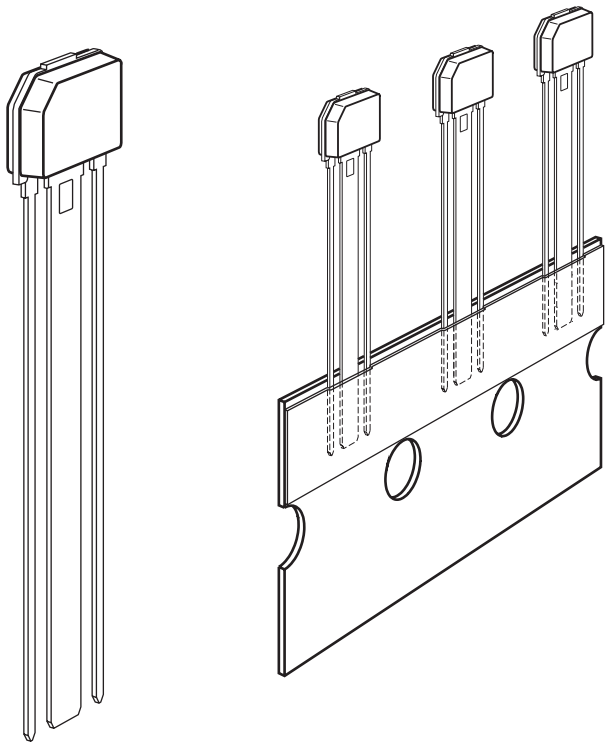
Data Sheet Supplement
Version 1.0

Dynamic Differential Hall Effect Sensor TLE4928

For all parameters not specified in this document the TLE4926C-HT E6947 data sheet is valid.



PG-SSO-3-6

Type	Marking	Ordering Code	Package
TLE4928	28	SP000700818	PG-SSO-3-6

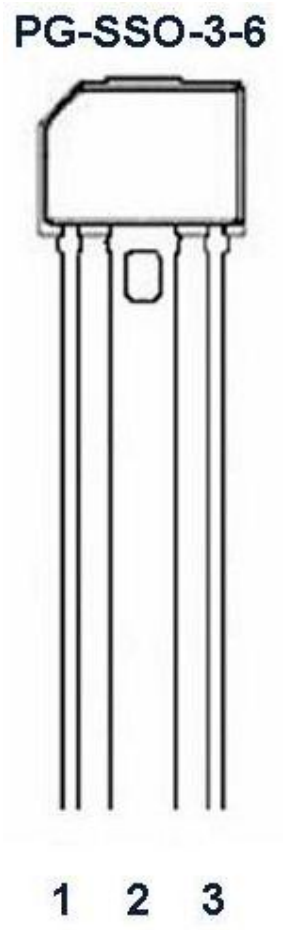


Figure 1: Pin configuration in PG-SSO-3-6

Pin definition and Function

Pin No.	Symbol	Function
1	V_S	Supply Voltage
2	GND	Ground
3	Q	Open Drain Output

1.1 Absolute Maximum Ratings

No.	Parameter	Symbol	min.	typ.	max.	Unit	Conditions
1.1.1	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).
1.1.2	Thermal resistance junction-air for PG-SSO-3-6	$R_{th\ JA}$			190	K/W	Lower values are possible with overmoulded devices.

1.2 ESD Protection

No.	Parameter	Symbol		max	Unit	Remarks
1.2.1	ESD – protection PG-SSO-3-6	V_{ESD}		± 6	kV	According to standard EIA/JESD22-A114-B Human Body Model (HBM 1500 Ohm/100pF)

1.3 Operating Range

No.	Parameter	Symbol	min.	typ.	max.	Unit	Conditions
1.3.1	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).
1.3.2	Power on time	t_{on}			1	ms	Time to achieve specified accuracy After power on the output of the IC is always in high-state. After internal resets output is locked[1].

[1] Output of the IC is locked in present state (high-state or low-state) after an internal reset is launched. This reset happens typically every 195ms when there is no output switching in either case. See also 1.4.4. A voltage reset causes a release of the output and output is in high state after power on again.

