

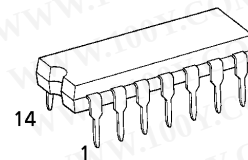
TC4071BP, TC4071BF, TC4071BFN

TC4071B QUAD 2 INPUT OR GATE

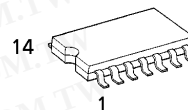
TC4071B is positive logic OR gates with two inputs respectively. As all the outputs of gates are equipped with the buffer circuits of inverters, the input/output propagation characteristic has been improved and the variation of propagation time caused by increase of load capacity is kept minimum.

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

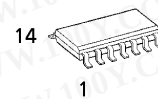
(Note) The JEDEC SOP (FN) is not available in Japan.



P (DIP14-P-300-2.54)
 Weight : 0.96g (Typ.)



F (SOP14-P-300-1.27)
 Weight : 0.18g (Typ.)



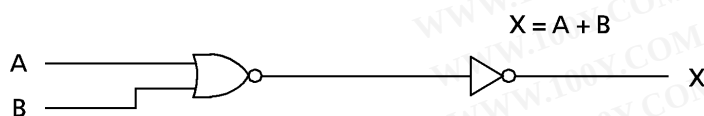
FN (SOL14-P-150-1.27)
 Weight : 0.12g (Typ.)

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V_{DD}	$V_{SS} - 0.5 \sim V_{SS} + 20$	V
Input Voltage	V_{IN}	$V_{SS} - 0.5 \sim V_{DD} + 0.5$	V
Output Voltage	V_{OUT}	$V_{SS} - 0.5 \sim V_{DD} + 0.5$	V
DC Input Current	I_{IN}	± 10	mA
Power Dissipation	P_D	300 (DIP) / 180 (SOIC)	mW
Operating Temperature Range	T_{opr}	$-40 \sim 85$	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	$-65 \sim 150$	$^{\circ}\text{C}$

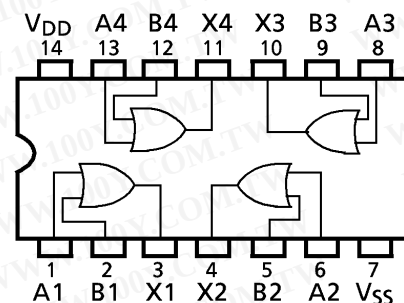
LOGIC DIAGRAM

1 / 4 TC4071B



PIN ASSIGNMENT (TOP VIEW)

TC4071B



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RECOMMENDED OPERATING CONDITIONS ($V_{SS} = 0V$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
DC Supply Voltage	V_{DD}		3	—	18	V
Input Voltage	V_{IN}		0	—	V_{DD}	V

STATIC ELECTRICAL CHARACTERISTICS ($V_{SS} = 0V$)

CHARACTERISTIC		SYM- BOL	TEST CONDITION	V _{DD} (V)	- 40°C		25°C			85°C		UNIT
					MIN.	MAX.	MIN.	TYP.	MAX.	MIN.	MAX.	
High-Level Output Voltage		V _{OH}	I _{OUT} < 1 μA V _{IN} = V _{SS} , V _{DD}	5 10 15	4.95 9.95 14.95	— — —	4.95 9.95 14.95	5.00 10.00 15.00	— — —	4.95 9.95 14.95	— — —	V
Low-Level Output Voltage		V _{OL}	I _{OUT} < 1 μA V _{IN} = V _{SS} , V _{DD}	5 10 15	— — —	0.05 0.05 0.05	— — —	0.00 0.00 0.00	0.05 0.05 0.05	— — —	0.05 0.05 0.05	
Output High Current		I _{OH}	V _{OH} = 4.6V	5	- 0.61	—	- 0.51	- 1.0	—	- 0.42	—	mA
			V _{OH} = 2.5V	5	- 2.50	—	- 2.10	- 4.0	—	- 1.70	—	
			V _{OH} = 9.5V	10	- 1.50	—	- 1.30	- 2.2	—	- 1.10	—	
			V _{OH} = 13.5V	15	- 4.00	—	- 3.40	- 9.0	—	- 2.80	—	
			V _{IN} = V _{SS} , V _{DD}									
Output Low Current		I _{OL}	V _{OL} = 0.4V	5	0.61	—	0.51	1.5	—	0.42	—	
			V _{OL} = 0.5V	10	1.50	—	1.30	3.8	—	1.10	—	
			V _{OL} = 1.5V	15	4.00	—	3.40	15.0	—	2.80	—	
			V _{IN} = V _{SS}									
Input High Voltage		V _{IH}	V _{OUT} = 0.5V, 4.5V	5	3.5	—	3.5	2.75	—	3.5	—	V
			V _{OUT} = 1.0V, 9.0V	10	7.0	—	7.0	5.50	—	7.0	—	
			V _{OUT} = 1.5V, 13.5V	15	11.0	—	11.0	8.25	—	11.0	—	
			I _{OUT} < 1 μA									
Input Low Voltage		V _{IL}	V _{OUT} = 0.5V, 4.5V	5	—	1.5	—	2.25	1.5	—	1.5	
			V _{OUT} = 1.0V, 9.0V	10	—	3.0	—	4.50	3.0	—	3.0	
			V _{OUT} = 1.5V, 13.5V	15	—	4.0	—	6.75	4.0	—	4.0	
			I _{OUT} < 1 μA									
Input Current	"H" Level	I _{IH}	V _{IH} = 18V	18	—	0.1	—	10 ⁻⁵	0.1	—	1.0	μA
	"L" Level	I _{IL}	V _{IL} = 0V	18	—	- 0.1	—	- 10 ⁻⁵	- 0.1	—	- 1.0	
Quiescent Supply Current		I _{DD}	V _{IN} = V _{SS} , V _{DD} *	5 10 15	— — —	0.25 0.50 1.00	— — —	0.001 0.001 0.002	0.25 0.50 1.00	— — —	7.5 15.0 30.0	

