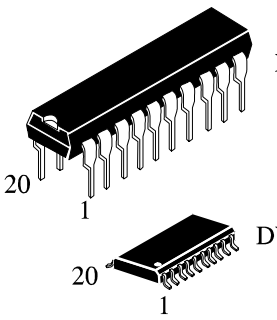
OCTAL 3-STATE NONINVERTING BUS TRANSCEIVER

KK74LV623

Microcircuits KK74LV623 are pin-to-pin compatible with microcircuits of series 74HC623A, 74HCT623A. Input voltage levels are compatible with standard C-MOS levels



ORDERING INFORMATION

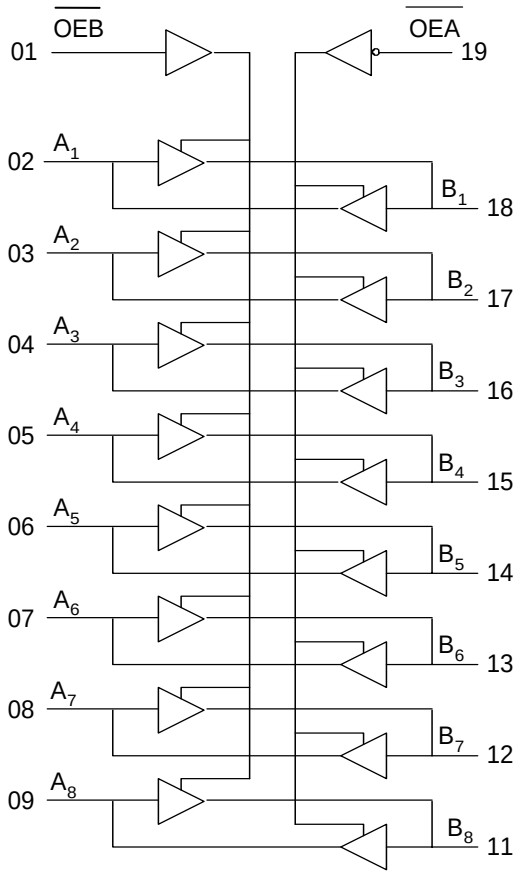
KK74LV623N	Plastic
KK74LV623D	SOIC

T_A = -40° to 125° C for all packages

Features:

- Output voltage levels are compatible with input levels C-MOS, N-MOS and TTL microcircuits.
- Supply voltage range from 1.2 to 3.6 V.
- Maximum input current: 1.0 mkA; 0.1 mkA at T = 25 °C.
- Consumption current 8 mA.

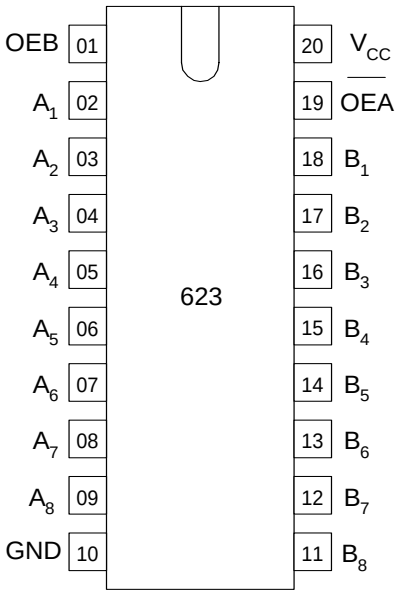
Block diagram



Truth table

Inputs		Inputs/Outputs	
OEB	OEA	A	B
L	L	A=B	Input
H	H	Input	B=A
L	H	Z	Z
H	H	A=B	B=A

Pinout



Absolute maximum ratings*

Symbol	Parameter	Value	Unit
V_{CC}	Supply voltage	from -0.5 to +5.0	V
I_{IK} *1	Input diode current	±20	mA
I_{OK} *2	Output diode current	±50	mA
I_O *3	Output current source-drain	±35	mA
I_{CC}	Supply output current	±70	mA
I_{GND}	Common output current	±70	mA
P_D	Dissipation power at free air change, Plastic DIP *4 SOIC *4	 750 500	mW
Tstg	Storage temperature	from -65 to +150	°C
T_L		260	°C

* Under absolute maximum conditions operation of microcircuits is not guaranteed. Operation under maximum conditions is guaranteed.

*1 If $V_I < -0.5V$ or $V_I > V_{CC} + 0.5$ V.

*2 If $V_O < -0.5V$ or $V_O > V_{CC} + 0.5$ V.

