检测开关.

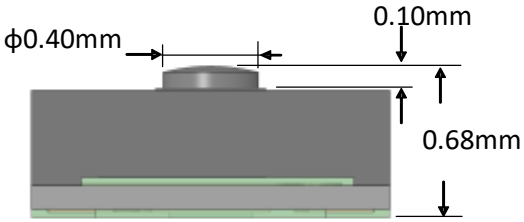


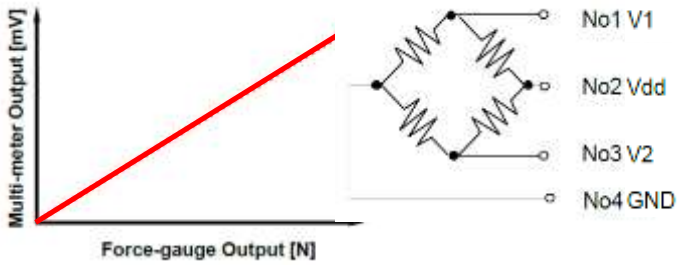
压力传感器（SMD封装）

Standard product

HSFPAR007A







Features

- 极小封装
- 高灵敏度，高线性度
- 高可靠性
- 零行程
- 不受电磁干扰

Specifications

Bridge Resistance	[kOhm]	5.5
Measurement Range	[N]	8
Supply Voltage	[V]	1.5~3.6
Sensitivity	[mV/V/N]	2.5
Linearity	[%FS]	< 2
Offset	[mV/V]	-2.6
Operating Life Time	[Cycles]	Min 1 million(@8N)
Destroyed force	[N]	55

Applications

触控笔.
压力检测开关.

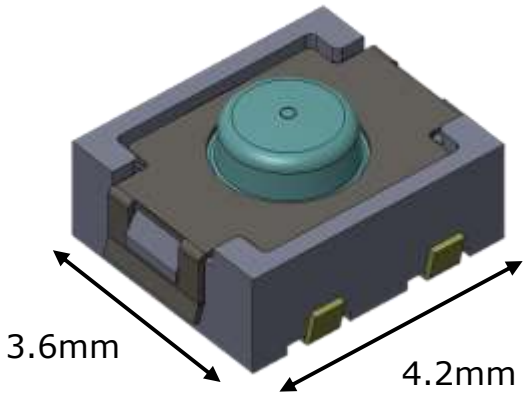


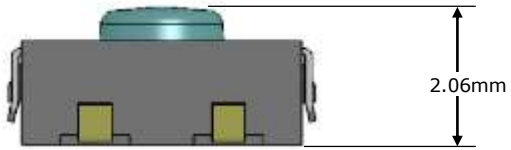
压力传感器（SMD封装模块）

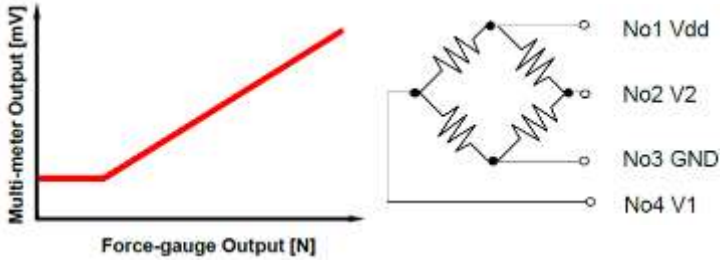
Under Development

Confidential

HSFPAR304A







Features

- 过压保护
- 易于组装
- 高灵敏度，高线性度
- 高可靠性
- 不受电磁干扰
- 车载应用

Specifications

Bridge Resistance	[kOhm]	5.5
Measurement Range	[N]	8
Supply Voltage	[V]	1.5~3.6
Sensitivity	[mV/V/N]	2.3
Linearity	[%FS]	<3
Offset	[mV/V]	-2.6
Operating Life Time	[Cycles]	Min 1 million (@8N)
Maximum load rating	[N]	200

Applications

按压检测开关.



