

XENSIV[™] – sensing the world

Pocket guide 2019



www.infineon.com/sensors



Hall switches

TLE/TLI/TLV4961/64/68

Energy-efficient Hall switch family for up to 32 V

| Product | Туре | Operating point B _{OP} | Release point B _{RP} | Hysteresis ΔB _{HY} | Automotive | Industrial | Consumer | Package |
|--------------|---------|------------------------------------|----------------------------------|--------------------------------|------------|------------|----------|---------------|
| TLE4961-1M/L | Latch | 2.0 | -2.0 | 4.0 | • | • | • | SOT23/SSO-3-2 |
| TLE4961-2M | Latch | 5.0 | -5.0 | 10.0 | • | • | • | SOT23 |
| TLE4961-3M/L | Latch | 7.5 | -7.5 | 15.0 | • | • | • | SOT23/SSO-3-2 |
| TLE4964-1M | Switch | 18.0 | 12.5 | 5.5 | • | • | • | SOT23 |
| TLE4964-2M | Switch | 28.0 | 22.5 | 5.5 | • | • | • | SOT23 |
| TLE4964-3M | Switch | 12.5 | 9.5 | 3.0 | • | • | • | SOT23 |
| TLE4964-5M | Switch | 7.5 | 5.0 | 2.5 | • | • | • | SOT23 |
| TLE4968-1M/L | Bipolar | 1.0 | -1.0 | 2.0 | • | • | • | SOT23/SSO-3-2 |
| TLE4961-5M | Latch | 15.0 | -15.0 | 30.0 | • | ٠ | • | SOT23 |
| TLE4961-4M | Latch | 10.0 | -10.0 | 20.0 | • | • | • | SOT23 |
| TLE4964-4M | Switch | 10.0 | 8.5 | 1.5 | • | • | • | SOT23 |
| TLE4964-6M | Switch | 3.5 | 2.5 | 1.0 | • | • | • | SOT23 |
| TLI4961-1M/L | Latch | 2.0 | -2.0 | 4.0 | - | • | • | SOT23/SSO-3-2 |
| TLV4961-1M | Latch | 2.0 | -2.0 | 4.0 | - | - | • | SOT23 |
| TLV4961-3M | Latch | 7.5 | -7.0 | 15.0 | - | - | • | SOT23 |
| TLV4964-1M | Switch | 18.0 | 12.5 | 5.5 | - | - | • | SOT23 |
| TLV4964-2M | Switch | 28.0 | 22.5 | 5.5 | - | _ | • | SOT23 |

TLE/TLI4963/65-xM

5 V high-precision automotive/industrial Hall-effect sensor

| Product | Туре | Operating point B _{op} | Release point B _{RP} | Hysteresis ΔΒ _{Ηγ} | Automotive | Industrial | Package |
|------------|-----------------|------------------------------------|----------------------------------|--------------------------------|------------|------------|---------|
| TLE4963-1M | Latch | 2.0 | -2.0 | 4.0 | ٠ | - | SOT23 |
| TLE4963-2M | Latch | 5.0 | -5.0 | 10.0 | ٠ | - | SOT23 |
| TLE4965-5M | Unipolar switch | 7.5 | 5.0 | 2.5 | ٠ | - | SOT23 |
| TLI4963-1M | Latch | 2.0 | -2.0 | 4.0 | - | • | SOT23 |
| TLI4963-2M | Latch | 5.0 | -5.0 | 10.0 | - | • | SOT23 |
| TLI4965-5M | Unipolar switch | 7.5 | 5.0 | 2.5 | - | • | SOT23 |

