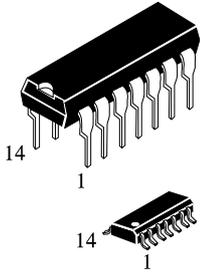# QUAD 2-INPUT NOR LINE DRIVER   **KK74128**

This device contains four independent 2-input-NOR line drivers. It performs the Boolean function $Y = \overline{A+B}$ or $Y = \overline{A}*\overline{B}$. The **KK**74128 is designed to drive 50 ohm lines.
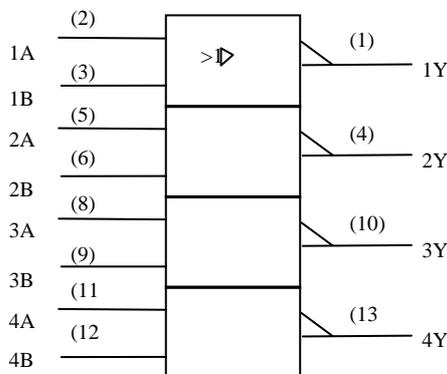
The KK74128 is characterized for operation from $0C^{o}$ to $70\ ^{o}C$.

N SUFFIX
PLASTIC

14

1

D SUFFIX
SOIC

14

1

ORDERING INFORMATION
KK74128N Plastic
KK74128D SOIC
T_A = -10° to 70° C for all packages

Logic Symbol

Logic Diagram (Positive Logic)

	Logic Symbol pins
1A	(2)
1B	(3)
	(1) 1Y
2A	(5)
2B	(6)
	(4) 2Y
3A	(8)
3B	(9)
	(10) 3Y
4A	(11)
4B	(12)
	(13) 4Y

ABSOLUTE MAXIMUM RATINGS OVER OPERATING FREE-AIR TEMPERATURE RANGE

Supply voltage, Vcc (see Note 1)	7 V
Input voltage	5.5 V
Operating free-air temperature range, T_A	$0^{o}C$ to $70^{o}C$.
Storage temperature range	$-65^{o}C$ to $150^{o}C$

NOTES: 1. Voltage values are with respect to network ground terminal.

RECOMMENDED OPERATING CONDITIONS

		MIN	NOM	MAX	UNIT
V_{CC}	Supply voltage	4.75	5	5.25	V
V_{IH}	High-level input voltage	2			V
V_{IL}	Low-level input voltage			0.8	V
I_{OH}	High-level output current			-42.4	V
I_{OL}	Low-level output current			48	mA
T_A	Operating free-air temperature	0		70	^{o}C

ELECTRICAL CHARACTERISTICS OVER RECOMMENDED OPERATING FREE-AIR TEMPERATURE RANGE

Parameter	Test Conditions*		MIN	TYP**	MAX	UNIT
V_{IK}	V_{CC} = MIN	I_I = -12mA			-1.5	V
V_{OH}	V_{CC} = MIN	V_{IL} = 0.8V, I_{OH} =-2.4mA	2.4	3.4		
	V_{CC} = MIN	V_{IL} = 0.4V, I_{OH} =-13.2mA	2.4			V
	V_{CC} = MIN	V_{IL} = 0.4V, I_{OH} = MAX	2			
V_{OL}	V_{CC} = MIN	V_{IH} = 2V I_{OL} = 48 mA		0.26	0.4	V
I_I	V_{CC} = MAX	V_I =5.5V			1	m
I_{IH}	V_{CC} = MAX	V_I = 2.4V			40	A
I_{IL}	V_{CC} = MAX	V_I = 0.4V			-1.6	m
I_{OS}***	V_{CC} = MAX		-70		-180	mA
I_{CCH}	V_{CC} = MAX			12	21	m
I_{CCL}	V_{CC} = MAX			33	57	mA

*- For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions
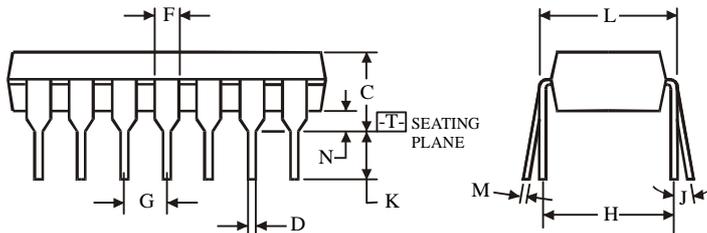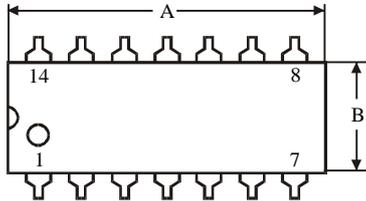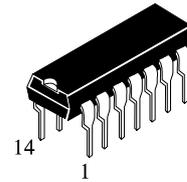**- All typical values are at V_{CC}=5V, T_A=25°C
***-Not more than one output should be shorted at a time.

SWITCHING CHARACTERISTICS, V_{CC} = 5V, T_A = 25°C

| Parameter	From (input)	To (output)	Test Conditions	TYP	MAX	UNIT
t_{PLH}	A or B	Y	R_L= 133	6	9	ns
t_{PHL}			C_L = 50 pF	8	12	ns
t_{PLH}			R_L= 133	10	15	ns
t_{PHL}			C_L = 150 pF	12	18	ns

N SUFFIX PLASTIC DIP
(MS - 001AA)

0.25 (0.010) M T

NOTES:

1. Dimensions "A", "B" do not include mold flash or protrusions.

   Maximum mold flash or protrusions 0.25 mm (0.010) per side.

	Dimension, mm	
Symbol	**MIN**	**MAX**
A	18.67	19.69
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	

D SUFFIX SOIC
(MS - 012AB)
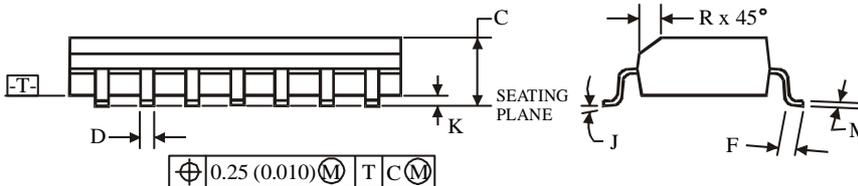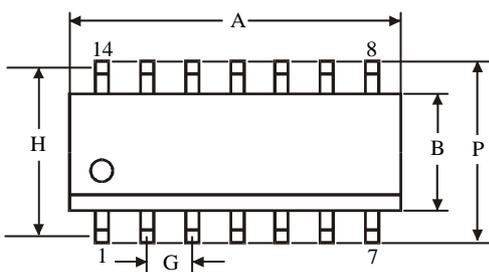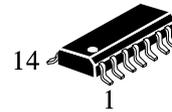
0.25 (0.010) M T C M

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.

	Dimension, mm	
Symbol	**MIN**	**MAX**
A	8.55	8.75
B	3.8	4
C	1.35	1.75
D	0.33	0.51
F	0.4	1.27
G	1.27	
H	5.27	
J	0°	8°
K	0.1	0.25
M	0.19	0.25
P	5.8	6.2
R	0.25	0.5