Confidential

湿度传感器

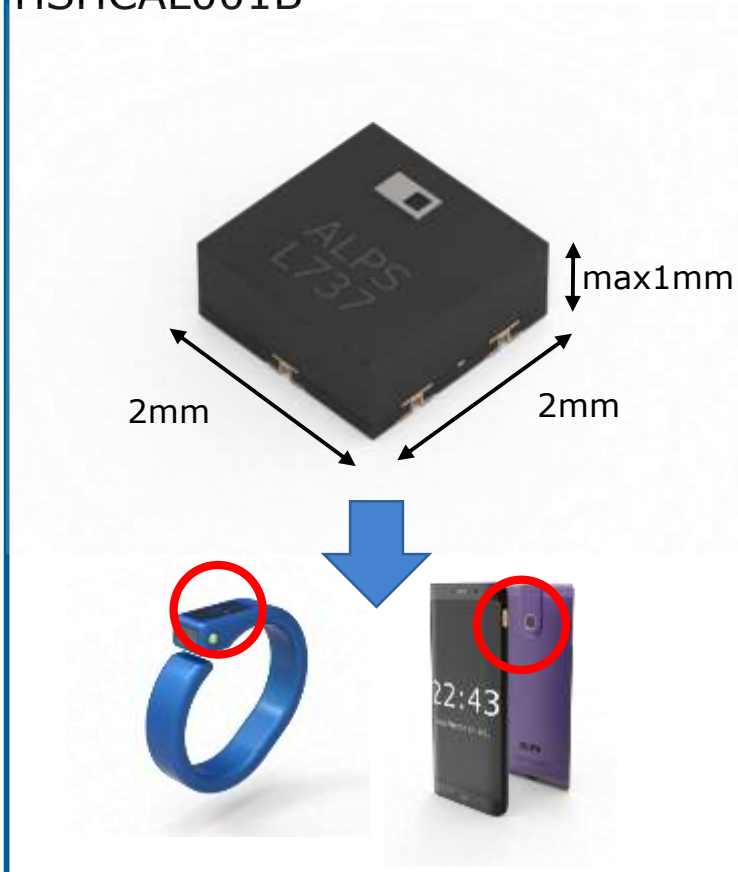
ALPSALPINE

数字温湿度传感器

Standard product

世界最小尺寸温湿度传感器.

HSHCAL001B



Features

- 小尺寸，低厚度
- SMD，回流焊
- 内置温度传感器
- 低功耗 140uA@10Hz
- I2C 接口

Specifications

Item	Unit	Spec
Humidity Type	-	Relative humidity
Operating Temp.	℃	-20 ～+85
Measurement Range	%RH	0～100
Supply Voltage	V	1.71~1.89
Current	mA	0.14
Resolution	%RH	0.02
Size.	mm]	2.0 x 2.0 x t 1.0

Application

- Smartphone / tablet
- PND etc.

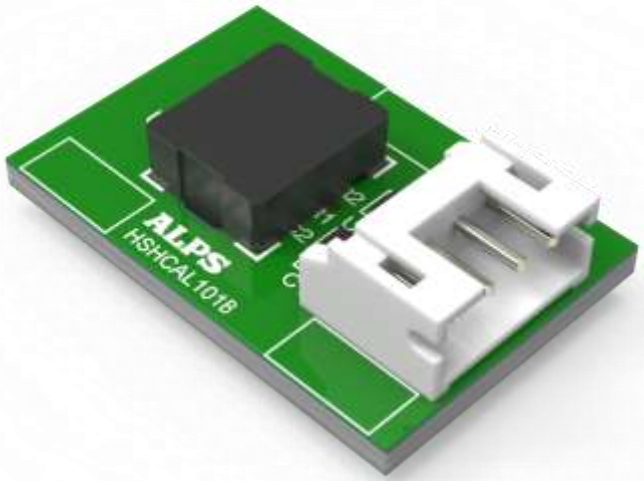
数字温湿度传感器模块

ALPSALPINE

Confidential

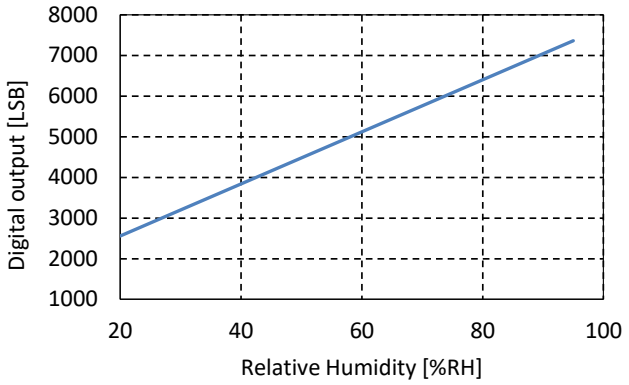
Standard product

HSHCAL series



Module type
HSHCAL101B

Characteristic



Features

- 接插型
- 温湿度输出
- 低功耗 0.2mA
- I2C 接口

Specifications

Item	Unit	Spec
Humidity Type	[-]	Relative humidity
Operating Temp.	[deg]	-20 ～+85
Measurement Range	[%RH]	0～100
Supply Voltage	[V]	2.5～5.5
Current	[mA]	0.2
Resolution	[%RH]	0.02
Size.	[mm]	24 x 16 x t 7