www.infineon.com/hall-switches

Hall switches

TLV496x-xTA/B

Precision Hall-effect sensor for consumer applications in leaded package

| Product | Туре | Operating point B _{op} | Release point B _{RP} | Hysteresis ΔΒ _{ΗΥ} | Consumer | Package |
|-------------|-----------------|------------------------------------|----------------------------------|--------------------------------|----------|-----------|
| TLV4961-1TA | Latch | 2.0 | -2.0 | 4.0 | • | TO92S-3-1 |
| TLV4961-1TB | Latch | 2.0 | -2.0 | 4.0 | • | T092S-3-2 |
| TLV4961-3TA | Latch | 7.5 | -7.5 | 15.0 | • | T092S-3-1 |
| TLV4961-3TB | Latch | 7.5 | -7.5 | 15.0 | • | T092S-3-2 |
| TLV4964-4TA | Unipolar switch | 10.0 | 8.5 | 1.5 | • | T092S-3-1 |
| TLV4964-4TB | Unipolar switch | 10.0 | 8.5 | 1.5 | • | T092S-3-2 |
| TLV4964-5TA | Unipolar switch | 7.5 | 5.0 | 2.5 | • | T092S-3-1 |
| TLV4964-5TB | Unipolar switch | 7.5 | 5.0 | 2.5 | • | T092S-3-2 |
| TLV4968-1TA | Latch | 1.0 | -1.0 | 2.0 | • | T092S-3-1 |
| TLV4968-1TB | Latch | 1.0 | -1.0 | 2.0 | • | T092S-3-2 |

TLx4966x

Two-in-one double Hall sensor, vertical dual-Hall sensor

| Product | Туре | Operating point B _{OP} | Release point B _{RP} | Hysteresis ∆B _{HY} | Automotive | Industrial | Package |
|-------------|--|------------------------------------|----------------------------------|--------------------------------|------------|------------|---------------|
| TLE4966K/L | Double Hall, speed and direction output | 7.5 | -7.5 | 15 | • | - | TSOP6/SSO-4-1 |
| TLE4966-2G | Double Hall, two independent outputs | 7.5 | -7.5 | 15 | • | - | TSOP6 |
| TLE4966-3G | Double Hall, speed and direction output | 2.5 | -2.5 | 5 | • | - | TSOP6 |
| TLE4966V-1G | Vertical double Hall, speed and direction output | 2.5 | -2.5 | 5 | • | - | TSOP6 |
| TLI4966G | Double Hall, speed and direction output | 7.5 | -7.5 | 15 | - | • | TSOP6 |



TLE/TLV49x6 family

High-precision Hall switches

| Product | Туре | Operating point B _{op} | Release point B _{RP} | Hysteresis ΔB _{нү} | Automotive | Industrial | Consumer | Package |
|--------------|---------------------------------------|------------------------------------|----------------------------------|--------------------------------|------------|------------|----------|--------------|
| TLE4906K/L | Unipolar switch | 10.0 | 8.5 | 1.5 | • | ٠ | - | SC59/SSO-3-2 |
| TLE4906-2K | Unipolar switch | 18.0 | 12.5 | 5.5 | • | • | - | SC59 |
| TLE4906-3K | Unipolar switch | 28.0 | 22.5 | 5.5 | • | • | - | SC59 |
| TLE4946K | Latch | 14.0 | -14.0 | 28.0 | • | • | - | SC59 |
| TLE4946-1L | Latch | 15.0 | -15.0 | 30.0 | • | • | - | SSO-3-2 |
| TLE4946-2K/L | Latch | 2.0 | -2.0 | 4.0 | • | • | - | SC59/SSO-3-2 |
| TLE4976L | Unipolar switch/ Current interface | 6.0 | 4.0 | 2.0 | • | • | - | SSO-3-2 |
| TLE4976-1K | Unipolar switch/ Current interface | 9.25 | 7.25 | 2.0 | • | • | - | SC59 |
| TLE4976-2K | Unipolar switch/ Current interface | 4.5 | 2.7 | 1.8 | • | • | - | SC59 |
| TLV4946-2K | Unipolar switch | 18.0 | 12.5 | 5.5 | - | - | • | SC59 |
| TLV4976-2K | Unipolar switch/ Current interface | 4.5 | 2.7 | 1.8 | - | - | • | SC59 |

