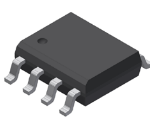
ACS37630

Linear Vertical Hall-Effect Sensor IC for U-Core Current Sensing with High-Bandwidth (250 kHz) and Analog Output

FEATURES AND BENEFITS

- Vertical Hall technology for sensing parallel to package surface, ideal for U-core applications
- Contactless, noninvasive current sensing
- Eliminates the need for C-cores for easy assembly
- Suited for applications where current flows through a busbar or printed circuit board (PCB)
- Factory-programmed temperature compensation (TC) provides low thermal drift
  - Sensitivity ±0.7% (typical)
  - Offset ±5 mV (typical)
- Fast response time of 1.6 µs (typical)
- High operating bandwidth up to 250 kHz
- Low-bandwidth mode (50 kHz) for reduced output noise
- Wide sensitivity range factory-programmable from 1 mV/G to 8.8 mV/G (10 mV/mT to 88 mV/mT)
- Wide measurement range up to 2000 G (200 mT)
- Analog ratiometric output
- Wide ambient operating temperature: –40°C to 150°C
- Monolithic Hall integrated circuit (IC) for high reliability
- Surface-mount, small-footprint, low-profile, 8-pin small-outline integrated circuit (SOIC8) package
- AEC-Q100 Grade 0, automotive qualified

PACKAGE: 8-Pin SOIC (Suffix OL)



OL Package

DESCRIPTION

The ACS37630 is a contactless current sensor designed for applications where current flows through a busbar or PCB. When used with a U-core concentrator (Figure 1), high immunity to stray fields can be achieved, as well as simplified mechanical assembly relative to a traditional C-core current sensor. For high-frequency applications, laminated U-cores should be used.

The sensor uses the Allegro high-precision vertical Hall technology (VHT) to detect magnetic fields parallel to the package surface (Figure 2), while maintaining a monolithic die for high robustness in harsh automotive environments.

The ACS37630 is factory-trimmed over temperature. Sensitivity, offset, bandwidth (250 kHz or 50 kHz), output-voltage clamping, and reaction of the sensor to overvoltage and undervoltage events are configurable. If end-of-line offset and/or sensitivity trimming is required, contact an Allegro representative for guidance.

TYPICAL APPLICATIONS

- High-voltage traction motor inverter for extended electric vehicles (xEVs)
- 48 V/12 V auxiliary inverter
- Power-distribution unit (PDU)
- Battery-disconnect unit (BDU)
- Heterogeneous redundant battery monitoring
- Smart-fuse applications
- Green energy
- Power supply

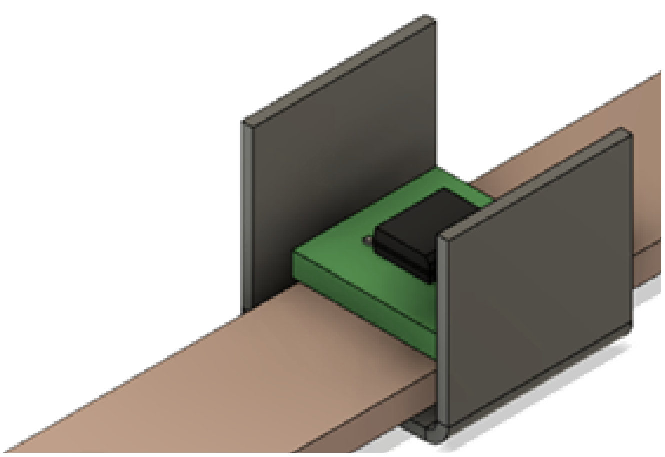


Figure 1: U-Core Application Schematic

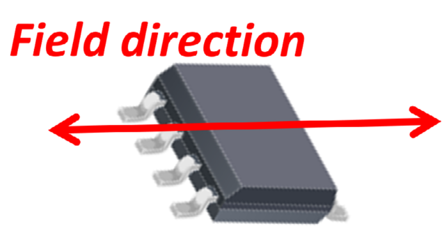


Figure 2: Sensed Field Direction

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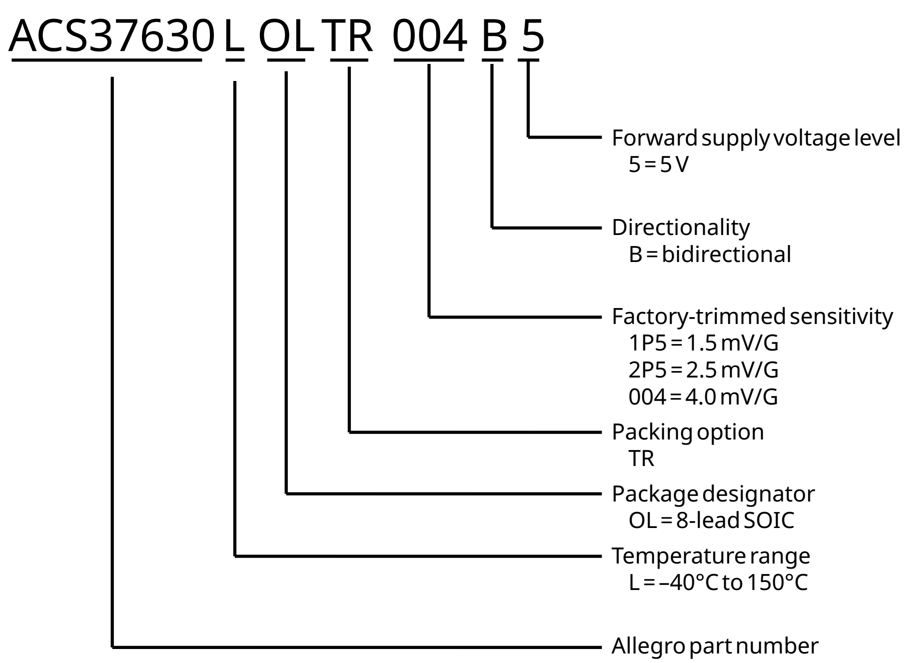
SELECTION GUIDE

