



**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		155	°C	-
				165	°C	2000 h (not additive)
				175	°C	1000 h (not additive)
				195	°C	168 h (not additive) 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 permissible (e.g. jitter).

## 3. AC/DC characteristics in Running Mode

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

delay time	$t_d$	7	12.5	18	$\mu s$	Only valid for $T_j=25^\circ C$ . $T_j=-40^\circ C - T_j=175^\circ C$ $T_j=-40^\circ C - T_j=175^\circ C$ Higher magnetic slopes and overshoots reduce $t_d$ , because the signal is filtered internal. <sup>3</sup>
Falling edge				20 <sup>1</sup>	$\mu s$	
Rising edge				25 <sup>2</sup>		

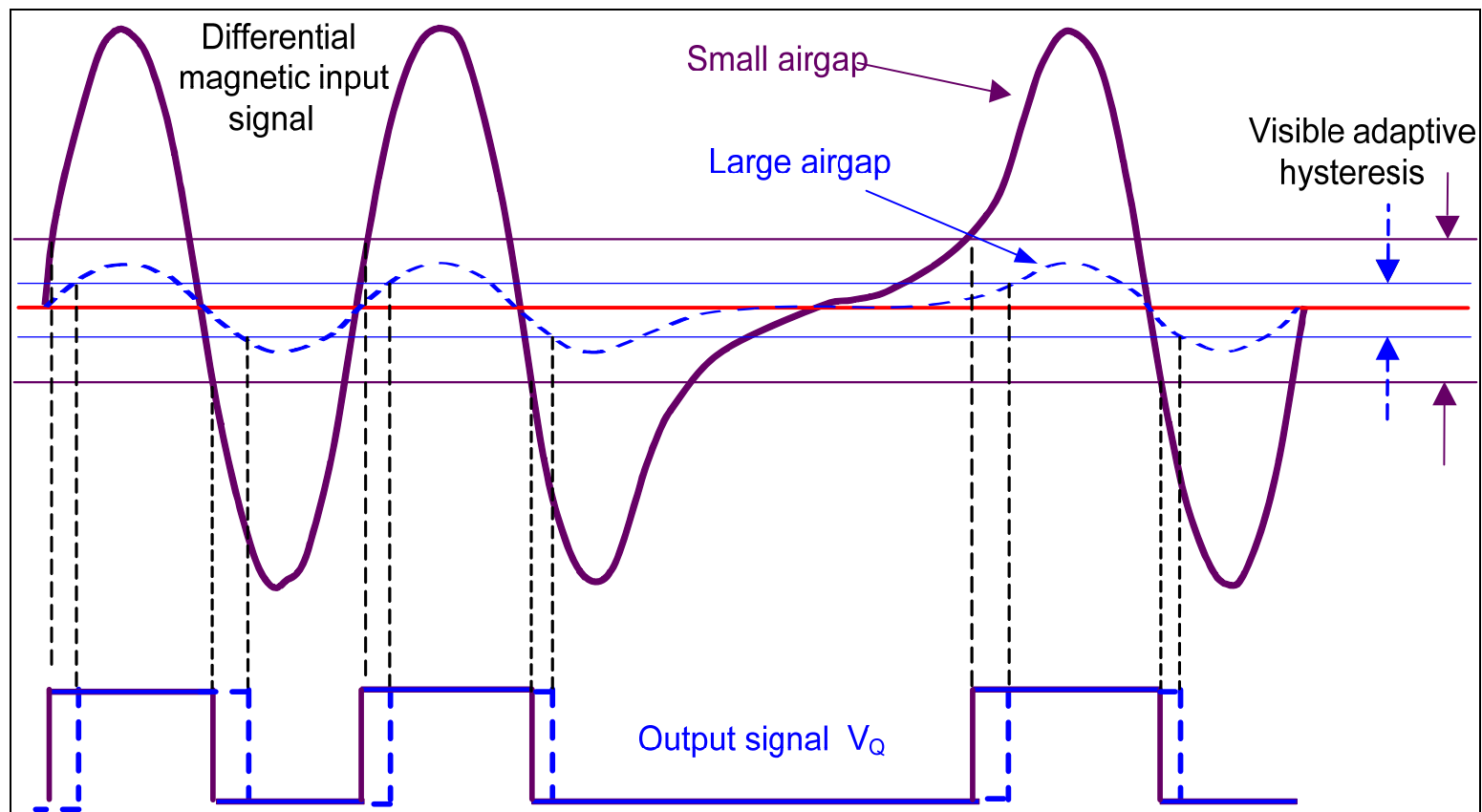
<sup>1</sup> only valid for the falling edge.

