



QUARTZ CRYSTAL OSCILLATOR

GENERAL DESCRIPTION

The NJU6362A is a C-MOS quartz crystal oscillator which consists of an oscillation amplifier and 3-state output buffer.

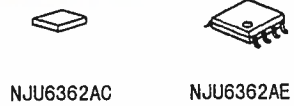
The oscillation frequency is as wide as up to 50MHz and the symmetry of 45-55% is realized over full oscillation frequency range.

The oscillation amplifier incorporates feed-back resistance and oscillation capacitors (Cg, Cd), therefore, it requires no external component except quartz crystal.

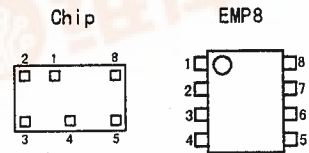
FEATURES

- Operating Voltage — 3.0~6.0V
- Maximum Oscillation Frequency — 50MHz
- Low Operating Current
- High Fan-out — LSTTL 10
- 3-state Output Buffer
- Oscillation Capacitors Cg and Cd on-chip
- Oscillation Output Stand-by Function
- Package Outline — Chip/EMP8
- C-MOS Technology

PACKAGE OUTLINE



PAD LOCATION/PIN CONFIGURATION



COORDINATES

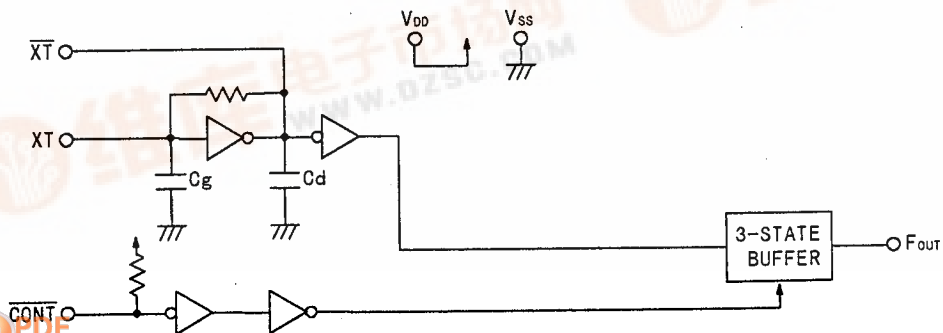
No.	PAD	X	Y
1	CONT	515	648
2	XT	231	648
3	$\overline{X}T$	231	168
4	V _{SS}	734	152
5	F _{OUT}	1091	172
6	NC	—	—
7	NC	—	—
8	V _{DD}	1091	628

Chip Size : 1.29x0.8mm

Chip Thickness : 400±30µm

Note) There are no PAD of No. 6 and 7 on the chip.

BLOCK DIAGRAM





■ TERMINAL DESCRIPTION

No.	SYMBOL	F U N C T I O N	
1	$\overline{\text{CONT}}$	3-State Output Control	
		$\overline{\text{CONT}}$	F_{OUT}
		H or Open	Output frequency f_o
		L	Output High Impedance
2	XT	Quartz Crystal Connecting terminals	
3	$\overline{\text{XT}}$		
4	V_{SS}	GND	
5	F_{OUT}	Output frequency f_o	
8	V_{DD}	+5V	

■ ABSOLUTE MAXIMUM RATINGS

($T_a=25^\circ\text{C}$)

P A R A M E T E R	SYMBOL	R A T I N G S	UNIT
Supply Voltage	V_{DD}	-0.5 ~ +7.0	V
Input Voltage	V_{IN}	$V_{\text{SS}}-0.5 \sim V_{\text{DD}}+0.5$	V
Output Voltage	V_o	-0.5 ~ $V_{\text{DD}}+0.5$	V
Input Current	I_{IN}	± 10	mA
Output Current	I_o	± 25	mA
Power Dissipation (EMP)	P_o	200	mW
Operating Temperature Range	T_{opr}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 ~ +150	$^\circ\text{C}$

■ ELECTRICAL CHARACTERISTICS

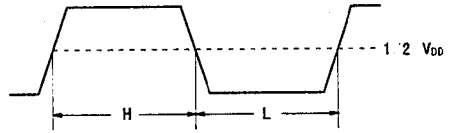
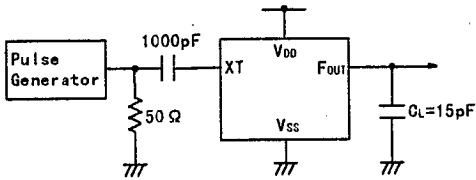
($T_a=25^\circ\text{C}$, $V_{\text{DD}}=5\text{V}$)

P A R A M E T E R	SYMBOL	C O N D I T I O N S	MIN	TYP	MAX	UNIT
Operating Voltage	V_{DD}		3		6	V
Operating Current	I_{DD}	$f_{\text{osc}}=16\text{MHz}$, No load			10	mA
Stand-by Current	I_{st}	$\overline{\text{CONT}}=\overline{\text{XT}}=V_{\text{SS}}$, No load (Note)			1	μA
Input Voltage	V_{IH}		3.5		5.0	V
	V_{IL}		0		1.5	
Output Current	I_{OH}	$V_{\text{OH}}=4.5\text{V}$	5.5			mA
	I_{OL}	$V_{\text{OL}}=0.5\text{V}$	5.5			
Input Current	I_{IN}	$\overline{\text{CONT}}=V_{\text{SS}}$	125	250	500	μA
3-st. Off-leakage Current	I_{oz}	$\overline{\text{CONT}}=V_{\text{SS}}$, $F_{\text{OUT}}=V_{\text{DD}}$ or V_{SS}			± 0.1	μA
Internal Capacitor	C_g/C_d			28		pF
Max. Oscillation Freq.	f_{MAX}		50			MHz
Output Signal Symmetry	SYM	$C_L=15\text{pF}$ at $1/2V_{\text{DD}}$	45	50	55	%
Output Signal Rise Time	t_r	$C_L=15\text{pF}$, 10%~90%			8	ns
Output Signal Fall Time	t_f	$C_L=15\text{pF}$, 90%~10%			8	ns

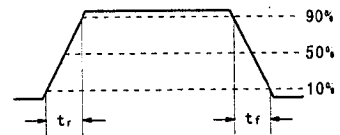
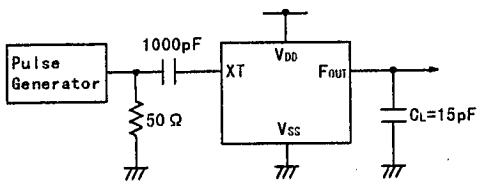
Note) Excluding input current on $\overline{\text{CONT}}$ terminal.

■ MEASUREMENT CIRCUITS

(1) Output Signal Symmetry ($C_L=15\text{pF}$)



(2) Output Signal Rise / Fall Time ($C_L=15\text{pF}$)



NJU6362A

MEMO

[CAUTION]

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