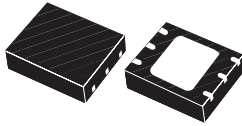
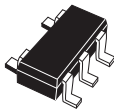


85 V, 50 mA low quiescent current LDO



DFN6 (3 x 3)
Wettable Flanks



SOT23-5L

Maturity status link

[LDH85](#)

Features

- AEC-Q100 grade 1 qualified
 - Operating temperature range: $-40\text{ }^{\circ}\text{C} < T_J < 150\text{ }^{\circ}\text{C}$
- Input voltage from 5.0 V to 85 V
- Dropout voltage (1 V typ at 50 mA load)
- Low ground current (3 μA typ. at no load)
- ADJ from 1.2 V to 24 V
- Output voltage tolerance: $\pm 2.5\%$ over temperature, 1 % at 25 $^{\circ}\text{C}$
- 50 mA guaranteed output current
- Power good
- Logic-controlled electronic shutdown
- Internal current limit
- Short circuit protection
- Thermal shutdown
- Output active discharge function
- Package options:
 - DFN 3x3 6L WF for Automotive Grade
 - SOT23 5L for industrial

Applications

- Body control modules
- Always-on battery connected application
- Infotainment and instrument cluster
- ADAS

Description

LDH85 is a high accuracy voltage regulator designed to be directly connected to car battery in automotive applications or generic battery connected industrial applications. Extended input voltage up to 85 V makes the device capable to support load dump transient, typical in automotive systems. Ultralow quiescent current at light load increases the battery operation lifetime in always-on-standby systems.

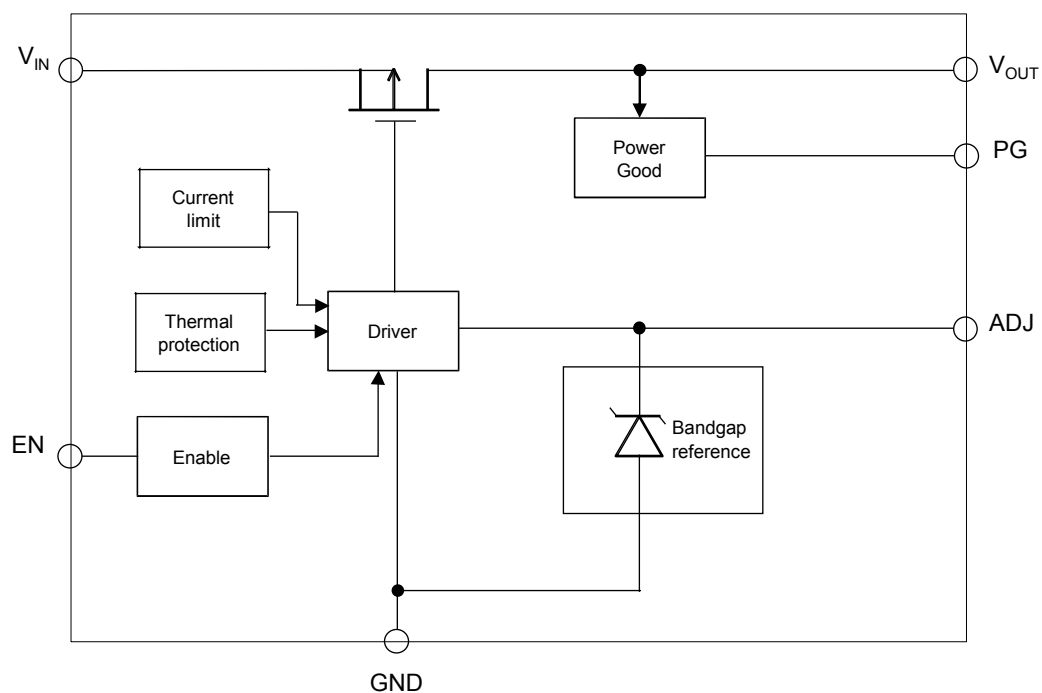
The device is stabilized with a small ceramic capacitor on the input and output.