3D magnetics

TLV493D-A1B6/TLI493D-A2B6

3D magnetic sensors for consumer and industrial applications

| Product | Temperature range | Qualification | Linear magnetic range | Resolution | I _{DD} | Update rate | Package | Ordering code |
|--------------|----------------------|---------------|--------------------------------|---|-----------------|-----------------|---------|------------------|
| TLV493D-A1B6 | -40 125°C | JESD47 | ±130 mT (typ) | 98 µT/LSB | 7 nA – 3.7 mA | 10 Hz – 3.3 kHz | TSOP6 | SP001286056 |
| TLI493D-A2B6 | -40 105°C | JESD47 | ±160 mT (min) ±100 mT (min) | 130 μT/LSB (65 μT/LSB) ¹⁾ | 7 nA – 3.3 mA | 10 Hz – 8.4 kHz | TSOP6 | SP001689844 |

1) Half range mode

TLE493D-A2B6/W2B6

3D magnetic sensors for automotive low-power applications

| Product | Temperature range | Qualifi- cation | Linear magnetic range (min) | Resolution | I _{DD} | Update rate | ISO 26262 | Wake- up | Package | Ordering code |
|--|----------------------|--------------------|--------------------------------------|---|-------------------|-----------------------|-----------|-------------|---------|--|
| TLE493D-A2B6 | -40 125°C | AEC-Q100 | ±160 mT | 130 μT/LSB (65 μT/LSB) ¹⁾ | 7 nA to 3.3 mA | 10 Hz to 8.4 kHz | - | No | TSOP6 | SP001689848 |
| TLE493D-W2B6 A0 TLE493D-W2B6 A1 TLE493D-W2B6 A2 TLE493D-W2B6 A3 | -40 125°C | AEC-Q100 | ±160 mT ±100 mT | 130 μT/LSB (65 μT/LSB) ¹⁾ | 7 nA to 3.3 mA | 0.05 Hz to 8.4 kHz | Ready | Yes | TSOP6 | SP001655334 SP001655340 SP001655344 SP001655348 |

1) Half range mode

Linear Hall sensors

TLE499x – Programmable analog/digital linear Hall sensor family

One sensor channel per package

| Product | Program- mable | Number of pins | Sensitivity | Magnetic offset | Supply voltage (extended range) | ISO 26262 | Auto- motive | Inter- face | Package |
|-----------|-------------------|--------------------------|------------------------|--------------------|------------------------------------|-----------|-----------------|----------------|--|
| TLE4997 | EEPROM | 3/ Single die SMD 8 | ±12.5 to ±300 | < ±400 µT | 5 V ±10% (7 V) | Ready | • | Analog | SSO-3-10 TDSO-8 |
| TLE4998P | EEPROM | 3/4/ Single die SMD 8 | ±0.2 to ±6%/mT | <±400 µT | 5 V ±10% (16 V) | Ready | • | PWM | SSO-3-10 SSO-4-1 SSO-3-9 (2 capacitors) TDSO- 8 |
| TLE4998S | EEPROM | 3/4/ Single die SMD 8 | ±8.2 to ±245 LSB/mT | < ±400 µT | 5 V ±10% (16 V) | Ready | • | SENT | SSO-3-10 SSO-4-1 SSO-3-9 (2 capacitors) TDSO-8 |
| TLE4998C | EEPROM | 3/4/ Single die SMD 8 | ±8.2 to ±245 LSB/mT | < ±400 µT | 5 V ±10% (16 V) | Ready | • | SPC | SSO-3-10 SSO-4-1 SSO-3-9 (2 capacitors) TDSO-8 |
| TLE499913 | EEPROM | 3 | ±147.5 LSB/mT | < ±200 µT | 5.5-7 V ±10% (16 V) | Compliant | • | PSI5 | SSO-3-12 |

Two sensor channels in one package

| Product | Interface | Dual-/single-sensor available | ISO 26262 | Package |
|------------|-----------|----------------------------------|-----------|---------|
| TLE4997A8D | Analog | yes/yes | Ready | TDSO-8 |
| TLE4998P8D | PWM | yes/yes | Ready | TDSO-8 |
| TLE4998S8D | SENT | yes/yes | Ready | TDSO-8 |
| TLE4998C8D | SPC | yes/yes | Ready | TDSO-8 |