*3 If $-0.5V < V_O < V_{CC} + 0.5$ V.

*4 Under operation in the temperature range from 65°C to 125°C value of dissipation power drops down - to 10 mW/°C for Plastic DIP

- to 7 mW/°C for SOIC

Maximum conditions

Symbol	Parameter		Min	Max	Unit
V_{CC}	Supply voltage		1.2	3.6	V
V_{IN}	Input voltage		0	V_{CC}	V
V_{OUT}	Output voltage		0	V_{CC}	V
T_A	Operation temperature. For all packages		-40	125	°C
t_{LH}, t_{HL}	Period of signal rise and fall edges (Figure 1)	V_{CC} =1.2 B	0	1000	ns
		V_{CC} =2.0 B		700	
		V_{CC} =3.0 B		500	
		V_{CC} =3.6 B		400	

DC electrical characteristics

Symbol	Parameter	Test conditions	V_{CC}, V	Value						Unit
				25°C		From -40°C to 85°C		From -40°C to 125°C		
				min	max	min	max	min	max	
V_{IH}	High input voltage	$V_O = V_{CC}$-0.1 V	1.2	0.9	-	0.9	-	0.9	-	V
			2.0	1.4	-	1.4	-	1.4	-	
			3.0	2.1	-	2.1	-	2.1	-	
			3.6	2.5	-	2.5	-	2.5	-	
V_{IL}	Low input voltage	V_O =0.1 V	1.2	-	0.3	-	0.3	-	0.3	V
			2.0	-	0.6	-	0.6	-	0.6	
			3.0	-	0.9	-	0.9	-	0.9	
			3.6	-	1.1	-	1.1	-	1.1	
V_{OH}	High output voltage	$V_I = V_{IH}$ or V_{IL} Io = -50 mkA	1.2	1.11	-	1.1	-	1.1	-	V
			2.0	1.91	-	1.9	-	1.9	-	
			3.0	2.91	-	2.9	-	2.9	-	
			3.6	3.51	-	3.5	-	3.5	-	
		$V_I = V_{IH}$ or V_{IL} Io = -8 mA	3.0	2.48	-	2.34	-	2.20	-	V
V_{OL}	Low output voltage	$V_I = V_{IH}$ or V_{IL} Io = 50 mkA	1.2	-	0.09	-	0.1	-	0.1	V
			2.0	-	0.09	-	0.1	-	0.1	
			3.0	-	0.09	-	0.1	-	0.1	
			3.6	-	0.09	-	0.1	-	0.1	
		$V_I = V_{IH}$ or V_{IL} Io = 8 mA	3.0	-	0.33	-	0.4	-	0.5	V
I_I	Input current	$V_I = V_{CC}$ or 0 V	3.6	-	±0.1	-	±1.0	-	±1.0	uA
I_{OZ}	Output current in «off» state	Outputs in the third state $V_I = V_{IL}$ or V_{IH} $V_O = V_{CC}$ or 0 V	3.6	-	±0.5	-	±5	-	±10	uA
I_{CC}	Consumption current	$V_I = V_{CC}$ or 0 V Io = 0 mkA	3.6	-	8.0	-	80	-	160	uA

AC electrical characteristics (C_L=50 pF, $t_{LH} = t_{HL}$ = 6.0 ns)

Symbol	Parameter	Test conditions	V_{CC}, V	Value						Unit
				25°C		From -40°C to 85°C		From -40°C to 125°C		
				min	max	min	max	min	max	
t_{PHL}, t_{PLH} from A to B; from B to A	Propagation delay time in «on» and «off» states	Fig. 1	1.2 2.0 3.0	- - -	100 23 14	- - -	125 28 18	- - -	140 34 21	ns
t_{PHZ} t_{PLZ} from OE to Y	Propagation delay time when switching from high, low levels into «off» state	Fig. 2	1.2 2.0 3.0	- - -	120 30 20	- - -	140 37 24	- - -	160 43 28	
t_{PZH} t_{PZL} from OE to Y	Propagation delay time when switching from «off» state into high, low levels	Fig.2	1.2 2.0 3.0	- - -	120 28 17	- - -	140 35 21	- - -	160 43 26	
t_{THL}, t_{TLH}	Transition time when switching on, off	Fig. 1	1.2 2.0 3.0	- - -	60 16 10	- - -	75 20 13	- - -	90 24 15	
C_I	Input capacitance		3.0	-	7	-	-	-	-	pF
C_{PD}	Dynamic capacitance (for one channel)	V_I = 0 V or V_{CC}	3.0	-	50	-	-	-	-	

