

XENSIV™ TMR wheel speed sensor for magnetic encoder application

Features

- High spatial resolution: up to 4 output protocols per magnetic period
- Valid and correct direction on first output protocol
- Enhanced digital algorithm ensuring correct protocols even under mechanical vibrations
- Advanced stop-start capabilities including no loss of direction information
- Differential concept for robustness against external magnetic disturbance
- 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 and electronic parking brake with high resolution
- Autonomous parking with high resolution

Product validation

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



Description

The TLE55493iC is a wheel speed sensor featuring fast direction detection, designed for sophisticated vehicle control systems and autonomous parking applications.

The rotational speed is sensed with high accuracy for best-in-class jitter performance, enabling the sensor to be used as a component of indirect tire pressure monitoring systems (iTPTS). It is based on linearized TMR, providing a wide linear range and operating area. Thanks to the differential sensing principle, excellent robustness against external homogeneous magnetic field disturbances is achieved to address new requirements driven by electrification. High sensitivity to magnetic field is specified over a wide temperature range to support a larger operating area. To meet harsh automotive requirements, robustness to electrostatic discharge (ESD) and electromagnetic compatibility (EMC) has been maximized without the need for additional external components.

Note

This document is an addendum to the TLE55493iC datasheet(s), which extends the scope by including an additional package variant, as herein described.

For all parameters not specified within this document, please consult the latest valid datasheet for the respective product variant.

Ordering information

Name	Marking	Ordering Code	Package
TLE55493iC-1-LR	493X6A	SP006067486	PG-SSO-2-53
TLE55493iC-1-PW2-50	493X6E	SP006067476	PG-SSO-2-53
TLE55493iC-1-LR-4H	493X6B	SP006067481	PG-SSO-2-53

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1 Package

1 Package

The sensor is packaged in a PG-SSO-2-53 package.

The product is RoHS compliant (restriction of hazardous substances directive).

By following the 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 refer to your key account team or regional sales if you need further information.

Table 1 Package Parameters

Parameter	Material
Lead Frame	CuSn1CrNiTi (K62 UNS:C18090)
Lead Plating	Sn

The product is delivered in ammo pack.