Application

打印机
空调
加湿器 / 除湿器
冰箱 等

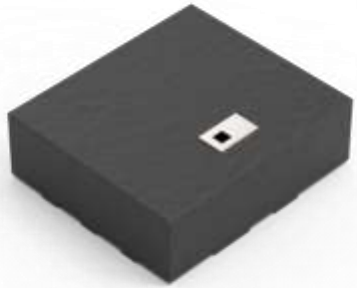


模拟湿度传感器 SMD封装

Standard product

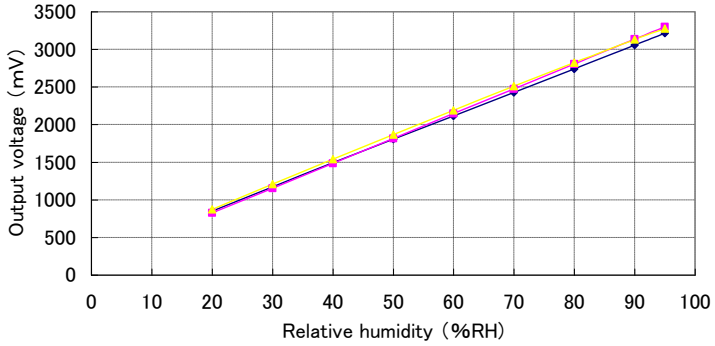
Confidential

HSHCAA series



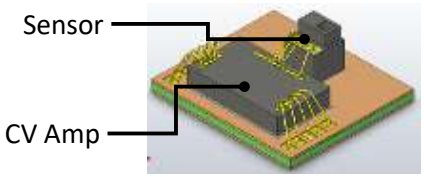
SMD type
HSHCAA006A

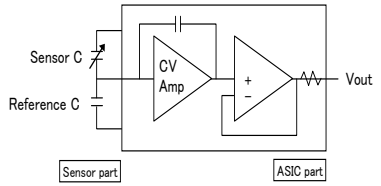
Characteristic



Feature

使用聚酰亚胺薄膜，实现高线性度及温度稳定性





Specifications

	Unit	HSHCAA006A
Operating Temperature	℃	-20 ~ +85
Measurement Range	%RH	0 ~ 100
Supply Voltage	V	2.2 ~ 3.6
Current	mA	0.4
Size	mm	2.5×2.2×t1.0

Application

打印机
空调
加湿器 / 除湿器
冰箱 等



模拟湿度传感器 （模块产品）

ALPSALPINE

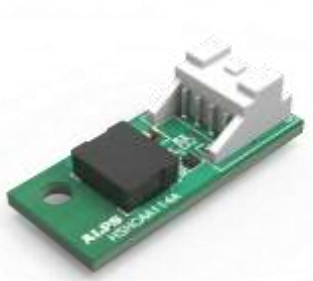
Confidential

Standard product

HSHCAA series

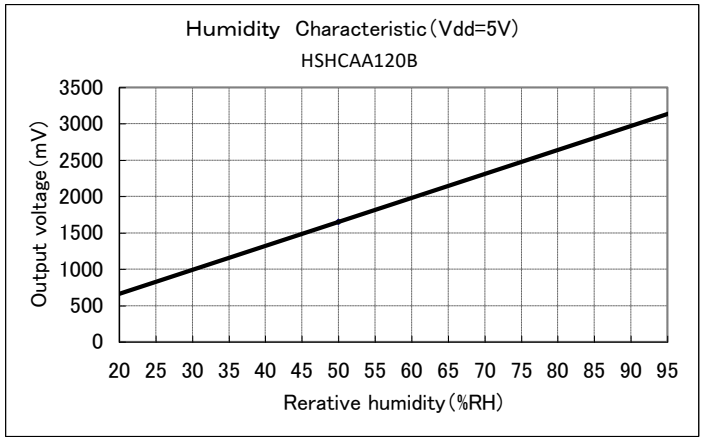


Module Type
HSHCAA120B



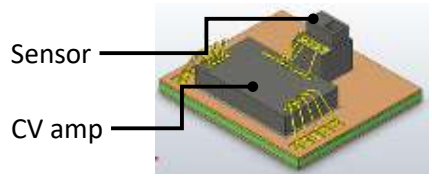
Module Type
HSHCAA114A

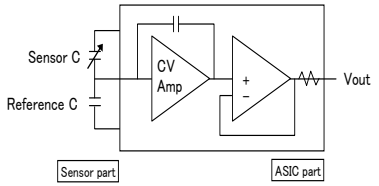
Characteristic



Feature

使用聚酰亚胺薄膜，实现高线性度及温度稳定性





Specifications

	Unit	HSHCAA120B	HSHCAA114A
Operating Temperature	℃	-20 ~ +60	-20 ~ +60
Measurement Range	%RH	20 ~ 95	0 ~ 100
Supply Voltage	V	4.95 ~ 5.05	4.75 ~ 5.25
Current	mA	3.0	0.5
Size	mm	30×13×t 7	30×13×t 8