- Time diagram of control of AC characteristics t_{PLH}, t_{PHL}

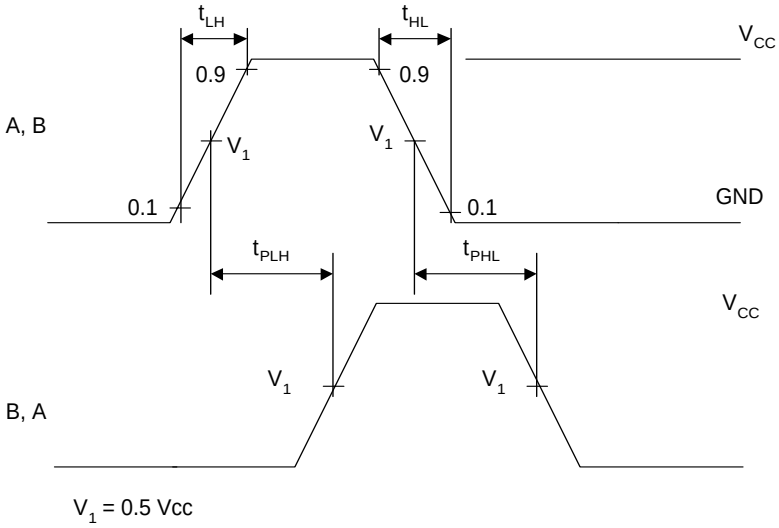


Fig. 1

- Time diagram of control of AC characteristics t_{PLZ}, t_{PHZ}, t_{PZL}, t_{PZH}

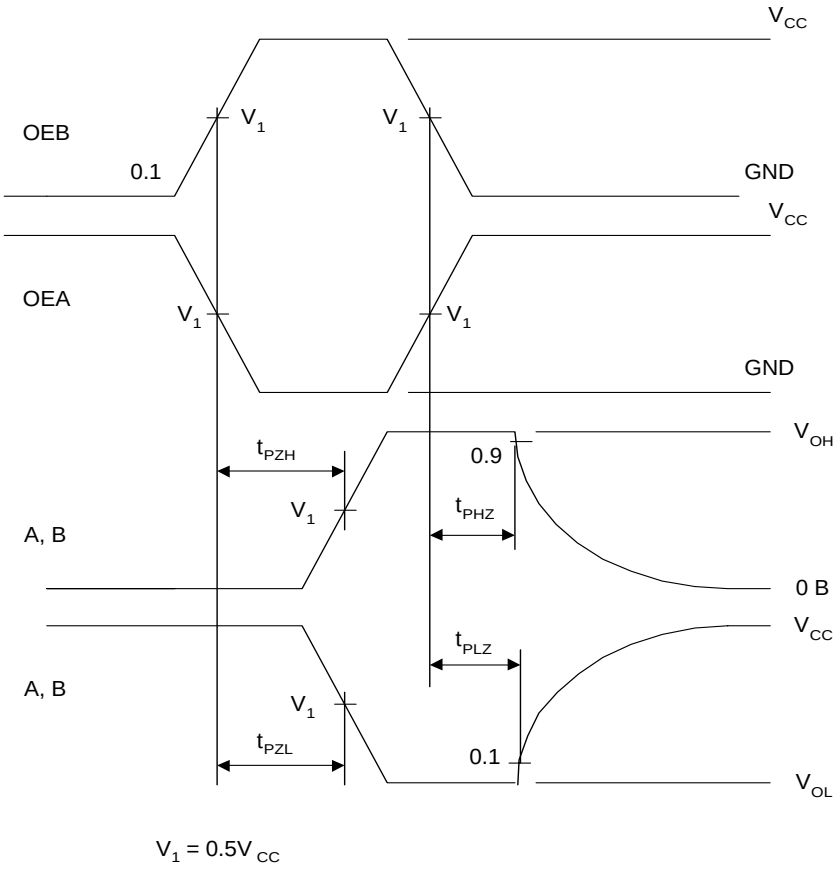
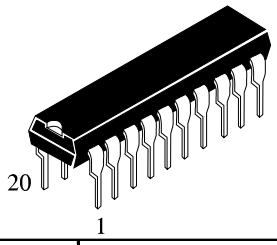
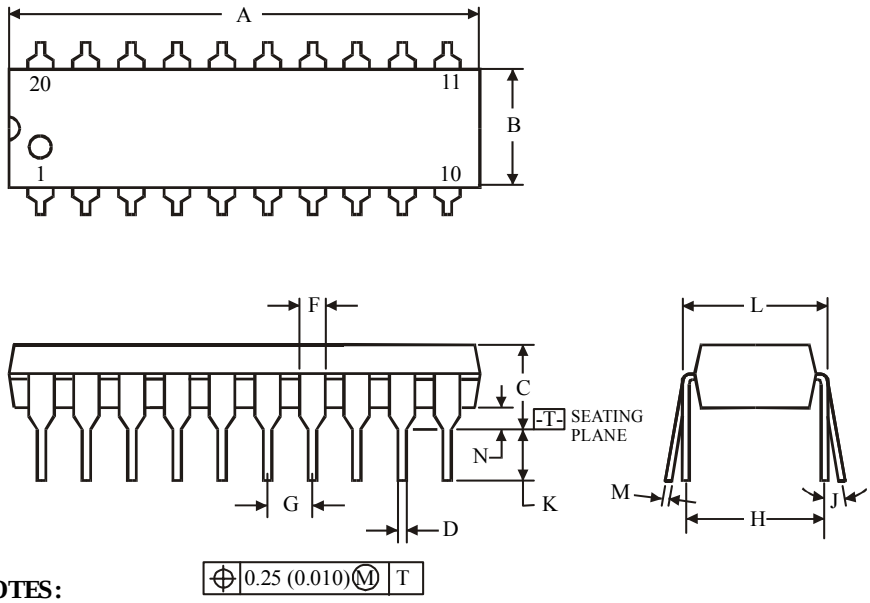