<sup>2</sup> Not subject to production test-verified by design/characterisation

<sup>3</sup> measured with a sinusoidal-field with 10mTpp and a frequency of 1kHz.

**4. Magnetic Characteristics** in Running Mode

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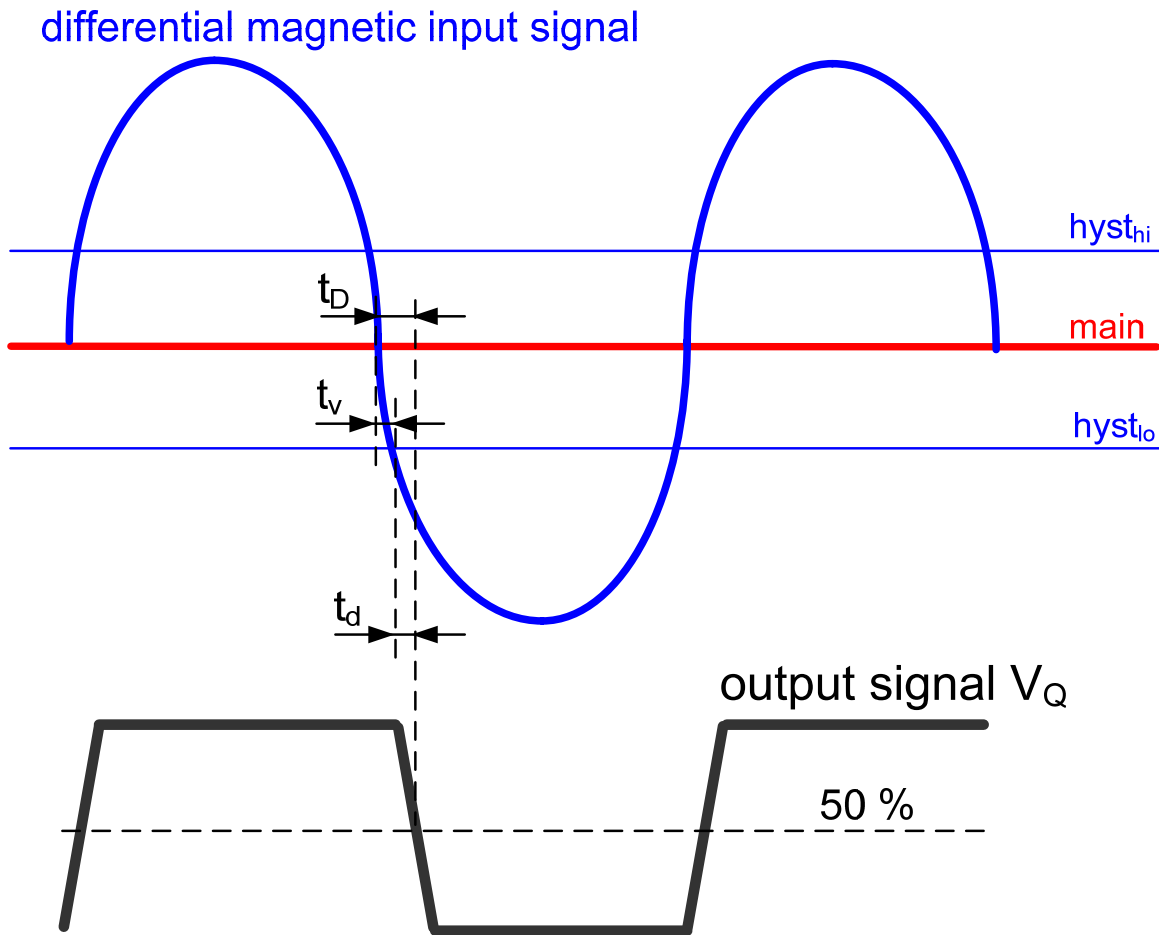


**Figure 1** System operation with visible adaptive hysteresis



## 5. Typical Hysteresis Values

<b>PGA</b>	<b>GainRange</b>	<b>Hysteresis (peak to peak)</b>	<b>FullRange =MaxSignal</b>	<b>Percentage thresholds</b>
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  $\text{diff}_B = 0$  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)
-	-

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