Part Number	Factory-Programmed Sensitivity (mV/G)	Magnetic Field Range (G)	T_A (°C)	Package	Packing
ACS37630LOLTR-1P5B5	1.5	±1333	–40 to 150	8-Pin OL SOIC	4000 pieces per 13-inch reel
ACS37630LOLTR-2P5B5	2.5	±800			
ACS37630LOLTR-004B5	4.0	±500			



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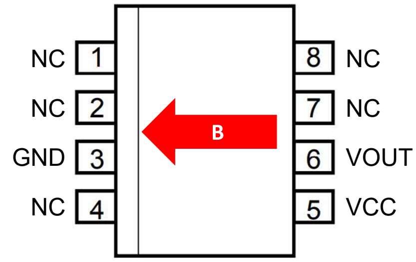
PINOUT DIAGRAM AND TABLE



Magnetic field in the direction of the red arrow causes V_{OUT} to increase.

Figure 3: Pinout Diagram and Magnetic Field Direction

Table 1: ACS37630 Pinout

Number	Name	Function
1,2,4,7,8	NC	Inactive pins, short to GND
3	GND	Ground
5	VCC	Supply voltage
6	VOUT	Analog output signal

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FUNCTIONAL BLOCK DIAGRAM

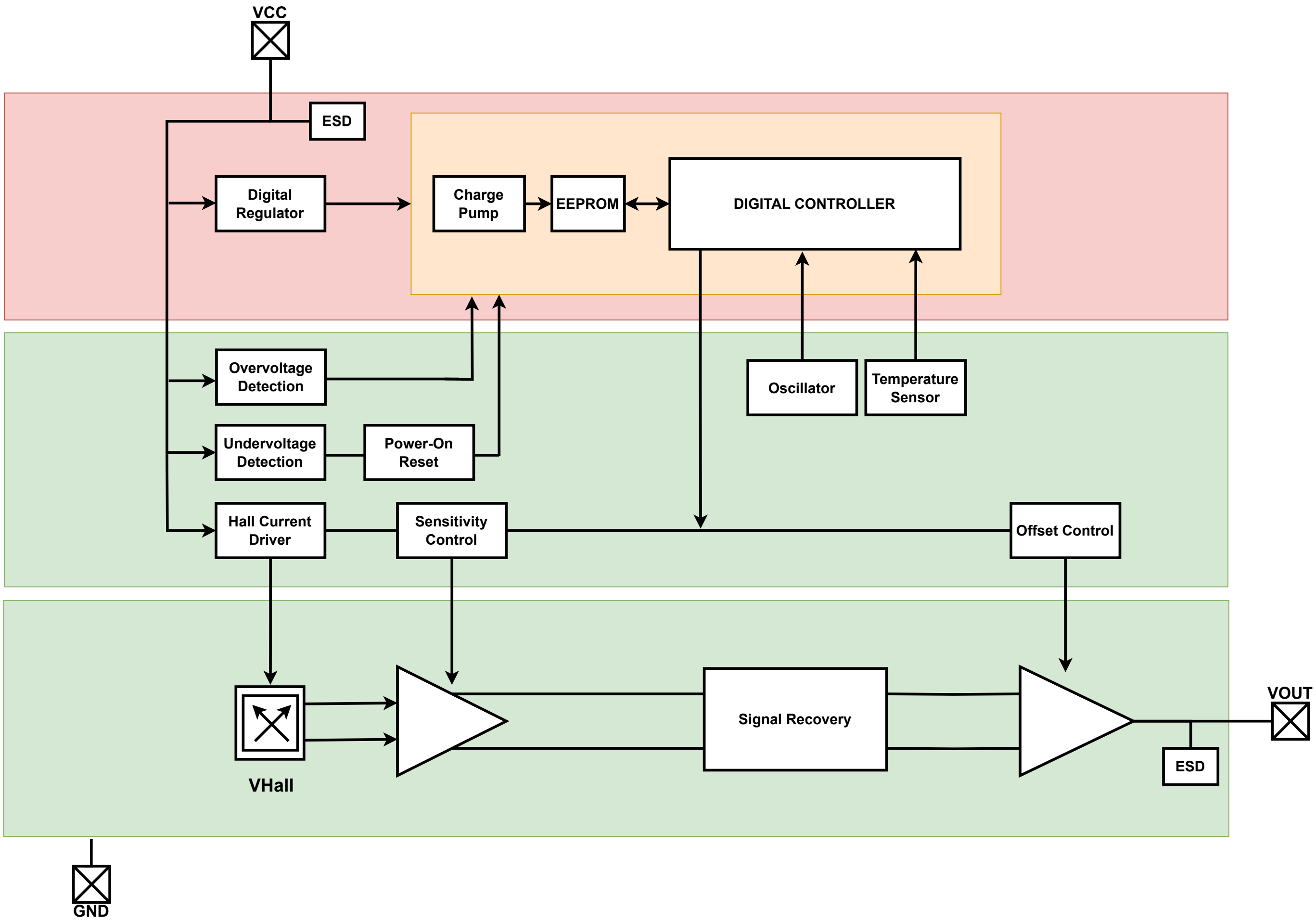

Figure 4: Functional Block Diagram

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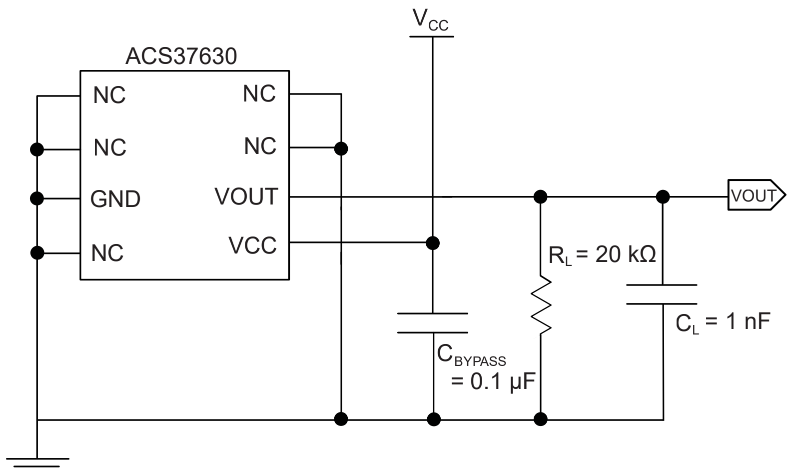
TYPICAL APPLICATION CIRCUIT



NC pins must be shorted to GND.

Figure 5: ACS37630 Typical Application Circuit

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Notes	Rating	Unit
Forward Supply Voltage	V_{CC}	For a maximum duration of 1 minute	6.5	V
Reverse Supply Voltage	V_{RCC}	$T_{J(max)}$ should not be exceeded	–0.5	V
Forward Output Voltage	V_{OUT}		6.5	V
Reverse Output Voltage	V_{ROUT}		–0.5	V
Output Current	I_{OUT}	Maximum survivable sink or source current on the output	±10	mA
Operating Ambient Temperature	T_A	L temperature range	–40 to 150	°C
Storage Temperature	T_{stg}		–65 to 165	°C
Maximum Junction Temperature	$T_{J(max)}$		165	°C

ESD RATINGS

Characteristic	Symbol	Test Conditions	Value	Unit
Human Body Model	V_{HBM}	Per JEDEC JS-001	±4	kV
Charged Device Model	V_{CDM}	Per JEDEC JS-002	±1	kV

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OPERATING CHARACTERISTICS: Valid over full operating temperature range of T_A, C_{BYPASS} = 0.1 µF, C_L = 1 nF, V_{CC} = 5 V, and bandwidth = 250 kHz, unless otherwise specified.