An enable logic control function puts the **LDH85** in shutdown mode allowing a total current consumption lower than 0.6 μA . Thermal protection is also included.

The device is available in automotive grade in a very small footprint DFN package with wettable flank, allowing the maximum space saving in the PCB (printed circuit board) design and AOI (automated optical inspection).

1 Diagram

Figure 1. Block diagram adjustable version



2 Pin configuration

Figure 2. Pin connection (top view)

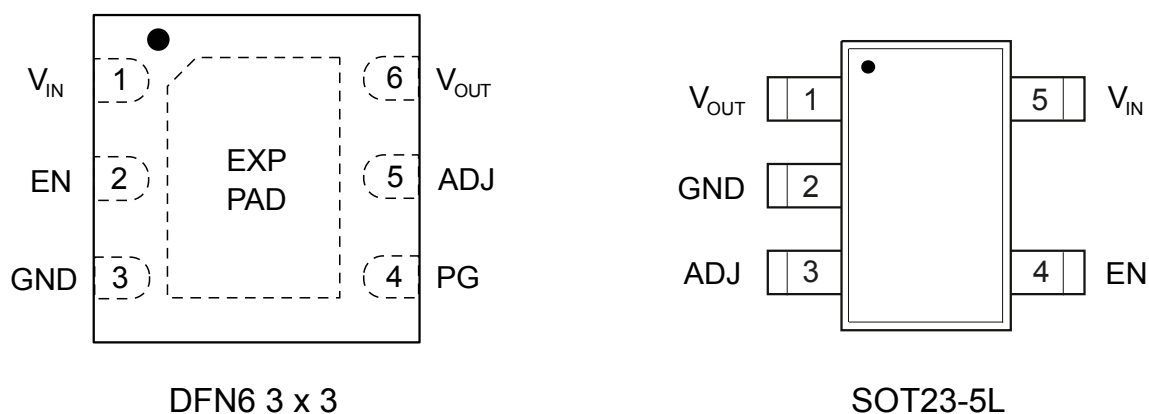


Table 1. Pin description

DFN6 (3x3)	SOT23-5L	Symbol	Description
1	5	V_{IN}	Input voltage
2	4	EN	Enable pin logic input: set V_{EN} = High to turn ON the device V_{EN} = low to turn off the device Don't leave this pin floating
3	2	GND	Ground
4	-	PG	Power GOOD
5	3	ADJ	ADJ: adjust pin on the adjustable version. Connect to resistor divider to set the output voltage
6	1	V_{OUT}	Output voltage
Exp PAD	-	Exposed pad	Connect to GND

3 Package information

To meet environmental requirements, ST offers these devices in different grades of **ECOPACK** packages, depending on their level of environmental compliance. ECOPACK specifications, grade definitions, and product status are available at: www.st.com. ECOPACK is an ST trademark.