Application

打印机
空调
加湿器 / 除湿器
冰箱 等



CO_2 传感器模块

Under Development

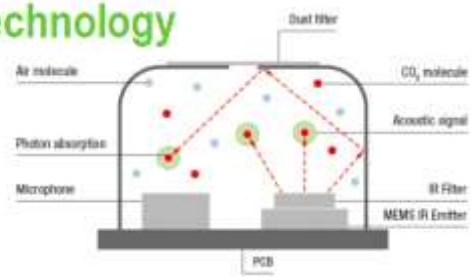
Module image with Sensirion's devices

*Preliminary design



Module size ：
24 x 16 x 8.0 mm

PASens® technology



■Photoacoustic measurement principle

- Fast Broadband light source and optical filters
- CMOSens emitter technology
- Sensor signal from sound following light absorption

Feature

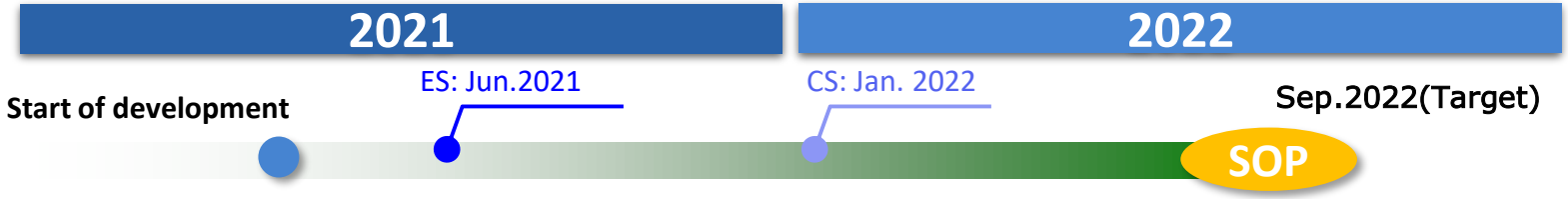
-PAS (Photo acoustic spectroscopy) CO_2 sensor technology
-Integrated temperature and humidity sensor
-Digital interface I2C

Specifications（Preliminary）

Item	Unit	Spec
Operating Temp.	[degC]	-10 ～+60
Measurement Range	[ppm]	400～5,000
Accuracy	[ppm]	±40 + 5% reading
Supply Voltage	[V]	2.4～5.5
Current	[mA]	< 13 (5V default mode)
Size.	[mm]	24 x 16 x 8.0



Schedule for SOP



Confidential

3轴地磁传感器

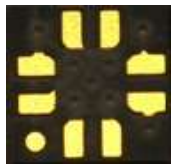
ALPSALPINE

3轴地磁传感器(电子罗盘)

Standard product

HSCDTD008A







1.6×1.6×0.65 mm
8pin LGA







Features

- LGA小封装
- 低噪声Noise(σ=0.3μT)
- 低电流消耗(573μA@100Hz)

Specifications

Dynamic Range	+/-2.4mT
Resolution	0.15 μT/LSB
Current consumption	2.5mA 573μA(ODR@100Hz)
Supply Voltage	AVDD=1.7-3.6V DVDD=1.65-AVDD
Interface	I2C(SS/FS/FS+/HS)

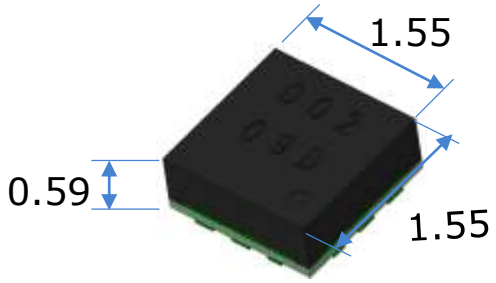
Applications

电子罗盘
运动检测

3轴地磁传感器(电子罗盘/IoT应用)

Under Development

HSCDTD013A



1.55×1.55×0.59 mm
16 pin LGA



Features

- LGA小封装
- 低电流消耗 (190μA@100Hz)
- 低温度漂移 (0.1uT/deg.C)

Specifications

Dynamic Range	+/-2.4mT
Resolution	0.075 μT/LSB
Current consumption (ODR@100Hz)	190μA
Supply Voltage	1.7-3.6V
Interface	I2C or SPI
RMS noise	0.3μT
Temperature dependency	0.1μT/deg.C

Applications

电子罗盘
运动检测
IoT(驻车检测, 智能家庭等…)

