Data Sheet Supplement
Version 1.0

Dynamic Differential Hall Effect Sensor TLE4924C-2 E6547

For all parameters not specified in this document the TLE4926C-HT E6547 data sheet is valid.



Type	Marking	Ordering Code	Package
TLE4924C-2 E6547	24D82	SP000718250	PG-SSO-3-92

1. Absolute Maximum Ratings

Parameter	Symbol	min.	typ.	max.	Unit	Conditions
Junction temperature	T_j	-40			°C	-
				155	°C	2000 h (not additive)
				165	°C	1000 h (not additive)
				175	°C	168 h (not additive)
				195	°C	3x1 h (additive to the other life times).

2. Operating Range

Operating junction temperature	T_j	-40			°C	-
				155	°C	2000 h (not additive)
				165	°C	1000 h (not additive)
				175	°C	168 h (not additive) reduced signal quality permittable (e.g. jitter).

3. AC/DC characteristics in Running Mode

Over operating range, unless otherwise specified. Typical values correspond to V_S=12V and T_A=25°C

delay time	t_d	7	12.5	18	µs	Only valid for Tj=25°C.
Falling edge				20[1]	µs	Tj=-40°C -Tj=175°C
Rising edge				25[2]		Tj=-40°C -Tj=175°C
						Higher magnetic slopes and overshoots reduce t_d, because the signal is filtered internal.[3]

[1] only valid for the falling edge.
[2] Not subject to production test-verified by design/characterisation
[3] measured with a sinusoidal-field with 10mTpp and a frequency of 1kHz.