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
ELECTRICAL CHARACTERISTICS						
Supply Voltage	V_{CC}		4.5	5	5.5	V
Supply Current	I_{CC}	no load on output	–	7	8	mA
Power-On Reset Voltage	V_{PORH}	V_{CC} rising	2.6	2.75	2.9	V
	V_{PORL}	V_{CC} falling	2.4	2.55	2.7	V
Power-On Reset Hysteresis	$V_{HYS(POR)}$		0.2	–	–	V
Power-On Reset Release Time [1]	t_{PORR}	Time from V_{CC} > V_{UVLOD} until device enters mission mode with ratiometric output	–	125	–	µs
Overvoltage Detection (OVD)	V_{OVDE}	V_{CC} rising	–	6.25	–	V
	V_{OVDD}	V_{CC} falling	–	5.80	–	V
OVD Hysteresis	V_{OVHYS}		–	0.45	–	V
OVD Enable/Disable Delay Time [2]	t_{OVDE}	C_{BYPASS} open	–	65	–	µs
	t_{OVDD}	C_{BYPASS} open	–	1	–	µs
Undervoltage Lockout (UVLO)	V_{UVLOE}	V_{CC} falling	–	4	–	V
	V_{UVLOD}	V_{CC} rising	–	4.25	–	V
UVLO Hysteresis	$V_{HYS(UVLO)}$		0.2	–	–	V
UVLO Enable/Disable Delay Time [2]	t_{UVLOE}	C_{BYPASS} open	–	65	–	µs
	t_{UVLOD}	C_{BYPASS} open	–	1	–	µs
OUTPUT CHARACTERISTICS						
DC Output Resistance [2]	R_{OUT}		–	1	3	Ω
Output Load Resistance [2]	R_L	V_{OUT} to GND or V_{CC}	10	20	–	kΩ
Output Load Capacitance [2]	C_L	V_{OUT} to GND	–	1	10	nF
Output Voltage Saturation	$V_{SAT(HIGH)}$	T_A = 25°C, R_L = 10 kΩ, clamps disabled	V_{CC} – 0.2	–	–	V
	$V_{SAT(LOW)}$	T_A = 25°C, R_L = 10 kΩ, clamps disabled	–	–	0.2	V
Output Full-Scale Range	$V_{OUT(FSR)}$	Range over which errors are specified	10	–	90	%VCC
Internal Bandwidth (Factory Programmable) [2]	BW_1	T_A = 25°C, –3dB	–	250	–	kHz
	BW_2	T_A = 25°C, –3dB	–	50	–	kHz
Propagation Delay Time [2][3]	t_{PD}	T_A = 25°C, 1 V step on output, BWi = 250 kHz	–	1	–	µs
		T_A = 25°C, 1 V step on output, BWi = 50 kHz	–	1.6	–	µs
Response Time [2][3]	$t_{RESPONSE}$	T_A = 25°C, 1 V step on output, BWi = 250 kHz	–	1.6	–	µs
		T_A = 25°C, 1 V step on output, BWi = 50 kHz	–	6.7	–	µs
Rise Time [2][3]	t_r	T_A = 25°C, 1 V step on output, BWi = 250 kHz	–	1.5	–	µs
		T_A = 25°C, 1 V step on output, BWi = 50 kHz	–	6	–	µs