3.1 SOT23-5L package information

Figure 3. SOT23-5L package outline

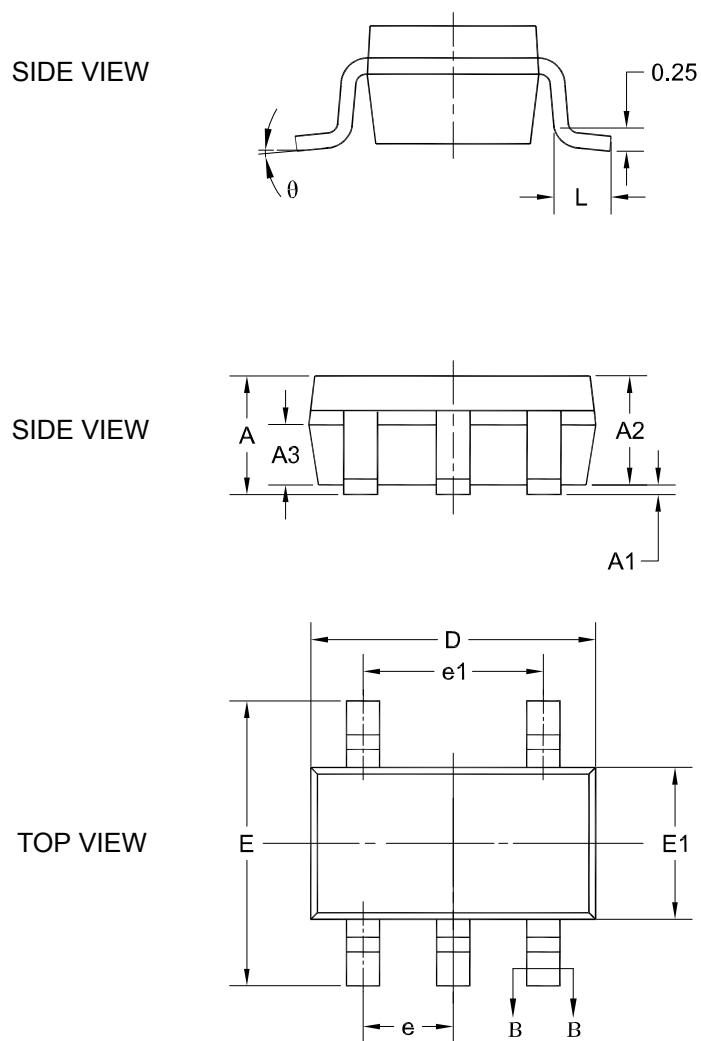
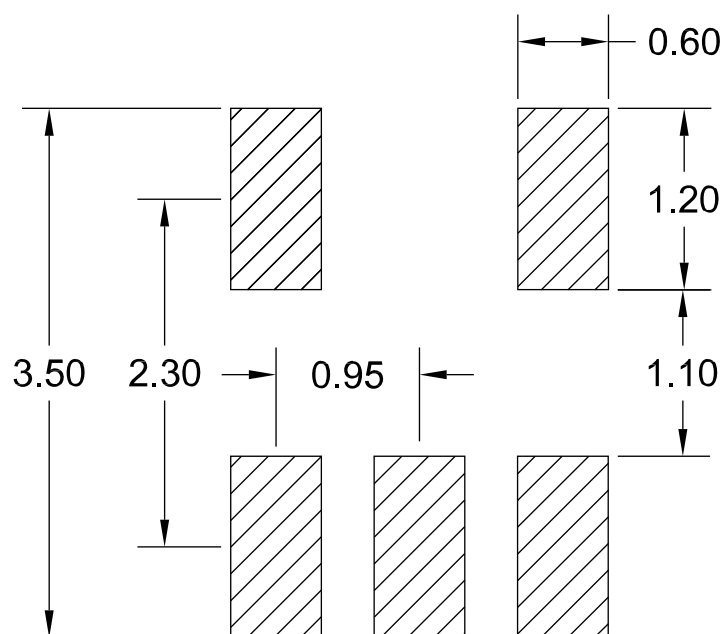


Table 2. SOT23-5L mechanical data

Dim.	mm		
	Min.	Typ.	Max.
A			1.25
A1	0.04		0.10
A2	1.00	1.10	1.20
A3	0.60	0.65	0.70
b	0.33		0.41
b1	0.32	0.35	0.38
c	0.15		0.19
c1	0.14	0.15	0.16
D	2.82	2.92	3.02
E	2.60	2.80	3.00
E1	1.50	1.60	1.70
e	0.95 CS		
e1	1.90 BSC		
L	0.30		0.60
Θ	0		8°