Angle sensors

iGMR, iAMR and iTMR based angle sensors

Diverse redundant sensor with analog and digital interface

| Product | Technology | Die configuration | ISO 26262 | Sin/cos output | Angle output | Second interface | Accuracy | Package |
|---------------|------------|-------------------|-----------|----------------|--------------|------------------|--------------------|-------------------|
| TLE5009 | GMR | Single die | Ready | Analog sin/cos | - | _ | 0.9° | DSO-8 |
| TLE5009A16(D) | GMR | Dual die | Ready | Analog sin/cos | - | - | 1.0° | TDSO-16 |
| TLE5011 | GMR | Single die | Ready | SSC (SPI) | - | - | 1.6° | DSO-8 |
| TLI5012B | GMR | Single die | Ready | SSC (SPI) | SSC (SPI) | PWM/IIF/SPC/HSM | 1.9° | DSO-8 |
| TLE5012B(D) | GMR | Single & dual die | Ready | SSC (SPI) | SSC (SPI) | PWM/IIF/SPC/HSM | 1.0° | DSO-8/ TDSO-16 |
| TLE5014C16(D) | GMR | Single & dual die | Compliant | - | SPC | - | 1.0° | TDSO-16 |
| TLE5014P16(D) | GMR | Single & dual die | Compliant | - | PWM | - | 1.0° | TDSO-16 |
| TLE5014S16(D) | GMR | Single & dual die | Compliant | - | SENT | - | 1.0° | TDSO-16 |
| TLE5109A16(D) | AMR | Single & dual die | Ready | Analog sin/cos | - | - | 0.5° | TDSO-16 |
| TLE5309D | AMR + GMR | Dual die | Ready | Analog sin/cos | SSC (SPI) | - | AMR 0.5°, GMR 1.0° | TDSO-16 |
| TLE5501 | TMR | Single die | Compliant | Analog sin/cos | - | - | 1.0° | DSO-8 |

www.infineon.com/angle-sensors

Current sensors

TLI4970/TLI4971

| Product | Accuracy ¹⁾ [%] | Current range [A] | Bandwidth [kHz] | Resolution/sensitivity | UL certified | Industrial | Package |
|--------------------------------|-------------------------------|----------------------|--------------------|------------------------|--------------|------------|---------|
| TLI4970-D025T4 | ±1.6 | ±25 | 18 | 6.25 mA/LSB | • | ٠ | TISON-8 |
| TLI4970-D025T5 | ±3.5 | ±25 | 18 | 6.25 mA/LSB | • | • | TISON-8 |
| TLI4970-D050T4 | ±1.6 | ±50 | 18 | 12.5 mA/LSB | • | • | TISON-8 |
| TLI4970-D050T5 | ±3.5 | ±50 | 18 | 12.5 mA/LSB | • | • | TISON-8 |
| TLI4971-A120T5 ²⁾ | ±3.0 | ±120 | 120 | 10 mV/A | - | ٠ | TISON-8 |
| TLI4971-A120T5-U ²⁾ | ±3.0 | ±120 | 120 | 10 mV/A | • | • | TISON-8 |

