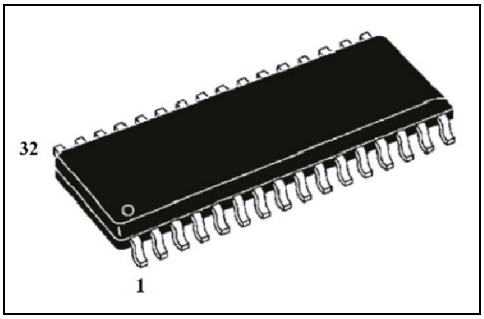
К5853НХ015-S

Level converter

Features

- Embedded 8-bit level converter
- UCC1 = 3,3 ± 0,3 V
- UCC2 = -5 V ± 10%
- Temperature range: -40 °C to +85 °C
- Package type: SOIC-32



Description

K5853HX015-S IC is an eight-channel level converter with a differential physical interface for a load with a characteristic impedance of 120 Ohms.

K5853HX015-S block diagram is shown in Figure 1.

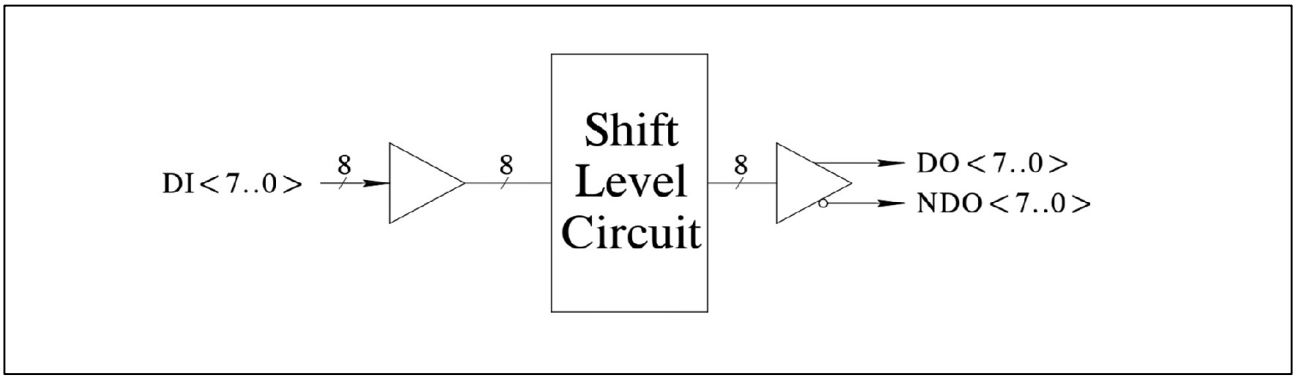
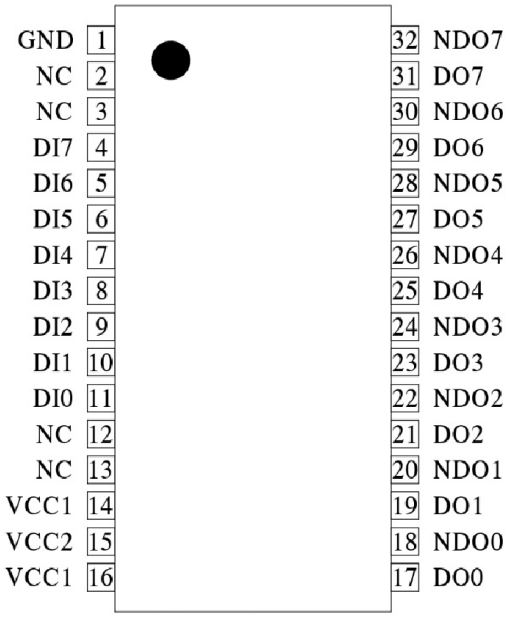


Figure 1 – K5853HX015-S block diagram

PIN CONNECTIONS



The functional purpose of the pins of the IC is shown in Table 1.

Table 1

Pin #	Pin Designation	Functional pin assignment	Pin type
1	GND	Ground	–
2	NC	Not Connected	–
3	NC	Not Connected	–
4	DI7	Data, bit 7	In
5	DI6	Data, bit 6	In
6	DI5	Data, bit 5	In
7	DI4	Data, bit 4	In
8	DI3	Data, bit 3	In
9	DI2	Data, bit 2	In
10	DI1	Data, bit 1	In
11	DI0	Data, bit 0	In
12	NC	Not Connected	–
13	NC	Not Connected	–
14	VCC1	Power + 3 V	–
15	VCC2	Power – 5 V	–
16	VCC1	Power + 3 V	–
17	DO0	Direct Data, bit 0	Out
18	NDO0	Inverse Data, bit 0	Out
19	DO1	Direct Data, bit 1	Out
20	NDO1	Inverse Data, bit 1	Out

Pin #	Pin Designation	Functional pin assignment	Pin type
21	DO2	Direct Data, bit 2	Out
22	NDO2	Inverse Data, bit 2	Out
23	DO3	Direct Data, bit 3	Out
24	NDO3	Inverse Data, bit 3	Out
25	DO4	Direct Data, bit 4	Out
26	NDO4	Inverse Data, bit 4	Out
27	DO5	Direct Data, bit 5	Out
28	NDO5	Inverse Data, bit 5	Out
29	DO6	Direct Data, bit 6	Out
30	NDO6	Inverse Data, bit 6	Out
31	DO7	Direct Data, bit 7	Out
32	NDO7	Inverse Data, bit 7	Out

Electrical characteristics

Absolute Maximum Ratings are shown in Table 2.

