

XENSIV™ dual die TMR wheel speed sensor

Features

- Two high performance ASICs integrated in one robust 4-pin package
- Slim and compact package offers mounting advantages compared to two single packages
- Valid and correct direction on first output protocol
- Product types offering high resolution protocols to detect smallest car movements
- High robustness against mechanical vibrations thanks to active vibration algorithm
- Advanced stop-start capabilities including no loss of direction information
- Robustness against external magnetic disturbances due to differential sensing principle
- ISO 26262 safety element out of context for safety requirements up to ASIL D

Potential applications

- Anti-lock braking system
- Indirect tire pressure monitoring system
- Hill holder & electronic parking brake
- Autonomous parking

Product validation

Product validation according to AEC-Q100, Grade 0. Qualified for automotive applications.

Description

This dual die datasheet addendum specifies additional parameters to the single die datasheet for the corresponding device. In case of any conflict between the single die datasheet and this addendum, this document has precedence.

Ordering Information

| Name | Marking | Ordering Code | Package |
|--------------------|---------|---------------|-------------|
| TLE55493iCD-PW2-50 | 493D6E | SP005972687 | PG-SSO-4-52 |
| TLE55493iCD-LR | 493D6A | SP005972683 | PG-SSO-4-52 |
| TLE55493iCD-LR-4H | 493D6B | SP005972692 | PG-SSO-4-52 |



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1 Pin configuration

1 Pin configuration

| Pin No. | Symbol | Function |
|---------|-----------|----------------------|
| 1 | V_{DD1} | Supply voltage die 1 |
| 2 | GND_1 | Ground die 1 |
| 3 | V_{DD2} | Supply voltage die 2 |
| 4 | GND_2 | Ground die 2 |

2 Parametric characteristics

Table 1 Parametric characteristics

| Parameter | Symbol | Values | | | Unit | Note or condition |
|--------------------|----------|--------|------|------|------|---|
| | | Min. | Typ. | Max. | | |
| Thermal resistance | R_{th} | - | 150 | 190 | K/W | junction-to-ambient, PG-SSO-4-52 package |

3 Package

By following our application note "Recommendation for Handling and Assembly of Infineon PG-SSO Sensor Packages" the sensor terminals can be bent without causing incipient cracks influencing the sensor element function, please contact your key account team for further information. The Product is RoHS (restriction of hazardous substances) compliant when marked with letter H (or G) in front or after the data code marking and contains a data matrix code. Please refer to your key account team or regional sales if you need further information.

| Parameter | Material |
|--------------|---|
| Lead frame | CuCrSiTi (Cu alloy according to C18070) |
| Lead plating | Sn |

TLE55493iCD is delivered in blister packing.