[1] While V_{OUT} becomes ratiometric after t_{PORR}, the temperature compensation updates at a lower frequency. It might take up to an additional 45 µs for the output accuracy to be fully compensated and accurate within performance specifications.
[2] Limits guaranteed by design and characterization data, not tested in production.
[3] Timing specifications do not include effects external to the sensor. This value might depend on the busbar/PCB design. For application support, contact Allegro MicroSystems.

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-1P5B5 PERFORMANCE CHARACTERISTICS: Valid for the 1.5 mV/G sensitivity variant; valid over the full operating temperature range of T_A, V_{CC} = 5 V, unless otherwise specified; typical values in this table are 3-sigma.

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
NOISE						
Input-Referred Noise Density [1]	B_{ND}	T_A = 25°C	–	3.5	–	mG/ sqrt(Hz)
Output Noise [1]	V_N	Gain = 1.5 mV/G, BW = 250 kHz, T_A = 25°C	–	3.3	–	mV_{RMS}
		Gain = 1.5 mV/G, BW = 50 kHz, T_A = 25°C	–	1.5	–	mV_{RMS}
SENSITIVITY ERROR						
Factory-Programmed Sensitivity Error	E_{Sens}	T_A = 25°C, relative to target 4 mV/G	–1.2	±0.8	+1.2	%
Nonlinearity [2]	E_{LIN}	Within the output full-scale range	–0.1	±0.05	+0.1	%
Sensitivity Ratiometry Error	$E_{sens(R)}$	V_{CC} = ±5%	–0.6	±0.3	+0.6	%
Sensitivity Drift Over Temperature	$E_{sens(T)}$	–40°C ≤ T_A ≤ 150°C, relative to 25°C	–1.3	±0.7	+1.3	%
Sensitivity Drift Over Lifetime [3]	$E_{sens(L)}$	Worst case of T_A = –40°C, 25°C, and 150°C	–	±1.0	–	%
QUIESCENT VOLTAGE OUTPUT (QVO) ERROR						
Factory-Programmed QVO Error	V_{OE}	T_A = 25°C, relative to target 2.5 V	–4	±2	+4	mV
QVO Ratiometry Error	$V_{OE(rat)}$	V_{CC} = ±5%	–4	±2	+4	mV
QVO Drift Over Temperature	$V_{OE(T)}$	–40°C ≤ T_A ≤ 150°C, relative to 25°C	–4	±2	+4	mV
QVO Drift Over Lifetime [3]	$V_{OE(L)}$	Worst case of T_A = –40°C, 25°C, and 150°C	–	±1.0	–	mV

[1] Typical noise values are the average of bench testing on a limited number of samples, not tested in production.
[2] Limits validated by design and characterization data, not tested in production.
[3] Typical lifetime-drift values are the mean drift measured on a population of parts from 0 hours until the end of stress, including MSL2 preconditioning. These values are taken from the worst-case AEC-Q100 Grade 0 stress (HAST, TC, HTOL, UHST, or HTSL). For detailed statistical information about lifetime drift, contact an Allegro representative for an addendum document.

-2P5B5 PERFORMANCE CHARACTERISTICS: Valid for the 2.5 mV/G sensitivity variant; valid over the full operating temperature range of T_A, V_{CC} = 5 V, unless otherwise specified; typical values in this table are 3-sigma.

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
NOISE						
Input Referred Noise Density [1]	B_{ND}	T_A = 25°C	–	3.5	–	mG/ sqrt(Hz)
Output Noise [1]	V_N	Gain = 2.5 mV/G, BW = 250 kHz, T_A = 25°C	–	5.5	–	mV_{RMS}
		Gain = 2.5 mV/G, BW = 50 kHz, T_A = 25°C	–	2.5	–	mV_{RMS}
SENSITIVITY ERROR						
Factory-Programmed Sensitivity Error	E_{Sens}	T_A = 25°C, relative to target 4 mV/G	–1.2	±0.8	+1.2	%
Non-linearity [2]	E_{LIN}	Within the output full-scale range	–0.25	±0.15	+0.25	%
Sensitivity Ratiometry Error	$E_{sens(R)}$	V_{CC} = ±5%	–0.6	±0.3	+0.6	%
Sensitivity Drift Over Temperature	$E_{sens(T)}$	–40°C ≤ T_A ≤ 150°C, relative to 25°C	–1.3	±0.7	+1.3	%
Sensitivity Drift Over Lifetime [3]	$E_{sens(L)}$	Worst case of T_A = –40°C, 25°C, and 150°C	–	±1.0	–	%
QUIESCENT VOLTAGE OUTPUT (QVO) ERROR						
Factory-Programmed QVO Error	V_{OE}	T_A = 25°C, relative to target 2.5 V	–4	±2	+4	mV
QVO Ratiometry Error	$V_{OE(rat)}$	V_{CC} = ±5%	–4	±2	+4	mV
QVO Drift Over Temperature	$V_{OE(T)}$	–40°C ≤ T_A ≤ 150°C, relative to 25°C	–7	±2	+7	mV
QVO Drift Over Lifetime [3]	$V_{OE(L)}$	Worst case of T_A = –40°C, 25°C, and 150°C	–	±1.0	–	mV