Figure 4. SOT23-5L recommended footprint


3.2

Figure 5. DFN6 (3x3) package outline

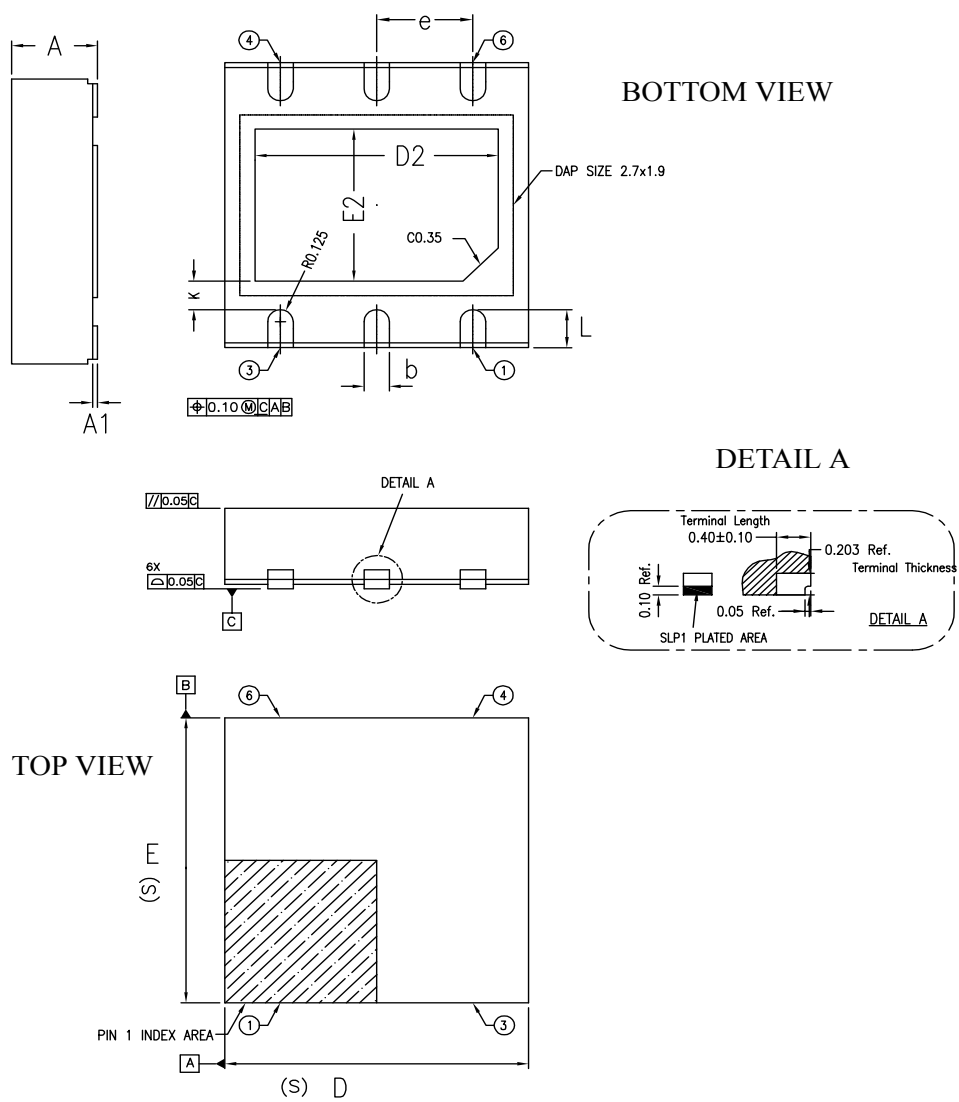
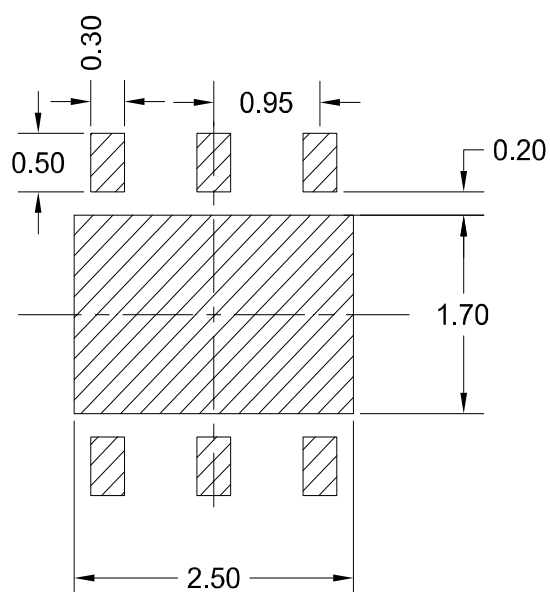