Table 2

Symbol	Description	Limits	Units
V_{CC1}	Power + 3 V	4,0	V
V_{CC2}	Power – 5 V	-6,0	V
V_I	Input Voltage	-0,5 to V_{CC1}+0,5	V
V_{TS}	Voltage applied to High-Z output	-0,5 to V_{CC1}+0,5	V
T_{STG}	Storage temperature	-60 to +150	°C
T_L	Lead temperature (soldering, 10sec)	+300	°C

Recommended Operating Conditions are shown in Table 3.

Table 3

Symbol	Description	Limits		Units
		Min	Max	
V_{CC1}	Power + 3 V	3,0	3,6	V
V_{CC2}	Power – 5 V	-5,5	-4,5	V
V_{IL}	Input Low Voltage	0	0,8	V
V_{IH}	Input High Voltage	2,0	V_{CC1}	V
V_{OL}	Ouput Low Voltage (Power + 3 V)	–	0,8	V
V_{OH}	Ouput High Voltage (Power + 3 V)	2,0	–	V
V_{OD}	Differential Drive Output	-5,0	-1,5	V

I_{CC1}	No-Load Supply Current (Power + 3 V)	–	100	µA
I_{CC2}	No-Load Supply Current (Power – 5 V)	–	50	µA
T_A	Operating ambient temperature	-40	+85	°C

Switching characteristics

Switching characteristics are shown in Table 4.

Table 4

Symbol	Description	Limits		Units
		Min	Max	
t_{PLH}, t_{PLH}	Driver Input to Output	10	60	ns
t_{SKEW}	Driver Output Skew to Output		10	ns
t_R, t_F	Driver Rise or Fall Time	3	40	ns

Package outline

SOIC-32 Package outline is shown in Fig. 2.

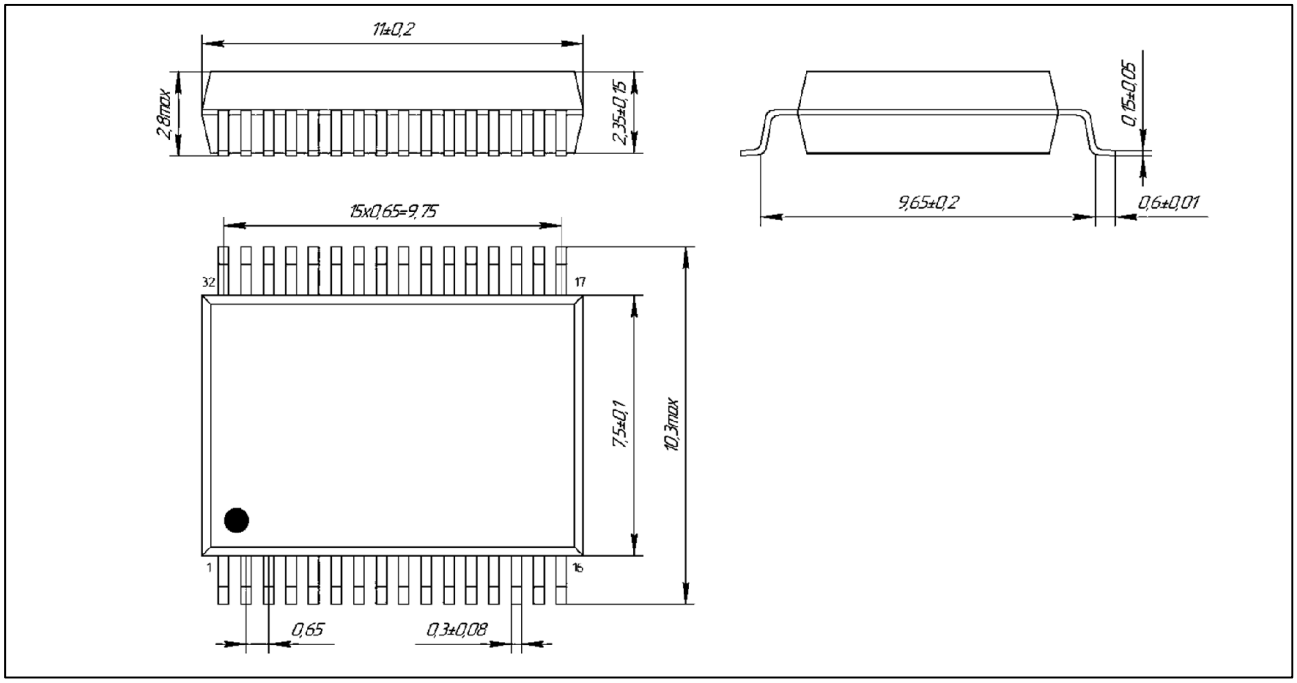


Fig. 2 – SOIC-32 Package

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