[1] Typical noise values are the average of bench testing on a limited number of samples, not tested in production.
[2] Limits validated by design and characterization data, not tested in production.
[3] Typical lifetime-drift values are the mean drift measured on a population of parts from 0 hours until the end of stress, including MSL2 preconditioning. These values are taken from the worst-case AEC-Q100 Grade 0 stress (HAST, TC, HTOL, UHST, or HTSL). For detailed statistical information about lifetime drift, contact an Allegro representative for an addendum document.

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-004B5 PERFORMANCE CHARACTERISTICS: Valid for the 4 mV/G sensitivity variant; valid over the full operating temperature range of T_A, V_{CC} = 5 V, unless otherwise specified; typical values in this table are 3-sigma.

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
NOISE						
Input Referred Noise Density [1]	B_{ND}	T_A = 25°C	–	3.5	–	mG/ sqrt(Hz)
Output Noise [1]	V_N	Gain = 4 mV/G, BW = 250 kHz, T_A = 25°C	–	8.8	–	mV_{RMS}
		Gain = 4 mV/G, BW = 50 kHz, T_A = 25°C	–	3.9	–	mV_{RMS}
SENSITIVITY ERROR						
Factory-Programmed Sensitivity Error	E_{Sens}	T_A = 25°C, relative to target 4 mV/G	–1.2	±0.8	+1.2	%
Non-linearity [2]	E_{LIN}	Within the output full-scale range	–0.3	±0.15	+0.3	%
Sensitivity Ratiometry Error	$E_{sens(R)}$	V_{CC} = ±5%	–0.6	±0.3	+0.6	%
Sensitivity Drift over Temperature	$E_{sens(T)}$	–40°C ≤ T_A ≤ 150°C, relative to 25°C	–1.3	±0.7	+1.3	%
Sensitivity Drift over Lifetime [3]	$E_{sens(L)}$	Worst case of T_A = –40°C, 25°C, and 150°C	–	±1.0	–	%
QUIESCENT VOLTAGE OUTPUT (QVO) ERROR						
Factory-Programmed QVO Error	V_{OE}	T_A = 25°C, relative to target 2.5 V	–4	±2	+4	mV
QVO Ratiometry Error	$V_{OE(rat)}$	V_{CC} = ±5%	–7	±3	+7	mV
QVO Drift over Temperature	$V_{OE(T)}$	–40°C ≤ T_A ≤ 150°C, relative to 25°C	–10	±5	10	mV
QVO Drift over Lifetime [3]	$V_{OE(L)}$	Worst case of T_A = –40°C, 25°C, and 150°C	–	±1.0	–	mV

[1] Typical noise values are the average of bench testing on a limited number of samples, not tested in production.
[2] Limits validated by design and characterization data, not tested in production.
[3] Typical lifetime-drift values are the mean drift measured on a population of parts from 0 hours until the end of stress, including MSL2 preconditioning. These values are taken from the worst-case AEC-Q100 Grade 0 stress (HAST, TC, HTOL, UHST, or HTSL). For detailed statistical information about lifetime drift, contact an Allegro representative for an addendum document.

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DIAGNOSTICS

The ACS37630 has built-in diagnostics, as described in the Table 2.

Table 2: ACS37630 Built-In Diagnostics

<table>
<tr><th>Diagnostic</th><th>Effect on V_{OUT}</th><th>Notes</th></tr>
<tr><td>Overvoltage Detection</td><td>VOUT goes to the mode-dependent state described in the notes column to the right.
Additionally, a volatile-memory bit (OVD_FLAG) is flipped (latched), indicating that an overvoltage event has been detected. The OVD_FLAG bit can be queried and reset through the PROG pin.</td><td rowspan="2">Effect on VOUT (always the same for undervoltage and overvoltage) depends on the voltage detection mode:
• Mode 0 : Pull down to GND
• Mode 1: Pull up to VCC
• Mode 2: No effect on VOUT
• Mode 3 (default): High impedance (voltage on VOUT is pulled down to GND or pulled up to VCC, depending on application wiring)</td></tr>
<tr><td>Undervoltage Lockout</td><td>VOUT goes to the mode-dependent state described in the notes column to the right.</td></tr>
</table>

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FUNCTIONAL DESCRIPTION

Power-On Reset (POR)

When the device is off, the output is in a high-impedance state.