Confidential

磁检测传感器

ALPSALPINE

开关检测 SMD型

ALPSALPINE
Confidential

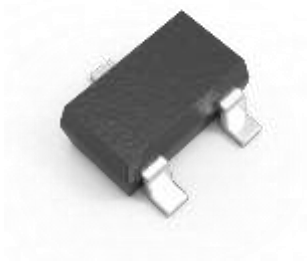
Standard product

具有极其宽的检测范围，高度的Layout设计自由度

HGDE****** typical 1.8V
HGDF****** typical 5V



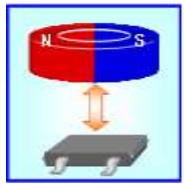
MAP package
1.3×0.9×0.55mm

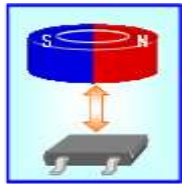


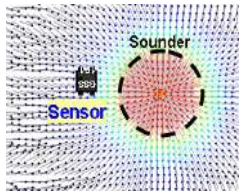
SOT package
2.9×2.8×1.1 mm

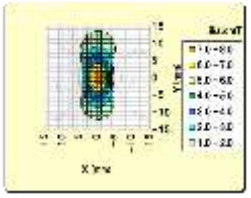
Features

- 多产品系列(输出方式、供电电压、尺寸等)
- 宽检测范围

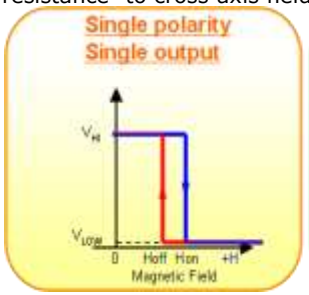




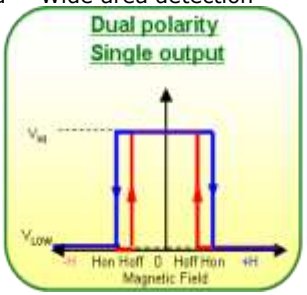




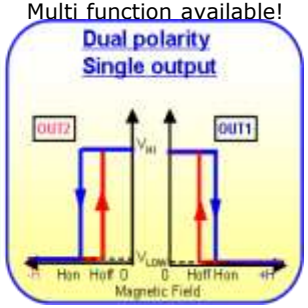
resistance to cross axis field



Wide area detection



Multi function available!



Applications

- 开闭位置检测.



Specifications

Operating field Hon 2.0±0.7 mT Hoff 1.2±0.7 mT
Spply voltage 1.8 V Typ.
(1.6 V min / 3.6 V max) ···HGDE
5.0 V Typ. (4.5V min / 5.5 V max) ···HGDF
Current 3μA Typ. ···HGDE
consumption 1.65mA

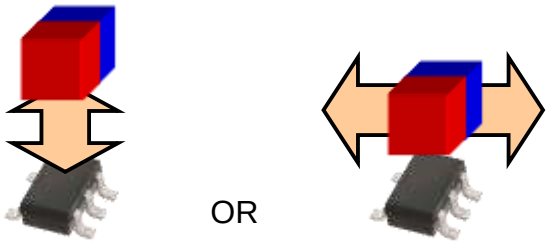
磁开关检测

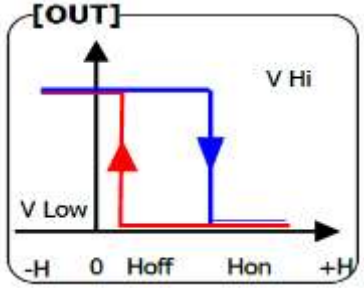
Standard product

HGDVST002A



Package type: SOT-23-5





Features

- 单开关
- 单极单输出
- 高耐噪声鲁棒性

Specifications

Parameters	Specifications
Size	2.9 x 2.8 x 1.1 mm
VDD	3.0~30 V
Power consumption	1mA typ.
Sampling rate	Continuous
Operating Temp	140℃ max
Sensitivity	Hon typ. 2.0mT Hoff typ. 1.4mT Hys typ. 0.6mT

Applications

➢ 非接触车载开关检测

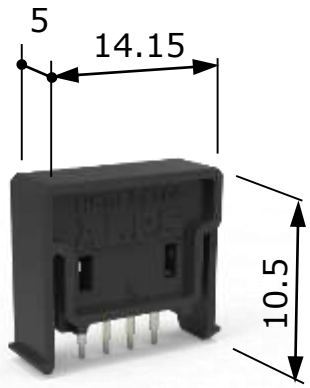
开关检测，高灵敏度，卡扣型

ALPSALPINE
Confidential

Standard product

高灵敏，高精度实现远距离触发检测

HGDFPA****





Front side　　Back side

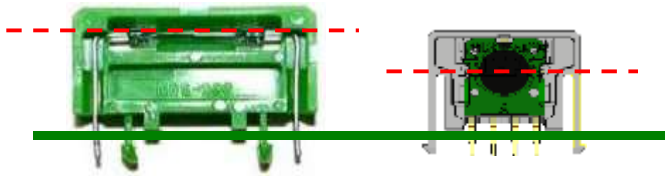
Applications

•开闭位置检测.