1) Total error over lifetime and temperature

2) Coming soon



Magnetic speed sensors

Overview of magnetic speed sensors

| | Icon/ Description | TLE4921 | TLE4922 | TLE4924 | TLE4926 | TLE4927 | TLE4928 | TLE4929 | TLE4941 | TLE4941plusC | TLE4942 | TLE4943 | TLE4953 |
|---|---------------------------|------------|-----------|------------|------------|------------|------------|------------|------------|--------------|------------|------------|------------|
| | Wheel speed | - | • | - | _ | - | - | _ | • | • | • | • | - |
| | Camshaft | - | • | • | - | • | - | - | - | - | - | - | - |
| Automotive | Crankshaft | • | • | • | • | • | • | • | - | _ | - | - | - |
| | Transmission | • | • | - | - | - | - | - | • | • | • | - | • |
| Industrial | | • | • | • | - | • | • | • | - | • | - | - | - |
| Sensor technology | | Diff. Hall | Mono-Hall | Diff. Hall | Diff. Hall | Diff. Hall | Diff. Hall |
| Improved air gap/jitter performance | _ ‡ | - | - | - | - | - | - | • | - | - | - | - | _ |
| Direction information available | | - | - | - | - | - | - | • | - | - | • | • | • |
| True Power On (TPO) | ↓ | - | - | - | - | - | - | - | - | - | - | - | - |
| Twist- Independent Mounting (TIM) | | - | • | - | - | - | - | - | - | - | - | - | - |
| Vibration suppression algorithm included |)) | _ | _ | _ | _ | _ | _ | • | _ | - | _ | _ | • |
| Type of | (III) | V | Н | V | Н | Н | Н | H/V | Н | Н | Н | Н | V |
| hysteresis ¹⁾ | | F | A | A/F | F | A | F | A/F | F | F | F | A | A |
| | # of pins | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 |
| Interface ²⁾ | Interface | V | V | V | V | V | V | V | С | C | C | С | С |
| | Protocol | S | S | S | S | S | S | S/P | S | S | P | AK | Р |
| Electrostatic Discharge (ESD) | Human Body Model (HBM) | 2 kV | 3 kV | 6 kV | 6 kV | 6 kV | 6 kV | 6 kV | 12 kV | 12 kV | 12 kV | 12 kV | 12 kV |
| Package without integrated capacitor | Π | • | • | - | - | - | • | - | • | - | - | - | • |
| Package with integrated capacitor | Ŧ | - | _ | • | • | • | • | • | _ | • | • | • | • |

1) H = Hidden; V = Visible; F = Fixed; A = Adaptive; P = Programmable

2) AK = AK protocol; C = Current; V = Voltage interface; S = Single pulse; P = PWM protocol

| TLE4955 | TLE4957 | TLE4959 | TLE4983 | TLE4984 | TLE4986 | TLE5025 | TLE5027 | TLE5028 | TLE5041plusC | TLE5045 | TLE5046 |
|------------|------------|------------|-----------|-----------|-----------|---------|---------|---------|--------------|---------|---------|
| - | _ | - | - | - | - | - | - | - | • | • | • |
| - | - | - | • | • | • | • | - | - | - | - | - |
| - | • | - | - | - | - | • | • | ٠ | - | - | - |
| ٠ | • | • | - | - | - | - | - | - | - | - | - |
| - | - | _ | _ | - | - | - | - | | _ | | - |
| Diff. Hall | Diff. Hall | Diff. Hall | Mono-Hall | Mono-Hall | Mono-Hall | iGMR | iGMR | iGMR | iGMR | iGMR | iGMR |
| - | - | • | - | - | - | • | • | • | • | • | • |
| ٠ | - | • | - | - | - | - | • | • | - | - | • |
| _ | _ | _ | • | • | • | _ | _ | _ | _ | - | - |
| - | - | - | • | • | • | - | - | - | - | - | - |
| • | • | • | _ | _ | _ | _ | _ | _ | - | - | - |
| V | V/H | V | Н | Н | V/H | Н | Н | Н | Н | Н | Н |
| А | A | A | F | F | P/A | A | A | A | F | A | A |
| 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 |
| С | V | V | V | V | V | V | V | V | С | С | С |
| Р | S | Р | S | S | S | S | Р | Р | S | S | P/AK |
| 12 kV | 6 kV | 6 kV | 4 kV | 4 kV | 6 kV | 8 kV | 8 kV | 6 kV | 12 kV | 12 kV | 12 kV |
| • | - | - | - | - | - | - | - | - | - | • | • |
| • | • | • | • | • | • | ٠ | ٠ | ٠ | • | - | - |