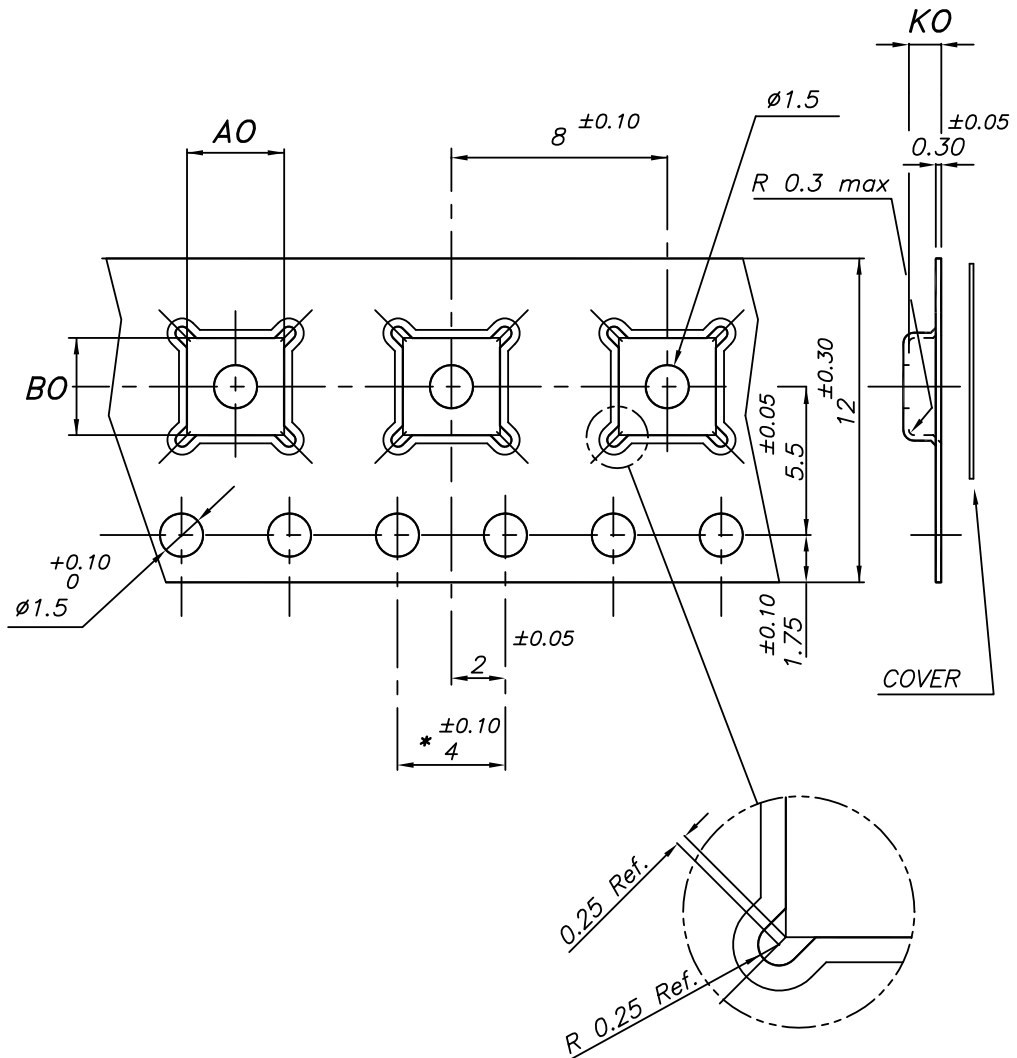
Table 3. DFN6 (3x3) mechanical data

Dim.	mm		
	Min.	Typ.	Max.
A	0.80	0.85	0.90
A1	0.00		0.05
b	0.20	0.25	0.30
D	2.95	3.00	3.05
D2	2.30	2.40	2.50
e	0.95 BSC		
E	2.95	3.00	3.05
E2	1.50	1.60	1.70
L	0.30	0.40	0.50
K	0.30 Ref.		
aaa	0.10		
bbb	0.10		
ccc	0.10		
ddd	0.10		

