

TRI-STATE BUFFER

■ GENERAL DESCRIPTION

The NJU6342 Series is a tri-state buffer which is input the external ECL oscillation signal and output C-MOS level signal.

It consists of an amplifier and tri-state output buffer.

The input/output frequency is as wide as up to 120MHz and the symmetry of 45-55% is realized over full operating frequency range.

NJU6342H is TTL compatible and capable of 5 TTL driving.

NJU6342 is FACT equivalent.

■ PACKAGE OUTLINE



NJU6342XC

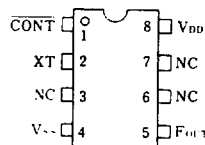
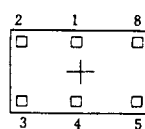


NJU6342XE

■ FEATURES

- Operating Voltage -- 4.0~6.0V
- Maximum Oscillation Frequency -- 120MHz
- Low Operating Current
- High Fan-out NJU6342 : FACT equivalent
NJU6342H: 5TTL
- 3-state Output Buffer
- Output Stand-by Function
- Package Outline -- CHIP/EMP 8
- C-MOS Technology

■ PIN CONFIGURATION/PAD LOCATION



■ LINE-UP TABLE

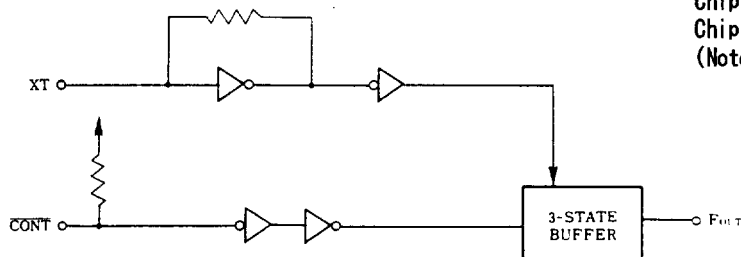
VERSION	Fan-out
NJU6342	FACT equivalent($I_{OL}/I_{OH}=24mA$)
NJU6342H	5TTL

■ COORDINATES

Unit: μm

No.	PAD	X	Y
1	CONT	- 29	181
2	XT	- 462	181
3	NC	- 463	- 181
4	VSS	- 44	- 229
5	FOUT	564	- 229
8	VDD	564	229

■ BLOCK DIAGRAM



Chip Size : 1.49 X 0.8mm
 Chip Center : $X=0\mu m, Y=0\mu m$
 Chip Thickness : $400\mu m \pm 30\mu m$
 (Note) No. 6 and 7 terminals are only for package type information. There are no PAD on the chip.


■ TERMINAL DESCRIPTION

NO.	SYMBOL	F U N C T I O N
1	CONT	Tri-state output control terminal
		CONT
		F _{OUT}
		H or OPEN Input ECL oscillation signal output L Output High Impedance
2	XT	External ECL oscillation signal input terminal
4	V _{SS}	GND
5	F _{OUT}	Output amplified external ECL oscillation frequency
8	V _{DD}	+ 5V

■ ABSOLUTE MAXIMUM RATINGS

 (T_a=25°C)

P A R A M E T E R	SYMBOL	R A T I N G S	UNIT
Supply Voltage	V _{DD}	- 0.3 ~ +7.0	V
Input Voltage	V _{IN}	V _{SS} -0.3 ~ V _{DD} +0.3	V
Output Voltage	V _O	- 0.5 ~ V _{DD} +0.5	V
Input Current	I _{IN}	±10	mA
Output Current	I _O	±25	mA
Power Dissipation (EMP)	P _D	200	mW
Operating Temperature Range	T _{opr}	- 30 ~ + 75	°C
Storage Temperature Range	T _{stg}	- 40 ~ +125	°C

■ ELECTRICAL CHARACTERISTICS

 (T_a=25°C, V_{DD}=5V)

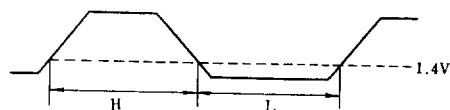
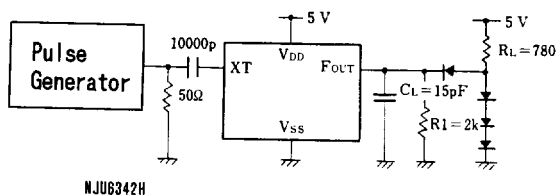
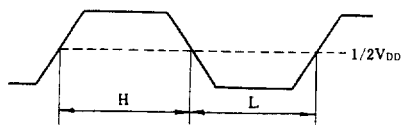
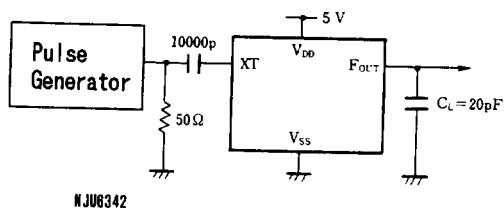
P A R A M E T E R		S Y M B O L		C O N D I T I O N S		MIN	TYP	MAX	UNIT
Operating Voltage		V _{DD}				4		6	V
Operating Current		I _{DD}		f _{IN} =120MHz, V _{IN} =0.5V _{P-P} Sine wave input, No load				65	mA
Stand-by Current		I _{st}		CONT=XT=V _{SS} , No load (Note)				1	μA
Input Voltage		V _{IH}		CONT Terminal		4.5		5.0	V
		V _{IL}				0		0.5	
Output Current		I _{OH}		V _{OH} =4.5V	NJU6342	24			mA
					NJU6342H	4			
		I _{OL}		V _{OL} =0.5V	NJU6342	24			
					NJU6342H	8			
Input Current		I _{IN}		CONT Terminal, CONT=V _{SS}		125	250	500	μA
Tri-state Off-leakage Current		I _{oz}		CONT=V _{SS} , F _{OUT} =V _{DD} or V _{SS}				±1	μA
Max. Operating Frequency		f _{MAX}				120			MHz
Input Oscillation Swing		V _{IN}		C _{IN} =10000pF, f _{IN} =120MHz Sine wave input		0.5			V _{P-P}
Output Signal Symmetry		SYM		C _L =20pF @1/2V _{DD} f _{IN} =120MHz V _{IN} =0.5V _{P-P}	NJU6342	45	50	55	%
				C _L =15pF, R _L =780Ω @1.4V, f _{IN} =120MHz V _{IN} =0.5V _{P-P}	NJU6342H	45	50	55	
Output Signal Rise Time		t _r		C _L =20pF, R _L =450Ω 20%~80%	NJU6342		0.8		ns
				C _L =15pF, R _L =780Ω 0.4V~2.4V	NJU6342H		1.4		
Output Signal Fall Time		t _f		C _L =20pF, R _L =450Ω 80%~20%	NJU6342		0.8		
				C _L =15pF, R _L =780Ω 2.4V~0.4V	NJU6342H		0.8		

Note) Excluding input current on CONT terminal.



MEASUREMENT CIRCUITS

(1) Output Symmetry



(2) Output Rise / Fall Time