Fig. 2

N SUFFIX PLASTIC DIP
(MS - 001AD)



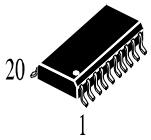


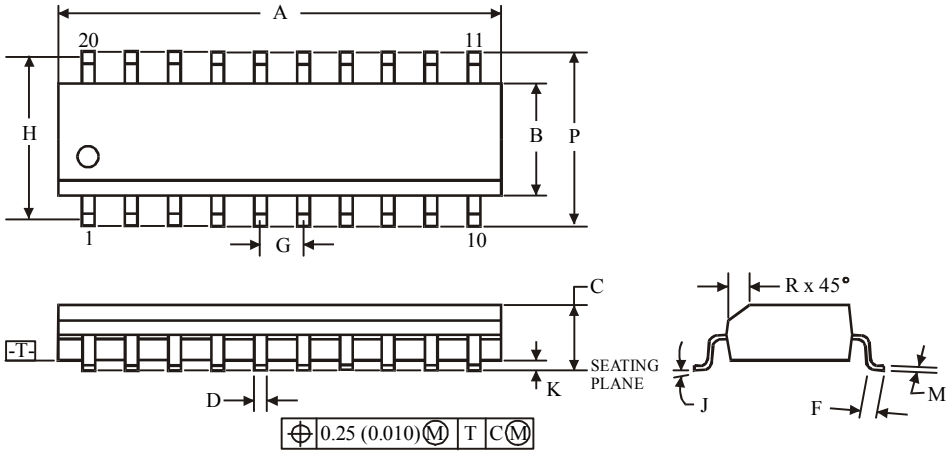
	Dimension, mm	
Symbol	MIN	MAX
A	24.89	26.92
B	6.1	7.11
C		5.33
D	0.36	0.56
F	1.14	1.78
G	2.54	
H	7.62	
J	0°	10°
K	2.92	3.81
L	7.62	8.26
M	0.2	0.36
N	0.38	

NOTES:

1. Dimensions “A”, “B” do not include mold flash or protrusions.
   Maximum mold flash or protrusions 0.25 mm (0.010) per side.

D SUFFIX SOIC
(MS - 013AC)





	Dimension, mm	
Symbol	MIN	MAX
A	12.6	13
B	7.4	7.6
C	2.35	2.65
D	0.33	0.51
F	0.4	1.27
G	1.27	
H	9.53	
J	0°	8°
K	0.1	0.3
M	0.23	0.32
P	10	10.65
R	0.25	0.75

NOTES:

1. Dimensions A and B do not include mold flash or protrusion.
2. Maximum mold flash or protrusion 0.15 mm (0.006) per side
   for A; for B – 0.25 mm (0.010) per side.