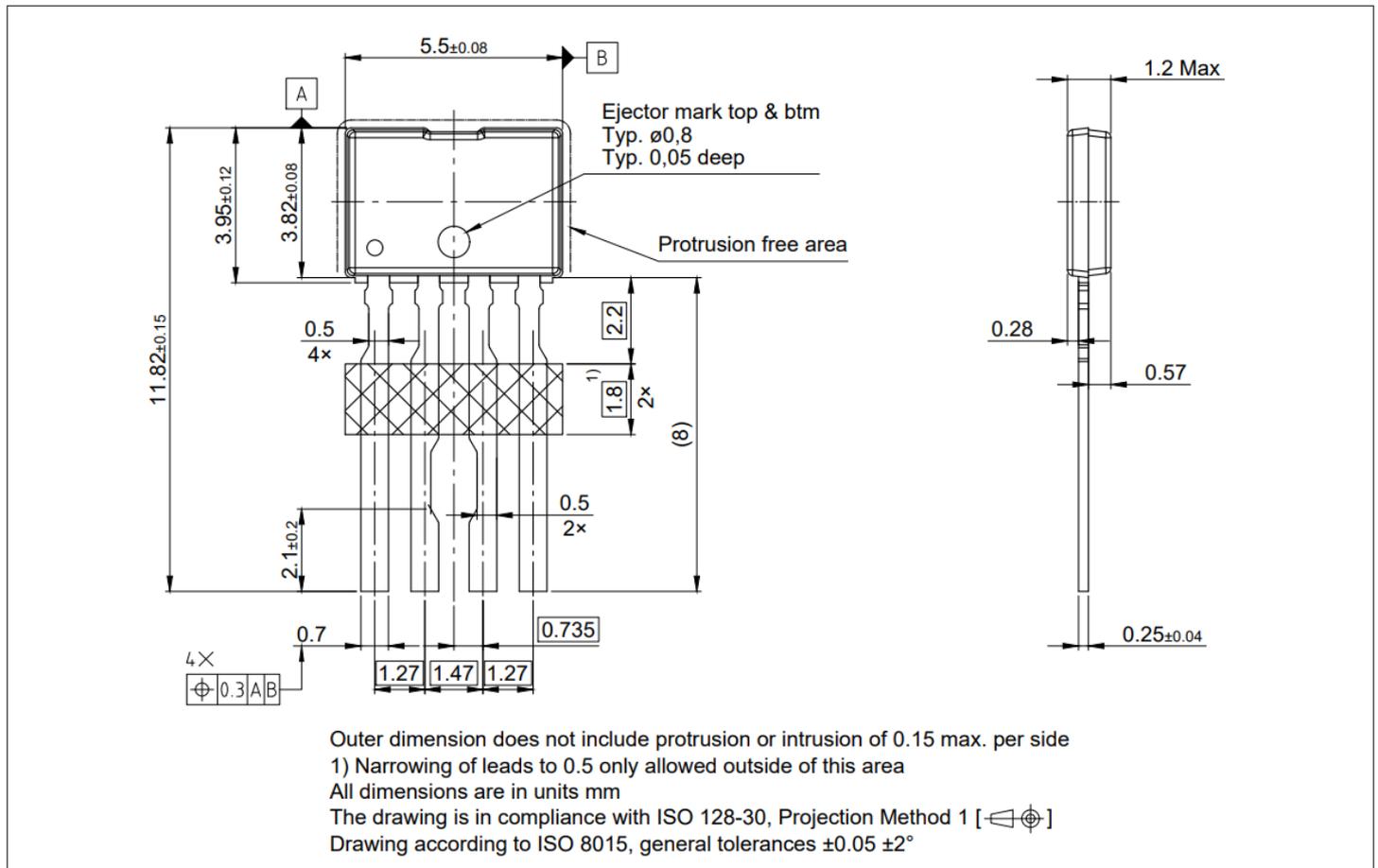


Figure 1 PG-SSO-4-52 package outline

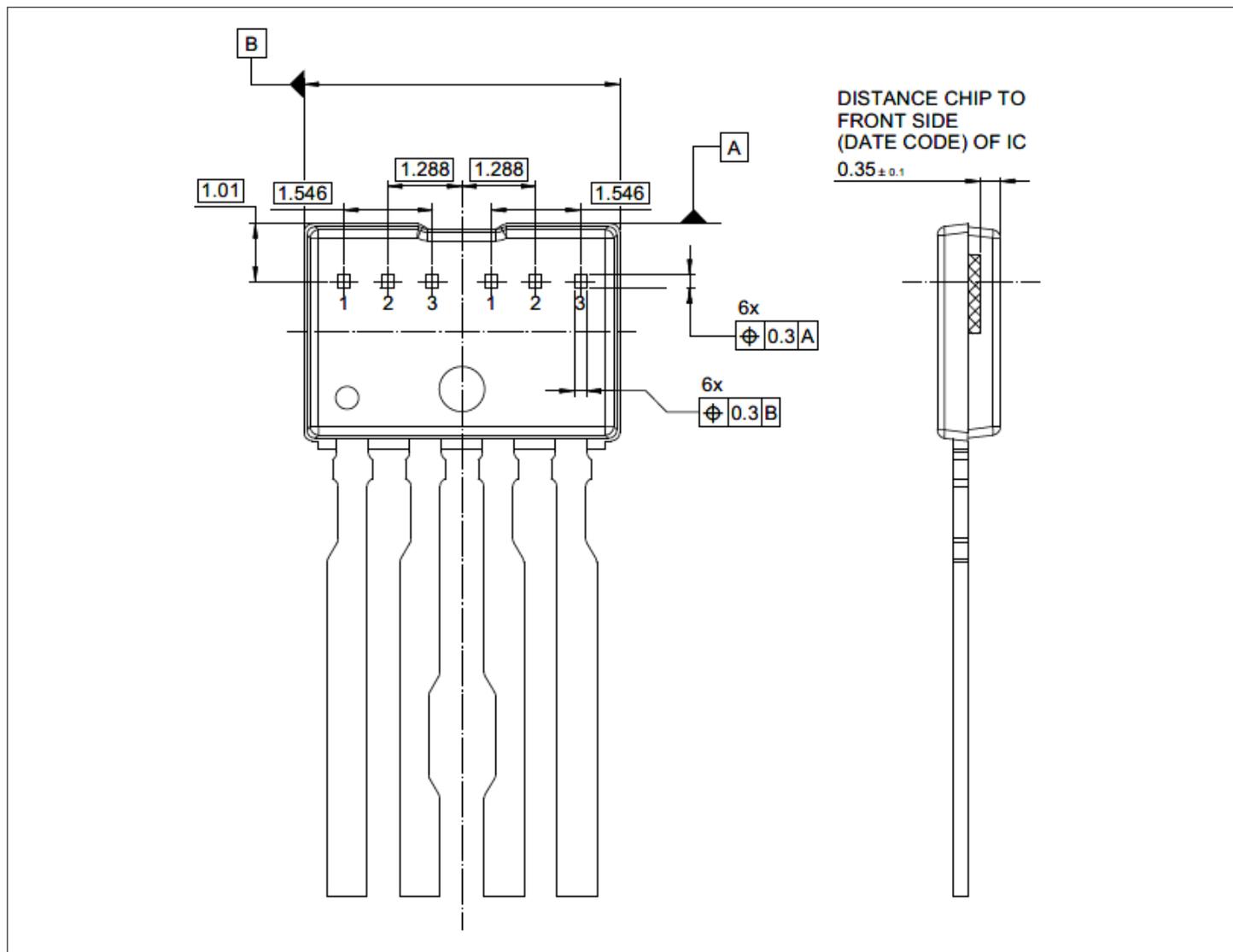


Figure 2 PG-SSO-4-52 package sensing element location

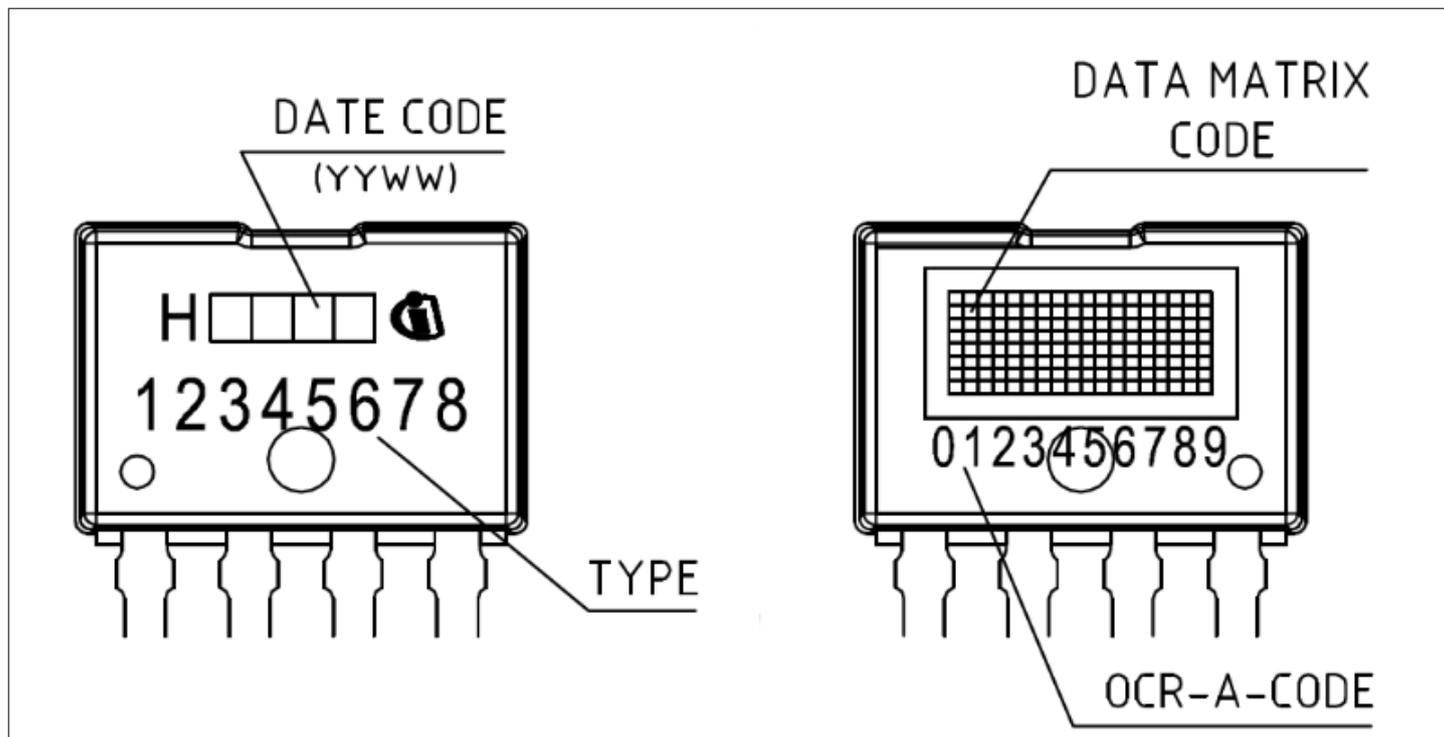


Figure 3 PG-SSO-4-52 package marking on front (left) and rear side (right)

4 Revision history

Table 2 Revision History

| Date | Version | Change Description |
|-------------|----------------|--------------------------------|
| 2025-12-02 | 1.00 | Initial data sheet |
| 2025-12-09 | 1.01 | Editorial change on first page |
| 2026-01-14 | 1.02 | Classification set to "public" |

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