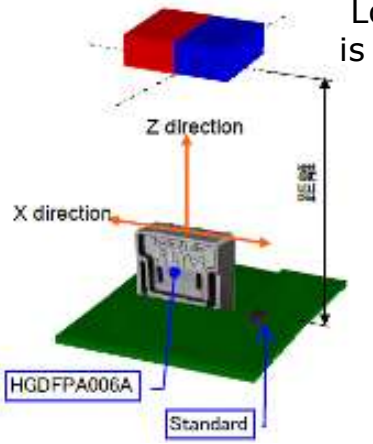


Features

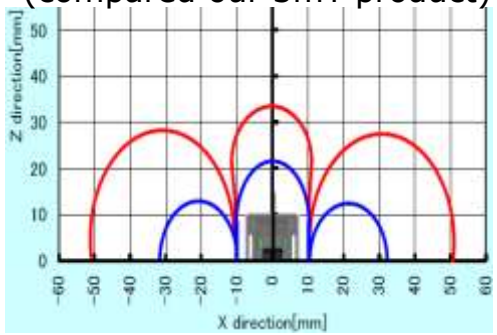
•高灵敏 ,小尺寸，卡扣型



Reed Switch　　AlpsAlpine



Long-distance detection (Z axis) is improved 60%.
(compared our 3mT product)



Specifications

Operatin magnetic field typ.	Hon **0.6 mT typ.** Hoff 0.4 mT
Supply voltage max)	5.0 V Typ. (4.5V min / 5.5 V
Current consumption	1.65mA Typ.
Output	Dual polarity /single output

磁编码器

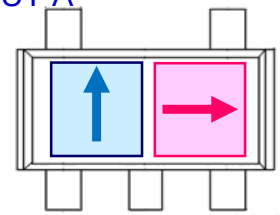
Standard product

HGPRDT005A



SOT-23 5pin
2.9 x 2.8 x 1.1 mm

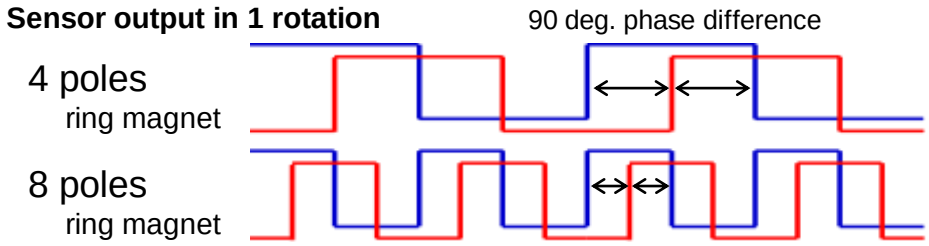
Sensitivity for OUT-A



Sensitivity for OUT-B

Features

- 单封装内置两套垂直布置感应桥电路。
- 2输出90度固定相位差



Applications

- 旋转控制
- 马达控制
  - 电动车窗
  - 电动滑门
  - 电动尾门
  - 电动天窗

等.







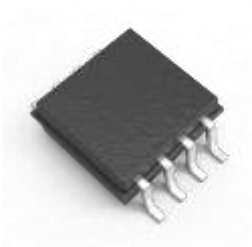
Specifications

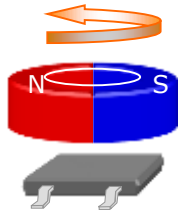
Parameters	Specifications
VDD	3.0~30 [V]
Power consumption	typ. 5 [mA]
Operating Temp	Max.140 [degC]
Sample rate	Continuous
Sensitivity	typ. 0.8 [mT]
Recommended operating magnetic field	5 ~ 60 [mT]

角度检测 (SIN/COS 双信号输出)