Pressure sensors

Integrated pressure sensor ICs for manifold (MAP) and barometric (BAP) air pressure

| Product | Pressure range [kPa] | Max. accuracy [kPa] | Max. operating temperature [°C] | Automotive | Industrial |
|------------|----------------------|---------------------|---------------------------------|------------|------------|
| KP21x | 10 150 | 1.0 | 140 | • | • |
| KP22x | 10 400 | 2.5 | 140 | • | • |
| KP23x | 40 115 | 1.0 | 125 | • | • |
| KP236N6165 | 60 165 | 1.0 | 125 | • | • |
| KP253 | 60 165 | 1.0 | 125 | • | • |
| KP254 | 40 115 | 1.5 | 125 | • | • |
| KP255 | 10 125 | 1.4 | 140 | • | • |
| KP256 | 60 165 | 1.0 | 125 | • | • |
| KP27x | 10400 | 2.5 | 170 | • | • |

KP200/KP201/KP204

PSI5 PRO-SIL[™] ready pressure sensor ICs for side crash detection (SAB) and pedestrian protection

| Product | PRO-SIL [™] support in line with IEC 61508 and ISO 26262 | ISO 26262 |
|-------------------|---|-----------|
| KP200/KP201/KP204 | > KP201 qualified for higher operating temperatures up to 125°C | Ready |
| | > KP204 with 4-hole lid supporting insect intrusion | |

More information on PRO-SIL[™] can be found at www.infineon.com/prosil

SP270-25-256-0

Pressure sensor with integrated low power microcontroller (non-TPMS)

| Parameter | Val | ues | Unit | Note/test condition |
|-------------------------------|------|------|------|-----------------------------|
| | Min. | Max. | | |
| Input pressure range | 100 | 500 | kPa | T = -40 125°C |
| Measurement error | -21 | +21 | kPa | T = 25 80°C |
| 100 500 kPa | -46 | +46 | kPa | T = -40 125°C |
| Input pressure range | 500 | 1300 | kPa | T = -40 125°C |
| Measurement error | -31 | +31 | kPa | T = 25 80°C |
| 500 1300 kPa | -60 | +60 | kPa | T = -40 125°C |
| | -3 | +3 | °C | T = -20 70°C |
| Temperature measurement error | -5 | +5 | °C | T = -4020°C T = 70 125°C |

Digital barometric air pressure sensors

DPS310/DPS368/DPS422

| Key product features | DPS368 | DPS310 | DPS422 | | | |
|--|---|--|---|--|--|--|
| Package | 8 pins LGA: 2.0 x 2.5 x 1.1 mm – environmentally protected | 8 pins LGA: 2.0 x 2.5 x 1.0 mm | 8 pins LGA: 2.0 x 2.5 x 0.73 mm | | | |
| Operating pressure range | 300 1200 hPa | | | | | |
| Operating temperature range | | -40 85°C | | | | |
| Pressure level precision | ±0.002 hPa (or ±0.02 m) | ±0.005 hPa | (or ±0.05 m) | | | |
| Relative accuracy | ±0.06 hPa (or ±0.5 m) | | | | | |
| Absolute accuracy | ±1 hPa (or ±8 m) | | | | | |
| Temperature accuracy | 0.5 | < 0.4°C | | | | |
| Pressure temperature sensitivity | | 0.5 Pa/K | | | | |
| Measurement time | 3.6 n | ns (low precision); 27.6 ms (standard m | node) | | | |
| Average current consumption at 1 Hz sampling rate | 1.7 μA pressure measurement, 1.5 μA temp. measurement, standby 0.5 μA | | 1.7 μA pressure measurement, 2.0 μA temp. measurement, standby < 1 μA | | | |
| Supply voltage | V _{DDIO} : 1.2–3.6 V; V _{DD} : 1.7–3.6 V | | | | | |
| Operating modes | Comma | nd (manual), background (automatic), standby | | | | |
| Interface | l | ² C and SPI, both with optional interrupt | | | | |

Pressure sensors

TPMS (Tire Pressure Monitoring)

SP40

Tire pressure sensor for Tire Pressure Monitoring Systems (TPMS)

| Product | Pressure range [kPa] | On-chip flash memory [kB] | Key features |
|-------------|-------------------------|------------------------------|--|
| SP400-11-01 | 100-900 | 12 | > Highest integration > Very low energy consumption |
| SP400-11-11 | 100-900 | 12 + 2 | > Robust g- and p-sensor > High LF sensitivity |