Figure 6. DFN6 (3x3) recommended footprint (dimensions are in mm)


3.3 DFN6 (3x3) packing information

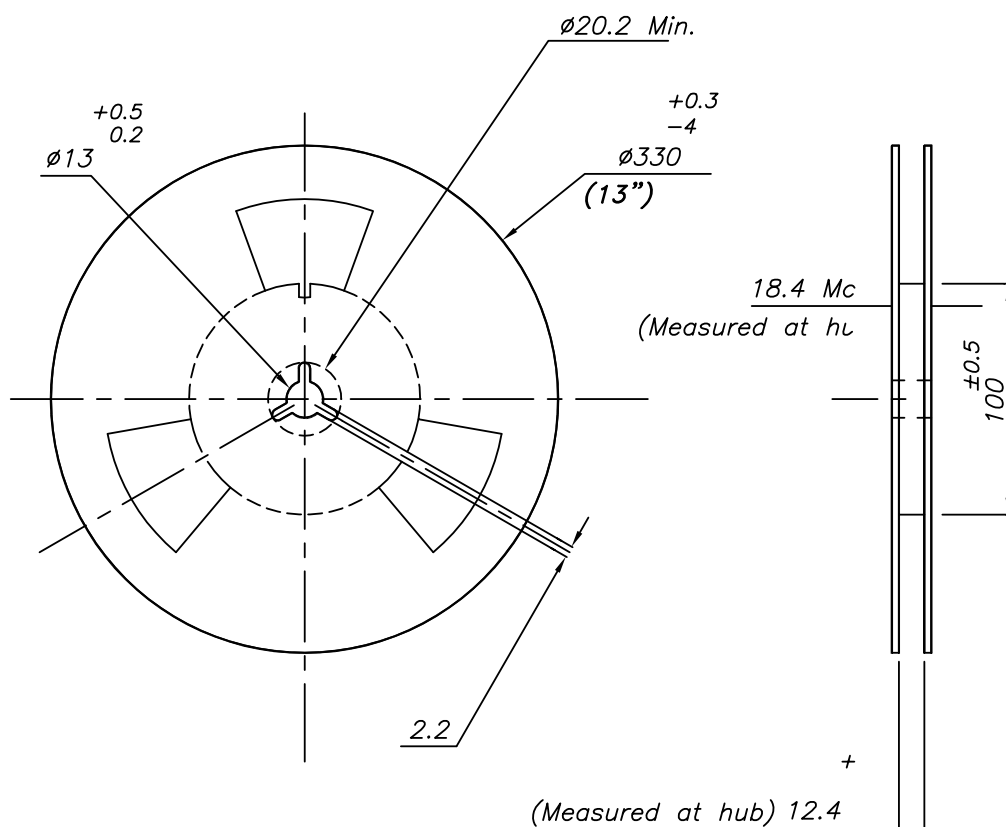
Figure 7. DFN6 (3x3) tape outline



*
- 10 SPROCKET HOLE PITCH CUMULATIVE TOLERANCE ± 0.20

7875978_N

Figure 8. DFN6 (3x3) reel outline



7875978_N

Table 4. DFN6 (3x3) tape and reel mechanical data

Dim.	mm		
	Min.	Typ.	Max.
A0	3.20	3.30	3.40
B0	3.20	3.30	3.40
K0	1	1.10	1.20

Revision history

Table 5. Document revision history

Date	Revision	Changes
29-Jul-2026	1	Initial release.

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