1.4 AC/DC Characteristics

No.	Parameter	Symbol	min	typ	max	Unit	Remarks
1.4.1	Output rise time	t_r[2]	4	12	20	µs	V_{Load} = 4.5 to 24V R_{Load} = 1.2kΩ; C_{Load} = 4.7nF external capacitor
1.4.2	Output fall time	t_f[3]	0.5 0.65	0.9 1.15	1.3 1.65	µs µs	V_{Load} = 5V V_{Load} = 12V R_{Load} = 1.2kΩ; C_{Load} = 4.7nF external capacitor
1.4.3	Frequency range[4]	f	0.006		8	kHz	Operation below 6Hz[5]
1.4.4	Offset recalibration time after last output change[4]	t_{reset}	165	195	225	ms	Valid for calibrated mode Output locked to state before recalibration

[2] The rise time is defined as the time between the 10 and 90% value.
[3] The fall time is defined as the time between the 10 and 90% value.
[4] Not part of production testing, verified by design and characterisation
[5] Output will switch if magnetic signal is changing more that $2x|\Delta B_{min}|$ within offset recalibration time even below 6Hz once per magnetic edge, increased phase error is possible.

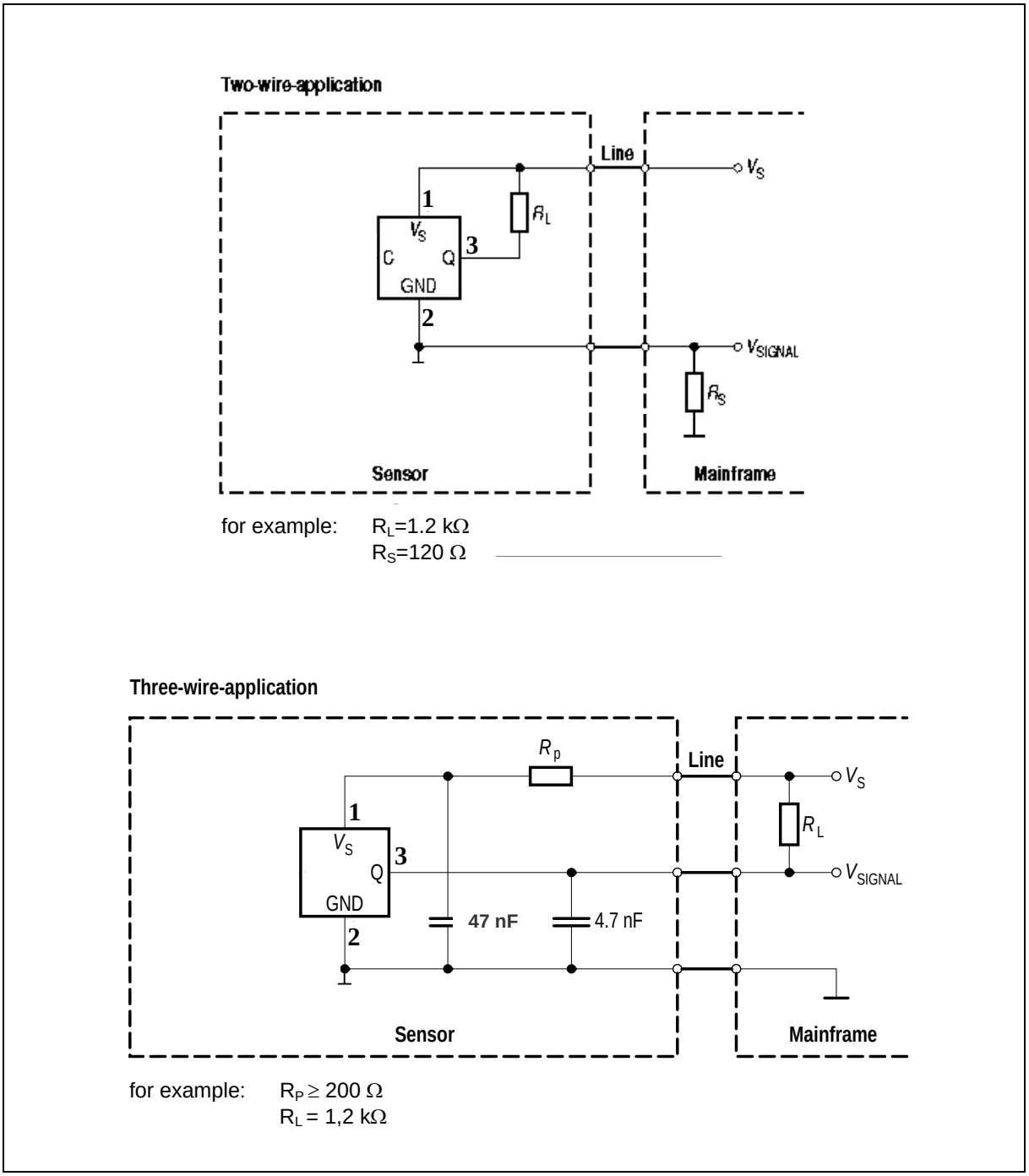


Figure 2: Application Circuits (capacitors to be added externally)

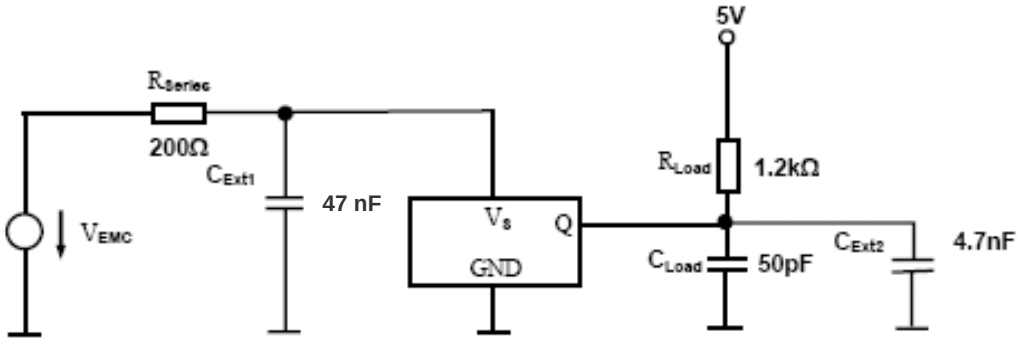
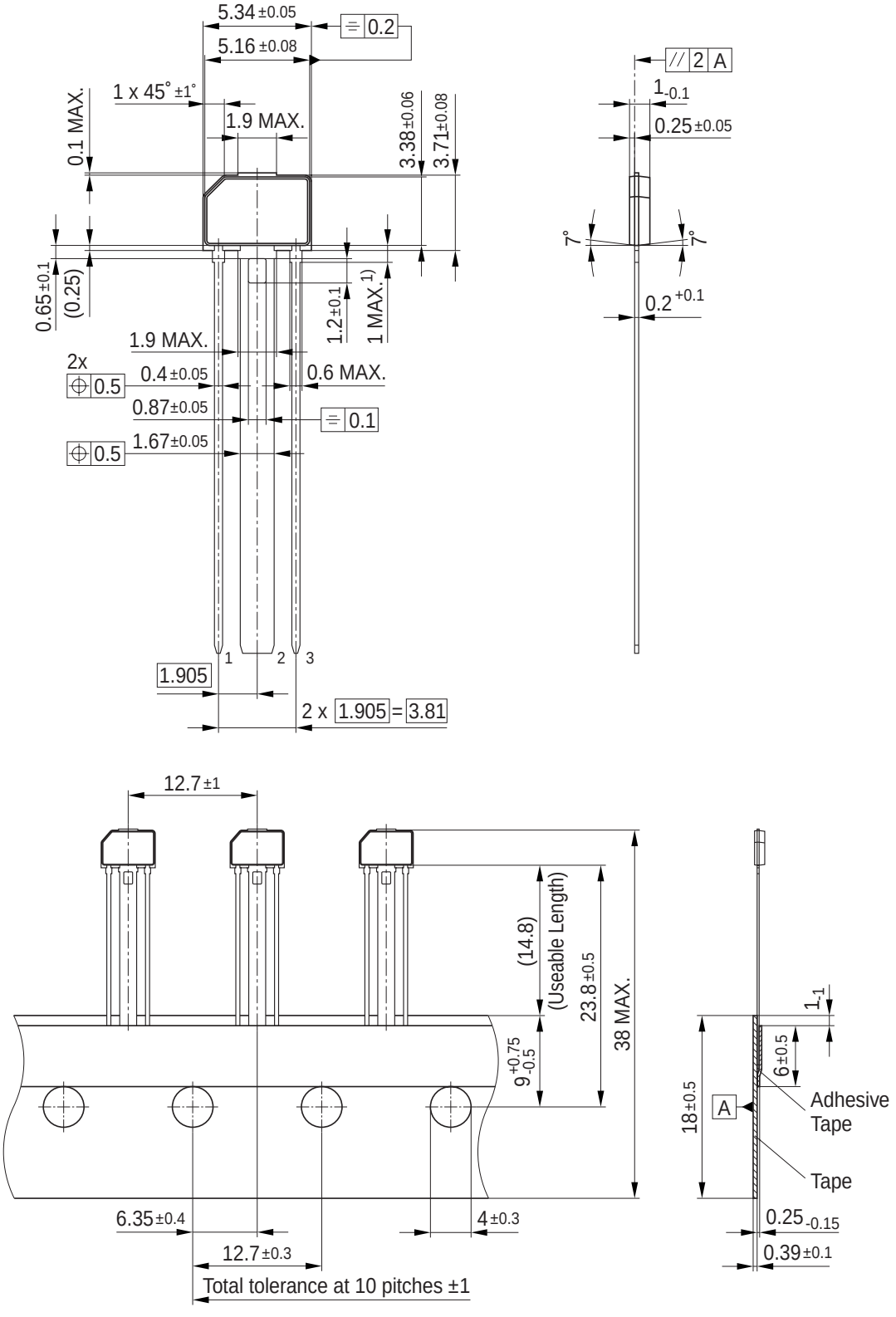