Power-On

When V_{CC} increases to V_{POR_H}, the power-on reset counter starts. The ACS37630 output voltage transitions from a high-impedance state to typical operation only when the power-on reset counter has reached t_{PORR} and V_{CC} has been maintained at greater than V_{POR_H}.

Overvoltage Detection (V_{OVD})

When V_{CC} increases to greater than the overvoltage detection enable voltage (V_{OVDE}), the ACS37630 output stage enters a state that depends on the voltage detection mode (see the Notes column in Table 2), after a delay time of t_{OVDE}. The ACS37630 output resumes typical operation after V_{CC} reduces to less than the overvoltage detection disable voltage, V_{OVDD}, after a delay time of t_{OVDD}.

Undervoltage Lockout (V_{UVLO})

When V_{CC} reduces to less than the undervoltage lockout enable voltage (V_{UVLOE}), the ACS37630 output stage enters a state that depends on the voltage detection mode (see the Notes column in Table 2), after a delay time of t_{UVLOE}. The ACS37630 output resumes typical operation after V_{CC} increases to greater than the undervoltage lockout disable voltage, V_{UVLOD}, after a delay time of t_{UVLOD}.

Power-Down

As V_{CC} ramps down, the device output is active until V_{CC} reduces to less than V_{PORL}. As V_{CC} reduces to less than V_{PORL}, the device output enters a high-impedance state.

Output Saturation Voltage (V_{SAT})

When output voltage clamps are disabled (default), the output voltage can swing to a maximum of $V_{SAT(HIGH)}$ and to a minimum of $V_{SAT(LOW)}$.

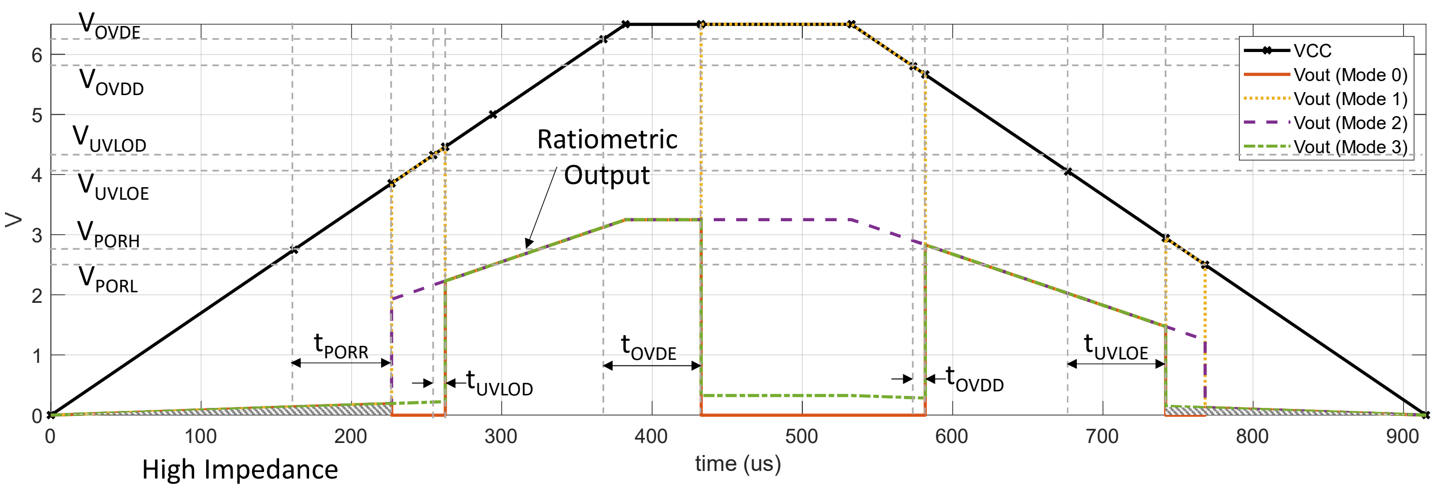

Figure 6: OVD and UVLO Behavior Depending on Factory-Programmed Voltage Detection Mode

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TIMING DEFINITIONS

Propagation Delay (t_{PD})

The time interval between a) when the applied magnetic field reaches 20% of its full-scale value, and b) when the sensor output reaches 20% of its full-scale value, as shown in Figure 7.

Rise Time (t_r)

The time interval between a) when the sensor reaches 10% of its full-scale value, and b) when the sensor reaches 90% of its full-scale value, as shown in Figure 7.

Response Time ($t_{RESPONSE}$)

The time interval between a) when the applied magnetic field reaches 90% of its final value, and b) when the sensor output reaches 90% of its full-scale value, as shown in Figure 8.