* All valid input combination

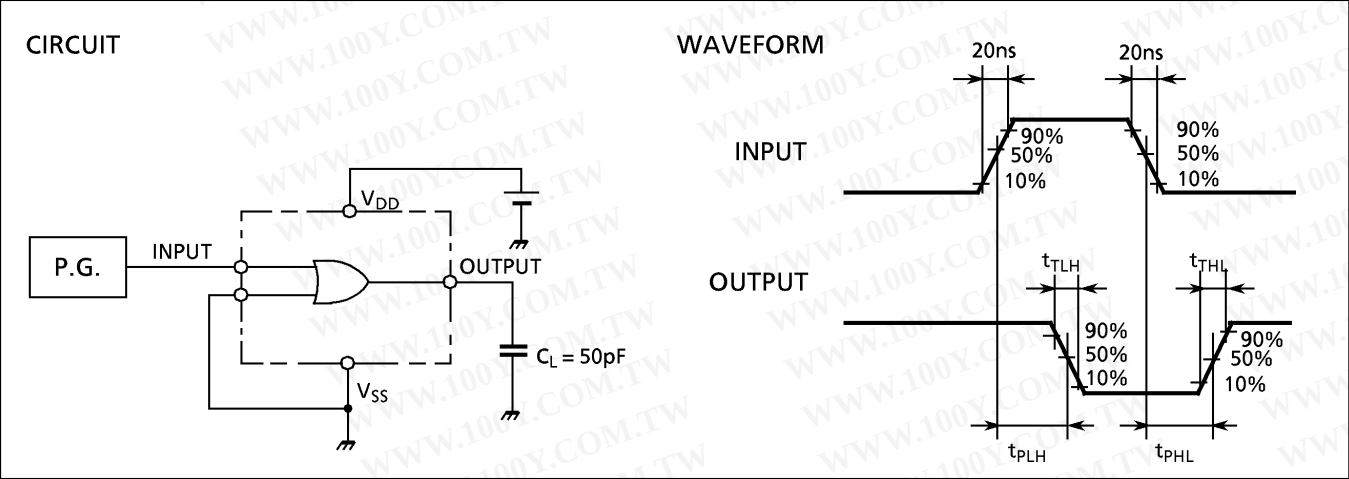
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- The information contained herein is subject to change without notice.

