QUARTZ CRYSTAL OSCILLATOR

■ GENERAL DESCRIPTION

The NJU6322 series is a C-MOS quartz crystal oscillator which consists of oscillation amplifier, 3-stage divider 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 feed-back resistor and oscillation load capacitors (Cg, Cd) incorporated on oscillation amplifier enables oscillation by connecting quartz crystal only.

Only one output frequency is selected from f0, f0/2, f0/4 and f0/8 by internal connection.

The 3-state output buffer is TTL compatible and capable of 10 TTL driving.

■ PACKAGE OUTLINE

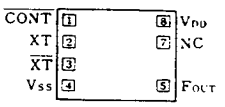
NJU6322XC

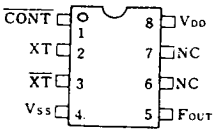
NJU6322XE

■ FEATURES

- Operating Voltage -- 4.0~6.0V
- Maximum Oscillation Frequency -- 50MHz
- Low Operating Current
- High Fanout -- TTL 10
- 3-state Output Buffer
- Output Frequency Selectable by mask option
  One frequency out of f0, f0/2, f0/4 and f0/8 outputs.
- Oscillation Capacitors Cg and Cd On-chip
- Oscillation Stop Function
- Package Outline -- CHIP/EMP 8
- C-MOS Technology

■ PIN CONFIGURATION/PAD LOCATION





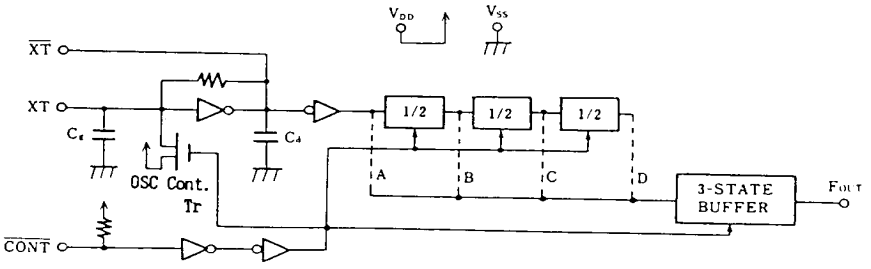
■ COORDINATES

Unit : μm

No.	PAD	X	Y
1	$\overline{CONT}$	170	649
2	XT	170	483
3	$\overline{XT}$	170	316
4	Vss	170	143
5	FOUT	1094	143
6	NC	—	—
7	NC	1094	462
8	VDD	1094	649

CHIP SIZE : 1.24×0.8mm
CHIP THICKNESS : 400μm±30μm

■ BLOCK DIAGRAM



New Japan Radio Co.,Ltd.

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{DD}	-0.5 ~ 7.0	V
Input Voltage	V_{IN}	-0.5 ~ V_{DD}+0.5	V
Output Voltage	V_O	-0.5 ~ V_{DD}+0.5	V
Input Current	I_{IN}	-10 ~ +10	mA
Output Current	I_O	-25 ~ +25	mA
Power Dissipation (EMP)	P_D	200	mW
Operating Temperature Range	Topr	-40 ~ + 85	°C
Storage Temperature Range	Tstg	-65 ~ +150	°C

■ ELECTRICAL CHARACTERISTICS

(Ta=25°C, V_{DD}=5V)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Operating Voltage	V_{DD}		4		6	V
Operating Current	I_{DD}	fosc=16MHz, No load			10	mA
Stand-by Current	Ist	$\overline{CONT}$=Vss, No load (Note)			100	uA
Input Volatge	V_{IH}		3.5		5.0	V
	V_{IL}		0		1.5	
Output Current	I_{OH}	V_{OH}=4.5V	4			mA
	I_{OL}	V_{OL}=0.5V	16			
Input Current	I_{IN}	$\overline{CONT}$ Terminal			400	uA
Internal Capacitor	Cg			23		pF
	Cd			23		
Max. Oscillation Freq.	F_{MAX}	C_L=15pF	50			MHz
Output Signal Symmetry	SYM	at 1.4V, No load	45	50	55	%
Output Signal Rise Time	$T_{R}1$	C_L=15pF, R_L=390Ω, 20% - 80%			8	ns
	$T_{R}2$	C_L=15pF, R_L=390Ω, 0.4V-2.4V			6	
Output Signal Fall Time	$T_{F}1$	C_L=15pF, R_L=390Ω, 80% - 20%			8	ns
	$T_{F}2$	C_L=15pF, R_L=390Ω, 2.4V-0.4V			4	

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