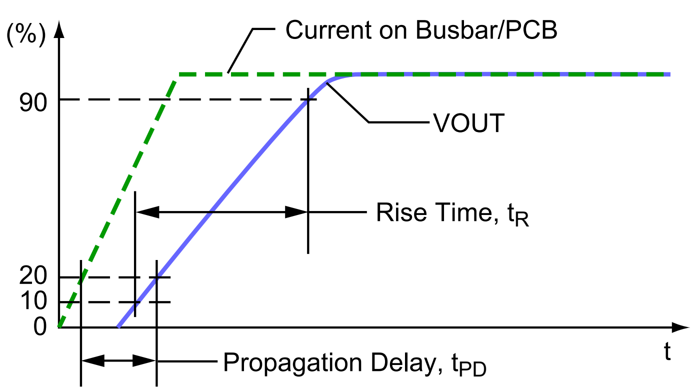

Figure 7: Propagation Delay and Rise Time

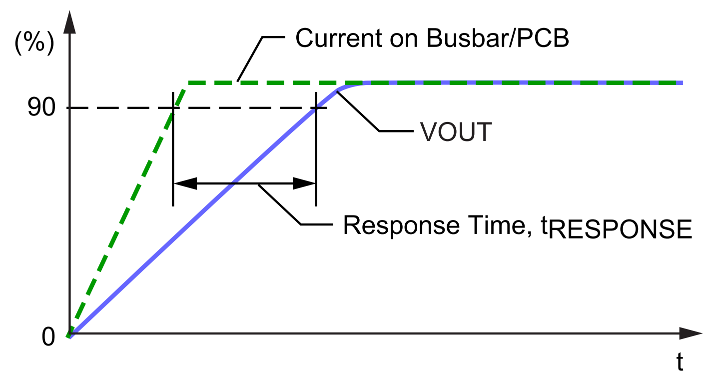

Figure 8: Response Time

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PERFORMANCE DEFINITIONS

Quiescent Voltage Output ($V_{OUT(Q)}$)

In the quiescent state (when a significant magnetic field is not present: B = 0 G), the output ($V_{OUT(Q)}$) has a constant ratio to the supply voltage (V_{CC}) throughout the entire operating ranges of V_{CC} and ambient temperature (T_A). The quiescent voltage output ($V_{OUT(Q)}$) has a nominal value of $V_{CC}/2$ with a V_{CC} of 5 V.

Quiescent Voltage Output Drift Over Temperature ($V_{OE(T)}$)

The quiescent voltage output ($V_{OUT(Q)}$) might drift from its nominal value through the operating ambient temperature (T_A). The quiescent voltage output drift over temperature ($V_{OE(T)}$) is defined as:

Equation 1:

$$V_{OE(T)} = V_{OUT(Q)(TA)} - V_{OUT(Q)(25°C)}$$

$V_{OE(T)}$ should be calculated using the measured value of $V_{OUT(Q)}$ at the current temperature and at 25°C.

Sensitivity (Sens) and Sensitivity Error ($Sens_{ERR}$)

The presence of a magnetic field (for polarity, see Figure 3) changes the output voltage from its quiescent value. The amount of the output voltage increase is proportional to the magnitude of the magnetic field applied. This proportionality is specified as the magnetic sensitivity, Sens (mV/G), of the device. It is defined as:

Equation 2:

$$Sens = \frac{V_{OUT(BPOS)} - V_{OUT(BNEG)}}{BPOS - BNEG}$$

where BPOS and BNEG are two magnetic fields with opposite polarities. Sensitivity error is the error in percent between the factory-programmed sensitivity and the measured sensitivity.

Sensitivity Drift Over Temperature ($E_{sens(T)}$)

Sensitivity at temperature ($Sens_{(T)}$) might drift from its room temperature value ($Sens_{(25°C)}$). The sensitivity drift over temperature ($E_{sens(T)}$) is defined as:
Equation 3:

$$E_{Sens(T)} = \frac{Sens_{(T)} - Sens_{(25°C)}}{Sens_{(25°C)}}$$

Sensitivity Linearity Error (E_{LIN})

Nonlinearity is a measure of how linear V_{OUT} is over the full current measurement range. Nonlinearity E_{LIN} is calculated as:

Equation 4:

$$E_{LIN} = \frac{\Delta V_{OUT}(B) - B \times Sens_{Fit}}{\Delta V_{OUT}(FS)}$$

where $Sens_{Fit}$ is the best-fit sensitivity when the different magnetic field intensity is swept from –FS to +FS, and $\Delta V_{OUT}(B)$ is the change in output voltage relative to QVO with an applied field:

Equation 5:

$$\Delta V_{OUT}(B) = V_{OUT(B)} - V_{OUT(Q)}$$

NOTE: FS is the field required to generate a full-scale output at B = –FS, $V_{OUT} = 0.1 \times V_{CC}$, while at B = +FS, $V_{OUT} = 0.9 \times V_{CC}$. The specified E_{LIN} is the worst-case linearity error over the entire field range.

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Ratiometry Error (Rat_{ERR})

The ACS37630 device features a ratiometric output. This means that the quiescent voltage output ($V_{OUT(Q)}$), sensitivity (Sens), and output voltage clamp (V_{CLP}) are proportional to the supply voltage (V_{CC}).When the supply voltage increases or decreases by a certain percentage, each characteristic also increases or decreases by the same percentage. Ratiometry error is the difference between the measured change in the supply voltage relative to 5 V, and the measured change in each characteristic.