Figure 3: Test Circuit for EMC tests



1) No solder function area

GPO05960

Figure 4: PG-SSO-3-6 package drawing

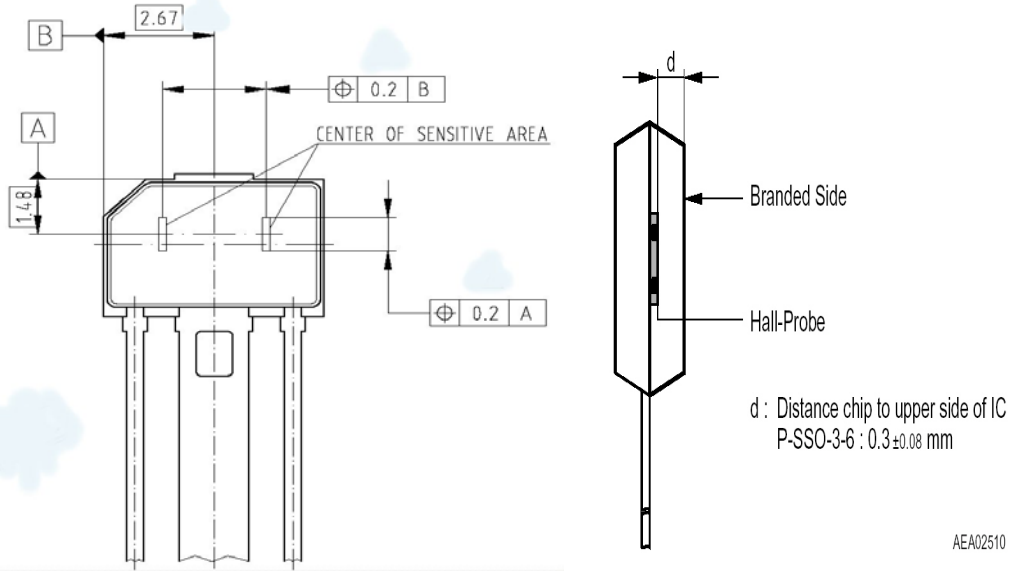


Figure 5: Hall probe spacing in the PG-SSO-3-6 package

Revision History: **November 2009** Version 1.0

Previous Version: 0.9	
Page	Subjects (major changes since last revision)
-	Change to Final Data Sheet

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