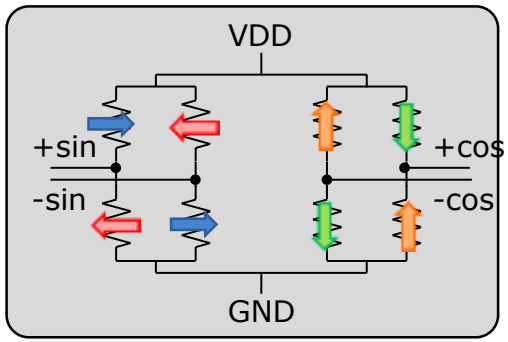
Standard product

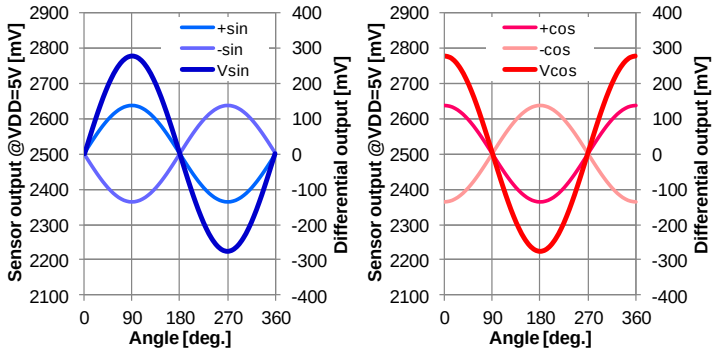
HGARAP001A





Package type: MSOP-8





Around 550mVpp @VDD=5V

Features

- 2 方向 & 2全桥输出 (+sin,-sin,+cos,-cos)
- MSOP-8 封装
- 高精度

Specifications

Parameters	Specifications
Size	2.95 x 4.0 x 1.3 [mm]
Supply Voltage	up to 5.5 [V]
Operating Temp	-40 to +105 [deg.C]
Operating magnetic field	20 to 60 [mT]
Each Element Resistance	typ. 3.5kOhm @RT
Bridge Resistance	typ. 1.75kOhm @RT
Thermal Characteristics (TCR)	max. 1600ppm/deg.C
Thermal Characteristics (TC⊿R)	min. -3900ppm/deg.C

Application Example

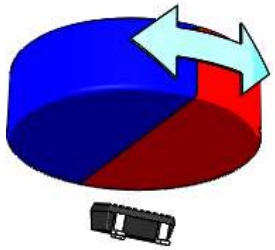
- 方向盘角度传感器
- 变速箱
- 马达控制

角度检测 (SIN/COS 双信号输出)

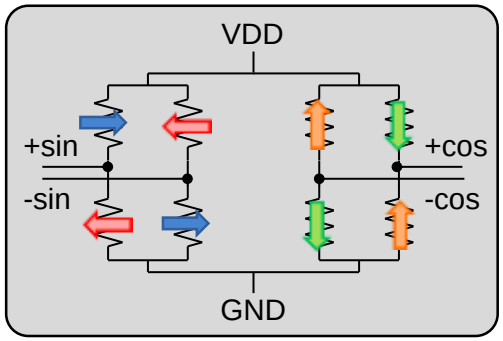
Standard product

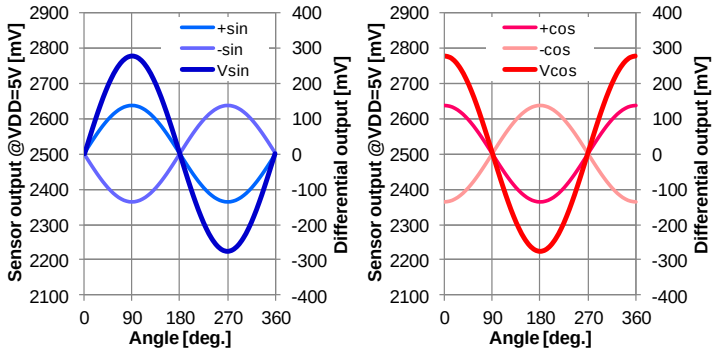
HGARAN008A





Package type: DFN1810





Around 550mVpp @VDD=5V

Features

- 2 方向 & 2全桥输出 (+sin,-sin,+cos,-cos)
- DFN1810 极小封装
- 5kΩ 桥电路电阻，低电流消耗
- 高度Layout自由

Specifications

Parameters	Spec
Dimensions	1.8 x 1.05 x 0.65 [mm]
Supply voltage	up to 5.5 [V]
Operating temperature range	-40 to +105 [deg.C]
Operating magnetic field range	20 to 60 [mT]
Element resistance	typ. 10kOhm @RT
Bridge resistance	typ. 5kOhm @RT
Thermal Characteristics (TCR)	max. 1600ppm/deg.C
Thermal Characteristics (TC⊿R)	min. -3900ppm/deg.C

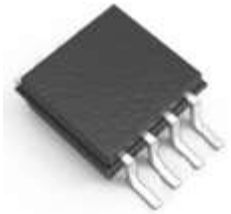
Applications

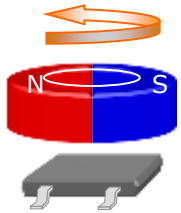
- 位置检测
- 马达控制
- 输入设备

角度检测 (内置运放 SIN/COS 双信号输出 单级检测型)