SP37

TPMS sensor for trucks and commercial, construction and agricultural vehicles (CAV)

| Product | Pressure range [kPa] | On-chip flash memory [kB] |
|----------------|-------------------------|------------------------------|
| SP370-23-156-0 | 100-1.300 | 6 |

Radar

RASIC[™] – automotive radar sensor ICs

RXS816xPL - family of single-chip front-end MMICs for 77/79 GHz automotive RADAR

| Product | Configuration | Key benefits | Features |
|--------------------------|---------------|--|---|
| RXS816xPL ¹⁾ | 3Tx4Rx | Single- and multi-chip versions in 7 x 8.5 mm eWLB package | > Flexible FMCW waveform generation > Up to 2 GHz modulation bandwidth |
| RXS8156PLA ¹⁾ | 2Tx4Rx | Cost efficient solution for corner radars in 7 x 7.5 mm eWLB package | Four receive channels featuring integrated filters + AD converters 4 channel LVDS data interface |

1) Coming soon

www.infineon.com/rasic

24 GHz radar sensor ICs

BGT24M/L family of MMIC chips

| Product | Configuration | Features | | |
|------------|---------------|---|--|--|
| BGT24MTR11 | 1Tx + 1Rx | Measures not just motion, but also speed, direction, and distance Small form factor | | |
| BGT24MR2 | 2Rx | > Resistance to moisture, dirt and temperature > Increased area coverage > Discrete design | | |
| BGT24MTR12 | 1Tx + 2Rx | > Energy savings > Privacy protection | | |
| BGT24LTR11 | 1Tx + 1Rx | Adaptable to different application requirements Highly integrated chips eliminating costly external components | | |

www.infineon.con/24GHz

MEMS microphones

High Performance MEMS microphones

| Product | Current consumption | Sensitivity | Signal to Noise | AOP | Features |
|----------|------------------------|-------------|--------------------|-----------|---|
| IM69D120 | 980 µA | -26 dBFS | 69 dB | 120 dBSPL | > 69 dB(A) signal-to-noise ratio (for < 20 bit encoding systems IM69D120 required) > Below 1 percent distortions at 128 dBSPL (AOP – 130 dBSPL) |
| IM69D130 | 980 µA | -36 dBFS | 69 dB | 130 dBSPL | Digital (PDM) interface with 6 µs group delay at 1 kHz Tight sensitivity (-36 ±1 dB) and phase (±2 deg) tolerances 28 Hz low frequency roll-off |

www.infineon.com/mems

Smallest, fully featured, budget-priced evaluation boards

Shield2Go

| Product name | Sales name | Ordering code |
|---|------------------------|---------------|
| DPS310 Pressure Shield2Go | S2GO_PRESSURE_DPS310 | SP001777630 |
| DPS368 Pressure Shield2Go | S2GO PRESSURE DPS368 | SP005338022 |
| DPS422 Pressure Shield2Go | S2GO PRESSURE DPS422 | SP002983204 |
| IM69D130 Microphone Shield2Go | S2GO MEMSMIC IM69D | SP002851544 |
| MyloT Adapter | MYIOTADAPTERTOBO1 | SP002434972 |
| OPTIGA™ Trust E Security Shield2Go | S2Go_Security_OPTIGA_E | SP001820138 |
| OPTIGA™ Trust X Security Shield2Go | S2GO SECURITY OPTIGA X | SP002349576 |
| TLE493DW2B6 3DSense Shield2Go | S2GO_3D_TLE493DW2B6-A0 | SP004308594 |
| TLE4964-3M Hall Sense Shield2Go | S2GO_HALL_TLE4964-3M | SP004308590 |
| TLE4966K Double Hall Shield2Go | S2GO_2_HALL_TLE4966K | SP004308598 |
| TLI4970 Current Sense Shield2Go | S2GO_CUR-SENSE_TLI4970 | SP001823682 |
| TLI4971 Current Sense Shield2Go ¹⁾ | S2GO_CUR-SENSE_TLI4971 | SP005345472 |
| TLV493D 3DSense Shield2Go | S2GO_3D-SENSE_TLV493D | SP001823678 |
| XMC 2Go Kit | KIT_XMC_2GO_XMC1100_V1 | SP001199544 |