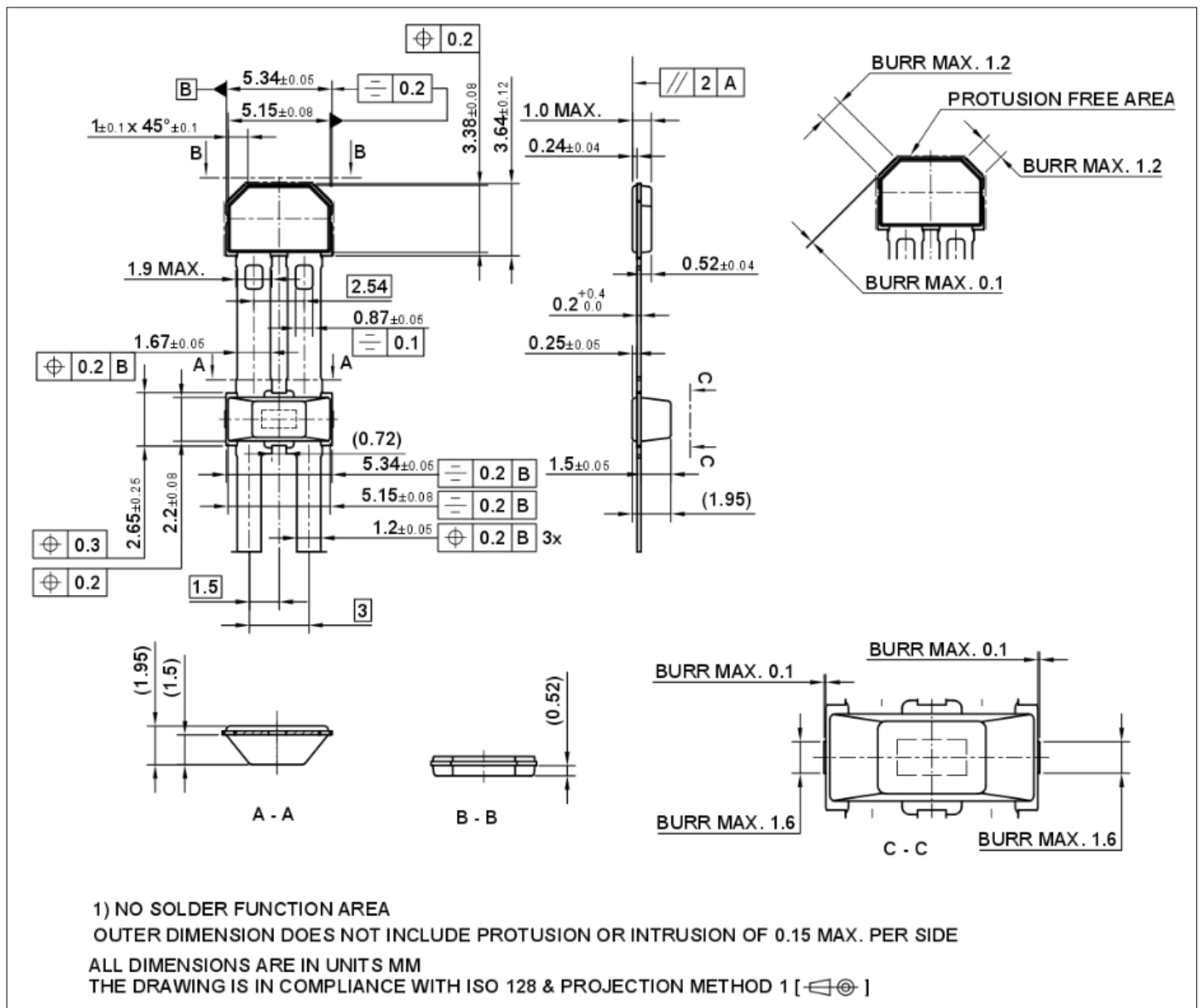


Figure 1 PG-SSO-2-53 package outline detail

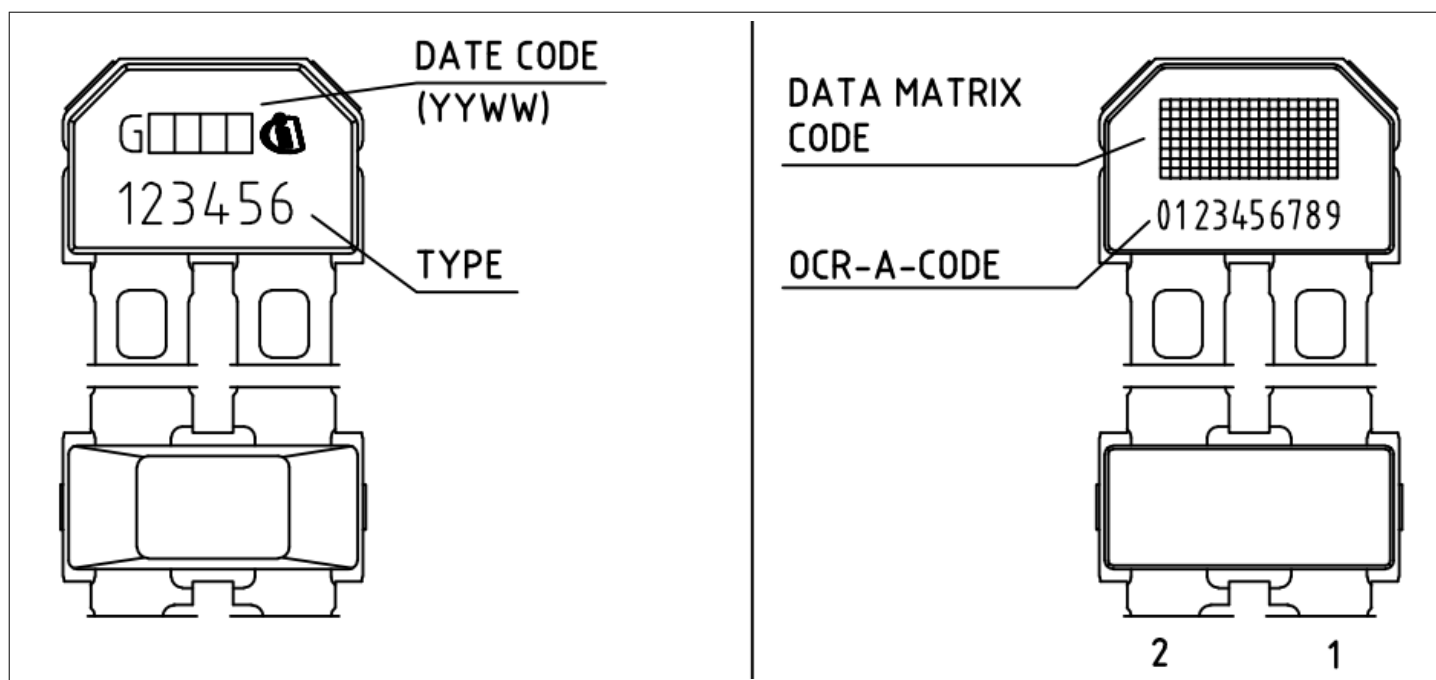


Figure 3 PG-SSO-2-53 marking (Front side on the left; Rear side on the right)

2 Revision history

Table 2 Revision History

Date	Version	Change Description
2025-10-07	1.00	Initial release
2026-03-19	1.01	First public release

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