DYNAMIC ELECTRICAL CHARACTERISTICS (Ta = 25°C, Vss = 0V, CL = 50pF)

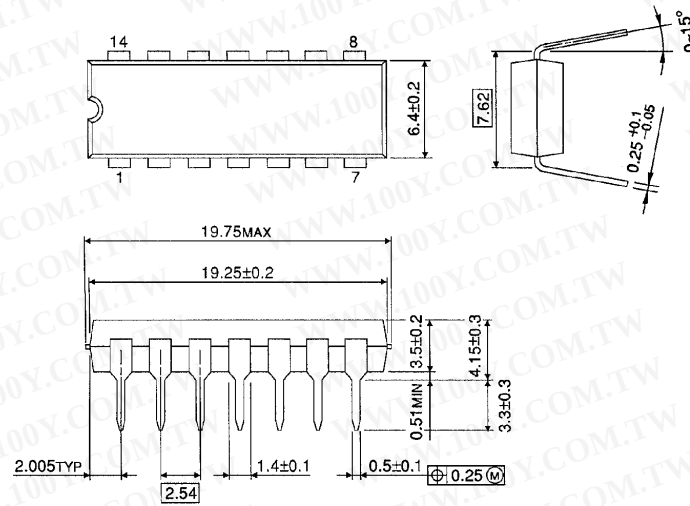
CHARACTERISTIC	SYMBOL	TEST CONDITION	VDD(V)	MIN.	TYP.	MAX.	UNIT
Output Transition Time	tTLH		5	—	70	200	ns
			10	—	35	100	
			15	—	30	80	
Output Transition Time	tTHL		5	—	70	200	
			10	—	35	100	
			15	—	30	80	
Propagation Delay Time	tPLH		5	—	65	200	
			10	—	30	100	
			15	—	25	80	
Propagation Delay Time	tPHL		5	—	65	200	
			10	—	30	100	
			15	—	25	80	
Input Capacitance	CIN			—	5	7.5	pF

CIRCUIT A D WAVEFORM FOR MEASUREMENT OF DYNAMIC CHARACTERISTICS



DIP 14PIN OUTLINE DRAWING (DIP14-P-300-2.54)

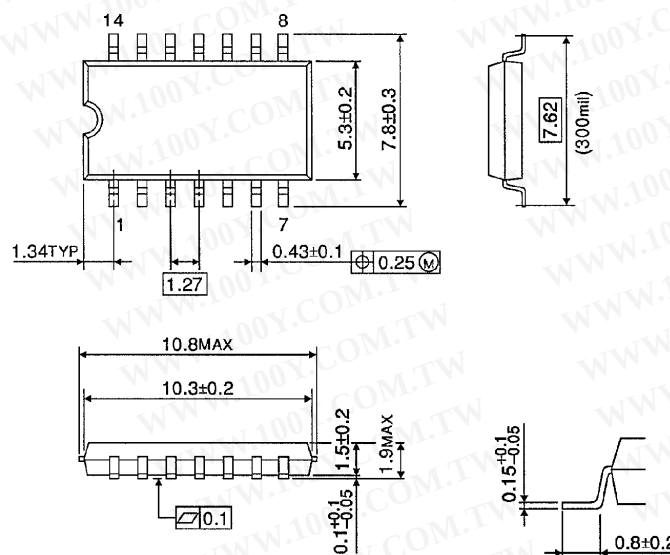
Unit in mm



Weight : 0.96g (Typ.)

SOP 14PIN (200mil BODY) OUTLINE DRAWING (SOP14-P-300-1.27)

Unit in mm

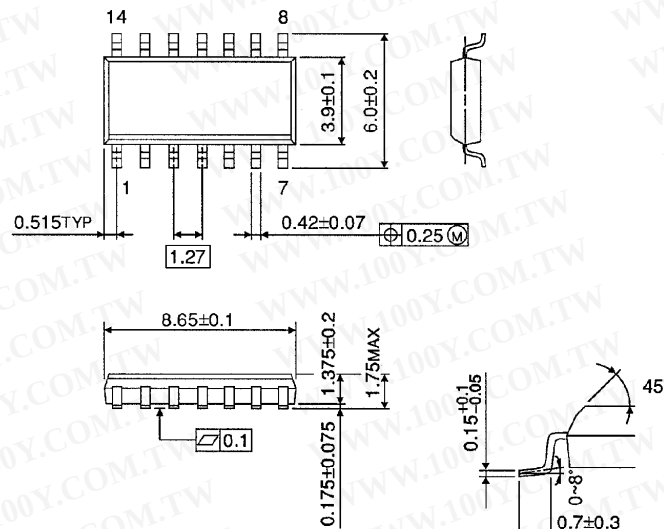


Weight : 0.18g (Typ.)

SOP 14PIN (150mil BODY) OUTLINE DRAWING (SOL14-P-150-1.27)

Unit in mm

(Note) This package is not available in Japan.



Weight : 0.12g (Typ.)