1) Coming soon

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2GO evaluation kits

Sensors 2GO

| Product name | Target application | Ordering code |
|-----------------------------|----------------------------------|---------------|
| TLE4922 MS2GO | Automotive | SP001624692 |
| TLE493D-A2B6 MS2GO | Automotive | SP001707582 |
| TLE493D-W2B6 MS2GO | Automotive | SP001707578 |
| TLE5012B E1000 MS2GO | Automotive | SP002133956 |
| TLE5012B E5000 MS2GO | Automotive | SP002133964 |
| TLE5012B E9000 MS2GO | Automotive | SP002133968 |
| TLI4970050 MS2GO | Industrial, consumer | SP003119148 |
| TLI4971 MS2GO ¹⁾ | Industrial | SP005345474 |
| TLI5012B E1000 MS2GO | Industrial | SP002133960 |
| TLV493D-A1B6 MS2GO | Industrial, consumer | SP001707574 |
| JOYSTICK FOR 3D 2 GO KIT | Automotive, industrial, consumer | SP001491834 |
| LINEAR-SLIDER 2GO | Automotive, industrial, consumer | SP002043034 |
| OUT OF SHAFT FOR 3D 2 GO | Automotive, industrial, consumer | SP003475178 |
| ROTATE KNOB 3D 2 GO KIT | Automotive, industrial, consumer | SP001504602 |

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MEMS 2GO

| Product name | Target application | Ordering code |
|-----------------------|--------------------|---------------|
| EVAL_IM69D130_FLEXKIT | Consumer | SP002153022 |

Radar sensors 2GO

| Product name | Sales name | Ordering code |
|--------------|------------------|---------------|
| Position2Go | DEMO POSITION2GO | SP001726936 |
| Distance2Go | DEMO DISTANCE2GO | SP001703556 |
| Sense2GoL | DEMO SENSE2GO L | SP001625874 |

www.infineon.com/sensors2go

Functional safety

What does ISO 26262 compliant mean?

Infineon PRO-SIL[™] ISO 26262-compliant safety sensors fulfil the properties required by the ISO 26262 (Automotive Safety) Standard. PRO-SIL[™] ISO 26262-compliant product development follows a product specific safety plan defined by Infineon. The product development follows the Infineon V-model based development lifecycle which encompasses all ISO 26262 required activities and work products related to the product scope. Product relevant safety requirements and required metrics are captured and verified through the development of the product, this includes the product safety concept and ultimately a product safety case which provides the argumentation and evidence showing achievement of the defined safety requirements and process compliance, including all essential supporting processes.

An independent functional safety management organization supports the ISO 26262 conformance safety lifecycle.

For ISO 26262-compliant products a Safety Manual and a Safety Analysis Summary Report can be delivered to our customers in addition to Infineon standard documentation.

Moreover Infineon offers expert support for system integrators to achieve the required ASIL on system level. Infineon's activities result in a simplified integration in safety-related applications.

What does ISO 26262 ready mean?

Infineon PRO-SIL[™] ISO 26262-ready sensors are developed according to Infineon's sophisticated Automotive Development and Quality Standards. For ISO 26262-ready products additional functional safety analysis will be provided. ISO 26262-ready enables our customers to use Infineon's (QM) Products in safety related applications.

For ISO 26262-ready products Safety Manual and a Safety Analysis Summary Report can be delivered to our customers in addition to Infineon standard documentation. These reports are provided to customers to serve as building block for their system level safety concept. Moreover Infineon offers expert support for system integrators to achieve the required ASIL on system level. Infineon's activities result in a simplified integration in safety-related applications.







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Published by Infineon Technologies AG 81726 Munich, Germany

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Order number: B142-I0675-V2-7600-EU-EC-P Date: 06/2019

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