4. Magnetic Characteristics in Running Mode

Minimum signal amplitude	$\lvert\Delta B_{min}\rvert$	0.35	0.75	1.35	mT	

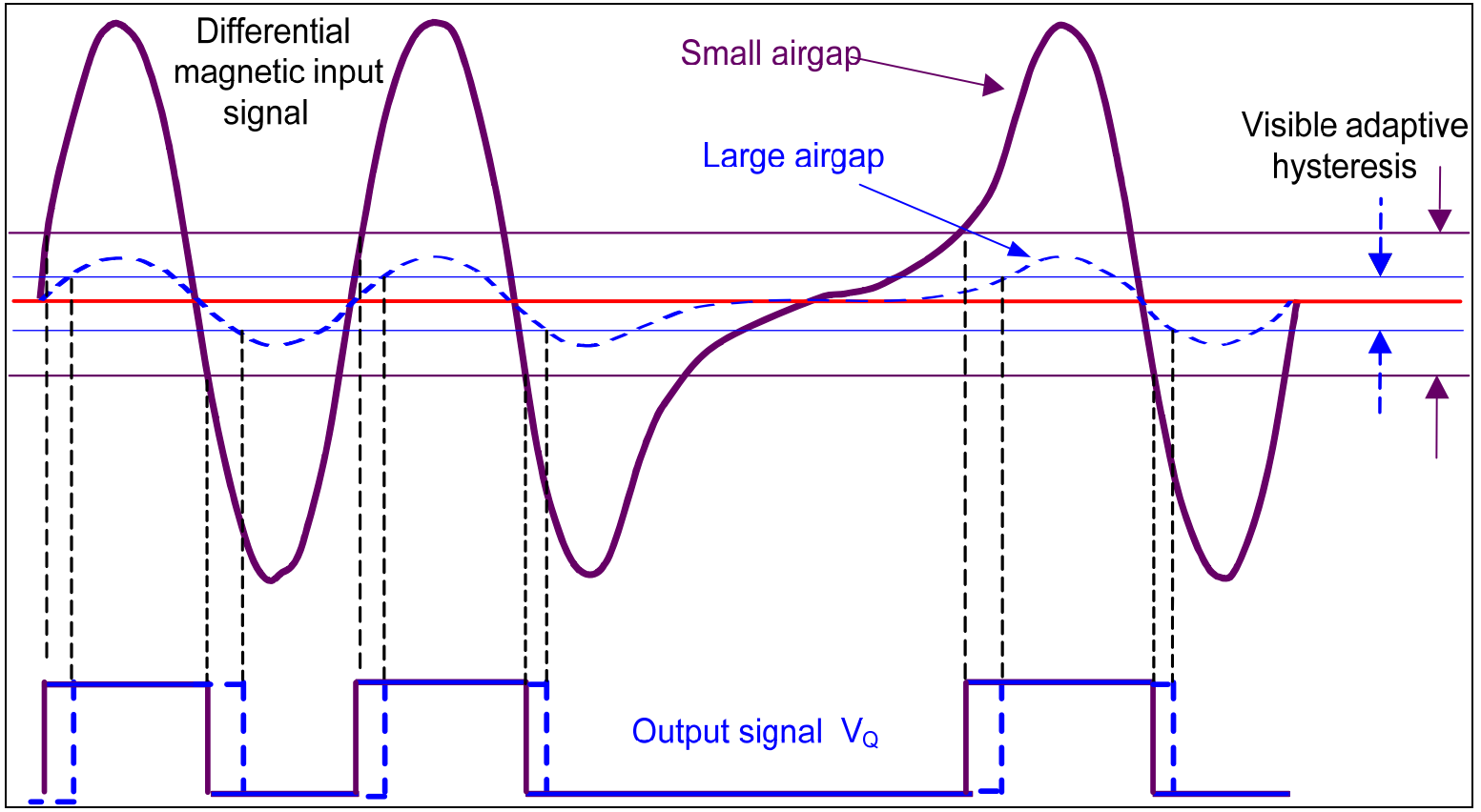


Figure 1 System operation with visible adaptive hysteresis

5. Typical Hysteresis Values

PGA	GainRange	Hysteresis (peak to peak)	FullRange =MaxSignal	Percentage thresholds
X1	6	10.6 mT	± 120 mT	4.42 %
X2	5	8.0 mT	± 60 mT	6.67 %
X4	4	5.5 mT	± 30 mT	9.17 %
X8	3	3.8 mT	± 15 mT	12.67 %
X16	2	2.6 mT	± 7.5 mT	17.33 %
X32	1	1.8 mT	± 3.75 mT	24 %
X64	0	1.3 mT	± 1.875 mT	34.67 %

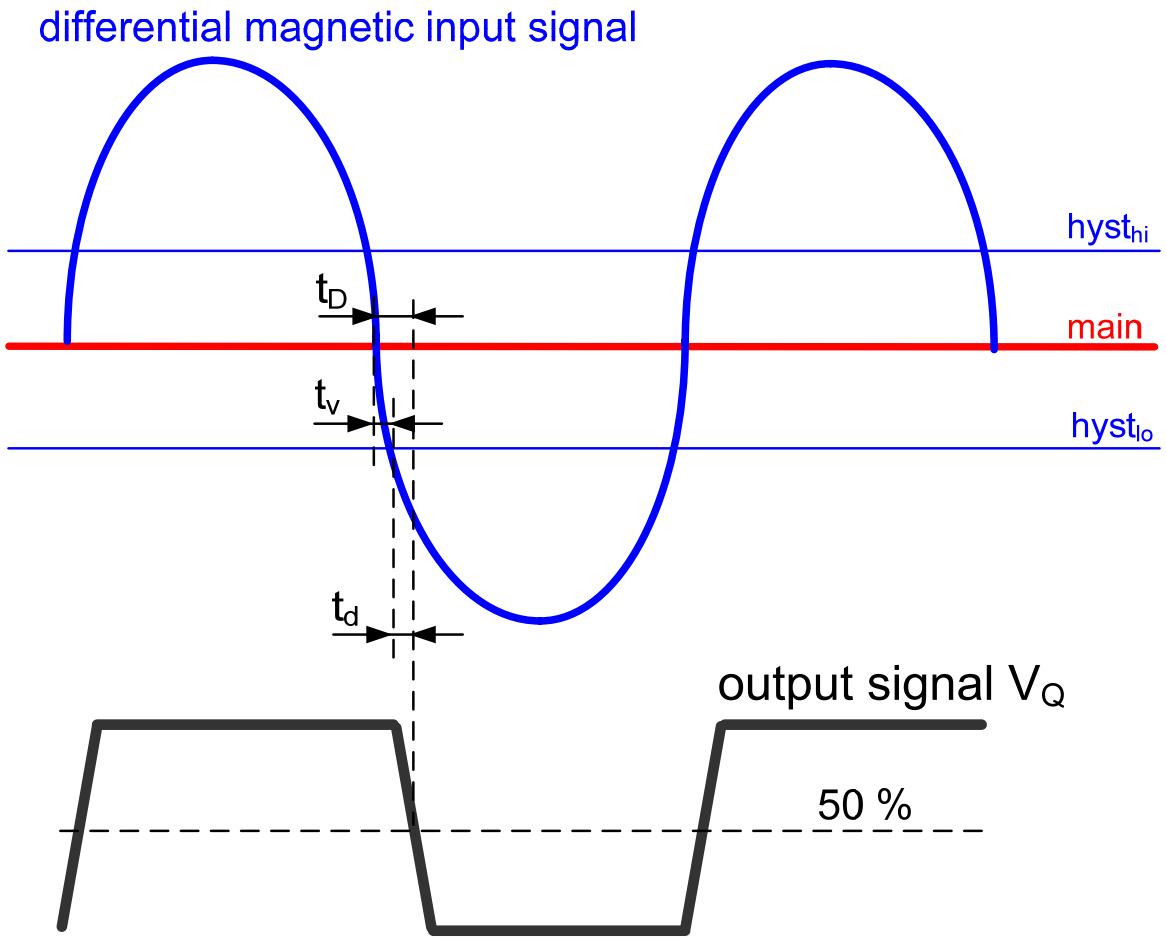


Figure 2 Delay time definitions

$t_D = t_v + t_d$

t_D = Delay defined from $diff_B$ = 0 to 50 % of output edge
t_d = Delay on signal path
t_v = Systematic delay because of visible hysteresis concept

t_v is a function of the magnetic signal amplitude and frequency

Revision History: **November 2009** Version 1.0

Previous Version: -	
Page	Subjects (major changes since last revision)
-	-

Infineon Technologies AG
© Infineon Technologies AIM SC
All Rights Reserved.

http://www.infineon.com/products/sensors

We Listen to Your Comments

Any information within this document that you feel is wrong, unclear or missing at all? Your feedback will help us to continuously improve the quality of this document. Please send your proposal (including a reference to this document) to:

Sensors@infineon.com

