

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 (C_g , C_d), 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 C_g and C_d on-chip
- Oscillation Output Stand-by Function
- Package Outline — Chip/EMP8
- C-MOS Technology

PACKAGE OUTLINE



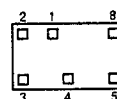
NJU6362AC



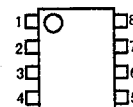
NJU6362AE

PAD LOCATION/PIN CONFIGURATION

Chip



EMP8



COORDINATES

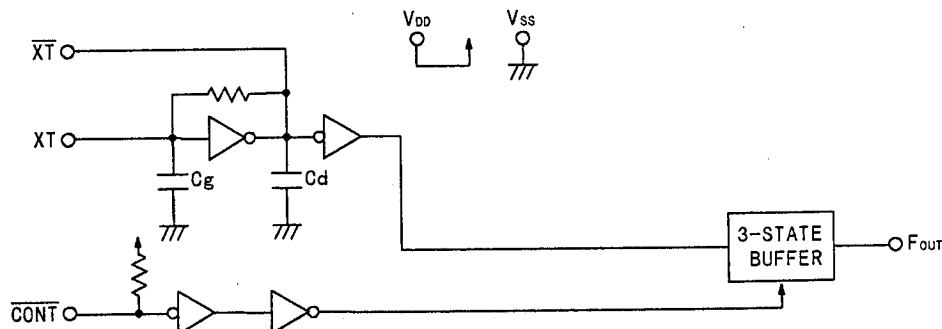
No.	PAD	X	Y
1	CONT	515	648
2	XT	231	648
3	\overline{XT}	231	168
4	V_{SS}	734	152
5	F_{OUT}	1091	172
6	NC	—	—
7	NC	—	—
8	V_{DD}	1091	628

Chip Size : 1.29x0.8mm

Chip Thickness : $400 \pm 30 \mu m$

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

(Ta=25°C)

P A R A M E T E R	SYMBOL	R A T I N G S	UNIT
Supply Voltage	V _{DD}	-0.5 ~ +7.0	V
Input Voltage	V _{IN}	V _{SS} -0.5 ~ V _{DD} +0.5	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 _o	200	mW
Operating Temperature Range	Topr	-40 ~ + 85	°C
Storage Temperature Range	Tstg	-65 ~ +150	°C

■ ELECTRICAL CHARACTERISTICS

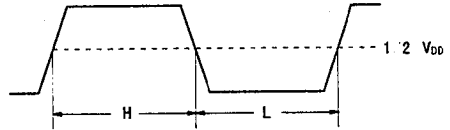
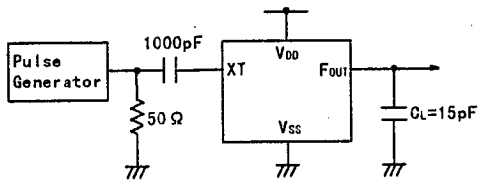
(Ta=25°C, V_{DD}=5V)

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}	fosc=16MHz, No load			10	mA
Stand-by Current	I _{st}	$\overline{\text{CONT}}=\text{XT}=\text{V}_{\text{SS}}$, No load (Note)			1	uA
Input Voltage	V _{IH}		3.5		5.0	V
	V _{IL}		0		1.5	
Output Current	I _{OH}	V _{OH} =4.5V	5.5			mA
	I _{OL}	V _{OL} =0.5V	5.5			
Input Current	I _{IN}	$\overline{\text{CONT}}=\text{V}_{\text{SS}}$	125	250	500	μA
3-st. Off-leakage Current	I _{oz}	$\overline{\text{CONT}}=\text{V}_{\text{SS}}$, F _{OUT} =V _{DD} or V _{SS}			±0.1	μA
Internal Capacitor	Cg/Cd			28		pF
Max. Oscillation Freq.	f _{MAX}		50			MHz
Output Signal Symmetry	SYM	C _L =15pF at 1/2V _{DD}	45	50	55	%
Output Signal Rise Time	t _r	C _L =15pF, 10%-90%			8	ns
Output Signal Fall Time	t _f	C _L =15pF, 90%-10%			8	ns

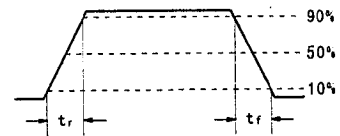
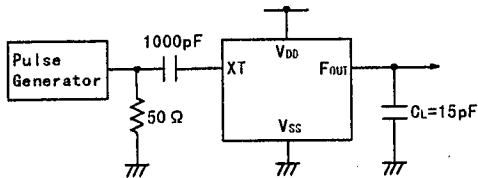
Note) Excluding input current on $\overline{\text{CONT}}$ terminal.

MEASUREMENT CIRCUITS

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



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



MEMO

[CAUTION]

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