Under Development

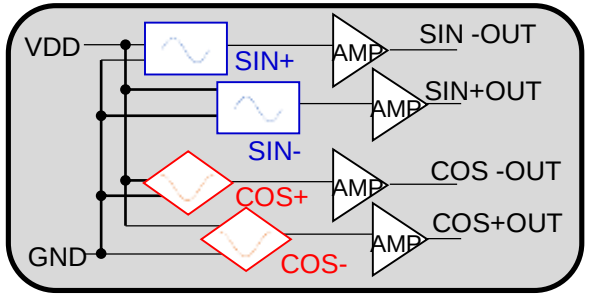
HGARPS011A

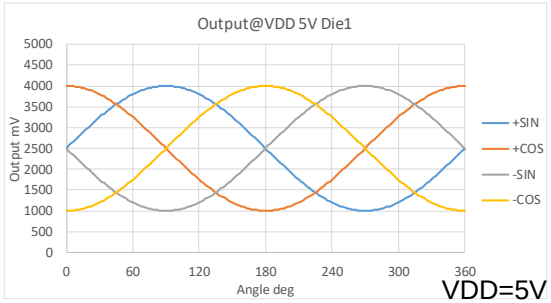




Package type:

TSSOP-8(small-type)





Features

- 2 方向 & 2全桥输出
- 模拟输出 (+sin, +cos, -sin, -cos)
- 高温环境动作, Ta =150deg.C
- Differential 6Vpp Output (@VDD=5V)

Parameters	Specifications
Size	3 x 4.9 x 1.1 [mm]
Supply Voltage	3 to 5.5 [V]
Operating Temp	-40 to +150 [deg.C]
Operating magnetic field	10 to 120 [mT]
Each Element Resistance	typ. 3.5kOhm @RT
Current	typ. 4mA @5V,RT
Thermal Charact. (TCR)	max. 1600ppm/deg.C
Thermal Charact. (TC⊿R)	min. -3900ppm/deg.C

Application Example

- 方向盘角度传感器
- 变速箱
- 马达控制, 电子助力转向等

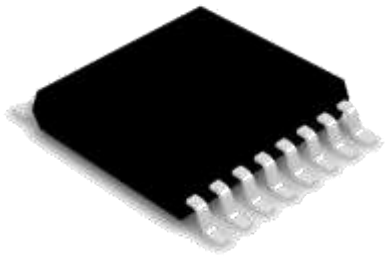
Current Status

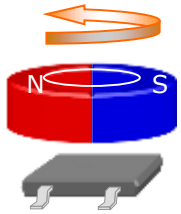
Feasibility Sample	Ready
SOP target	2021.Q4

角度检测 (内置运放 SIN/COS 双信号输出 & 双级检测型)

Under Development

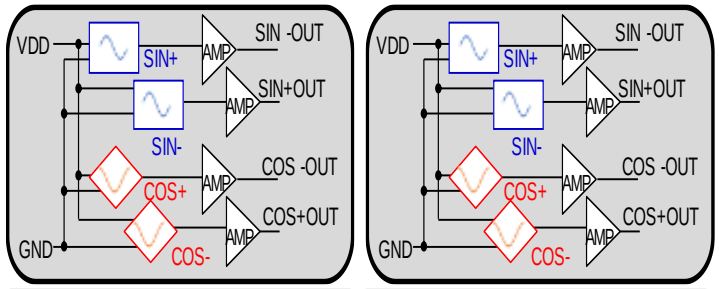
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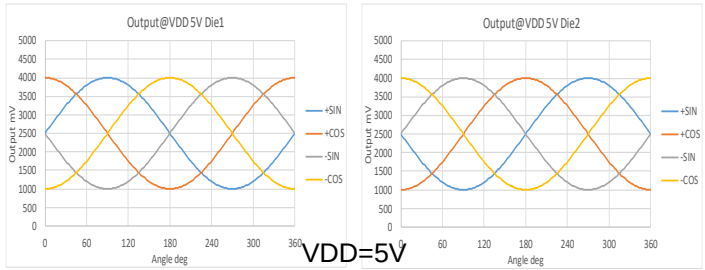




Package type: TSSOP-16

Die1 Die2





VDD=5V

Features

- 单封装双系统冗余设计
  - 2x2 方向 & 4 套全桥电路
  - 模拟输出 (+sin, +cos, -sin, -cos) ×2
- 高温环境动作, Ta =150deg.C
- Differential 6Vpp Output (@VDD=5V)

Parameters	Specifications
Size	5.0 x 6.4 x 1.1 [mm]
Supply Voltage	3 to 5.5 [V]
Operating Temp	-40 to +150 [deg.C]
Operating magnetic field	10 to 120 [mT]
Each Element Resistance	typ. 3.5kOhm @RT
Current	typ. 8mA @5V,RT
Thermal Charact. (TCR)	max. 1600ppm/deg.C
Thermal Charact. (TC⊿R)	min. -3900ppm/deg.C

Application Example

- 方向盘角度传感器
- 变速箱
- 马达控制, 电子助力转向等

Current Status

Feasibility Sample	Ready
SOP target	2021.Q4

Alps Sensor Variety



感谢大家的聆听