The quiescent voltage output ratiometry error, $V_{RatERRVOUT(Q)}$ (mV), for a given supply voltage (V_{CC}) is defined as:

Equation 6:

$$V_{OE(rat)} = \left[\left(V_{OUT(5V)} \times \frac{V_{CC}}{5V}\right) - V_{OUT(VCC)}\right]$$

The sensitivity ratiometry error, $Rat_{ERRSens}$ (%), for a given supply voltage (V_{CC}) is defined as:

Equation 7:

$$E_{Sens(R)} = \left(1 - \frac{Sens_{(VCC)}/Sens_{(5V)}}{V_{CC}/5V}\right) \times 100\%$$

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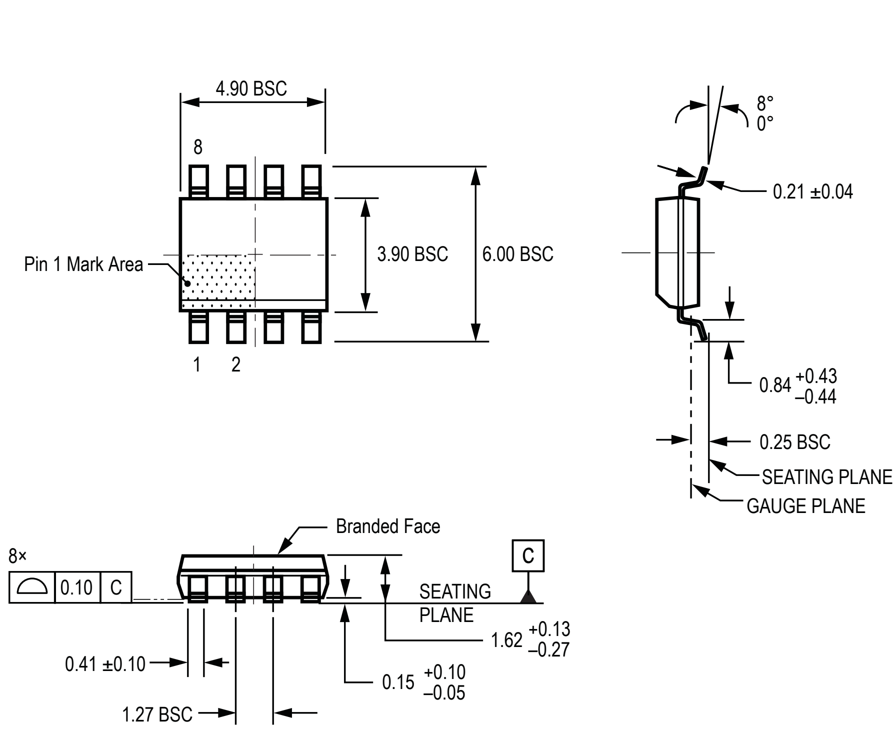
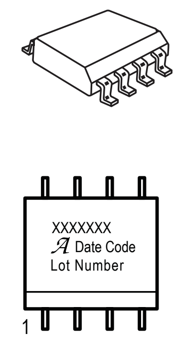
PACKAGE OUTLINE DRAWING

For Reference Only; not for tooling use (reference Allegro DWG-0000385, Rev. 2 or JEDEC MS-012AA)
Dimensions in millimeters
Dimensions exclusive of mold flash, gate burrs, and dambar protrusions
Exact case and lead configuration at supplier discretion within limits shown





Standard Branding Reference View

Lines 1, 2 = 7 characters
Line 3 = 5 characters

Line 1: Part Number
Line 2: Logo A, 4-digit Date Code
Line 3: Characters 5, 6, 7, 8 of Assembly Lot Number

Branding scale and appearance at supplier discretion

Figure 9: Package OL, 8-Pin SOIC

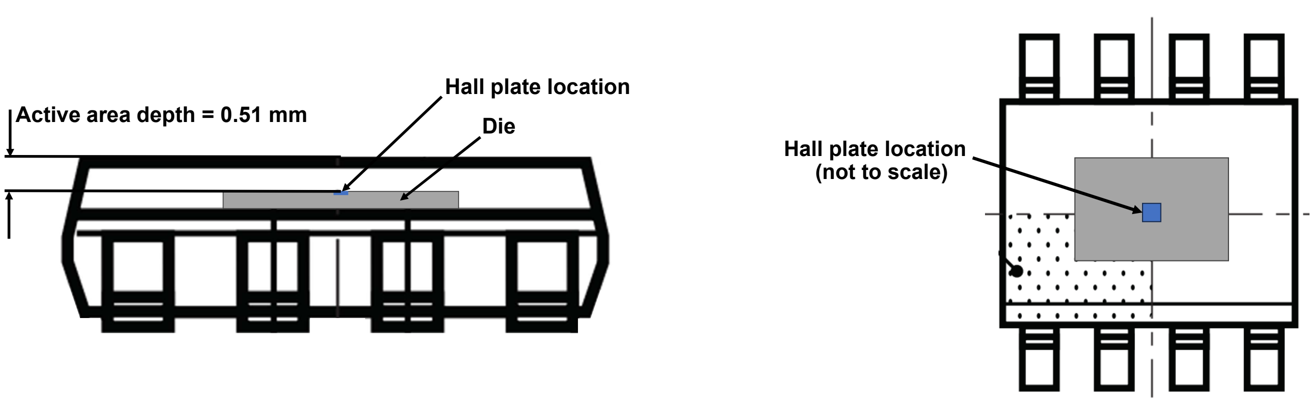


Figure 10: Location and Depth of Hall Elements in ACS37630

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Revision History

Number	Date	Description
–	March 13, 2025	Initial release
1	April 17, 2025	Changed long-form datasheet to limited release and created short-form datasheet
2	November 14, 2025	Removed confidential markings, returned long-form datasheet to general release, updated selection guide (page 2), and added characteristic tables for -1P5B5 and -2P5B5 variants (page 7).

For the latest version of this document, visit our website:
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