

The ECS-1000X Series clock oscillator can drive both HCMOS and TTL logic. This oscillator also features tri-state enable/disable capabilities in a 14 pin DIP package.

## FEATURES

- 50pF HCMOS/ TTL logic
- Tri-State enable/disable
- Wide frequency range
- Resistance weld package
- 3.3V operation (optional)
- PbFree/RoHS Compliant

## PART NUMBERING GUIDE

PART NUMBER *	FREQUENCY STABILITY
ECS-1000AX	±100 PPM
ECS-1000BX	±50 PPM
ECS-1000CX	±25 PPM

\* Complete part number to include frequency, i.e. ECS-1000AX-100 (100 = 10.000MHz)

## OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	FREQUENCY RANGE	CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
FREQUENCY RANGE ( $f_0$ )	1.000 ~ 100.000		1.000		100.000	MHz
OPERATING TEMP. RANGE ( $T_{OPR}$ )	1.000 ~ 100.000		0		+70	°C
STORAGE TEMP. RANGE ( $T_{STG}$ )	1.000 ~ 100.000		-55		+125	°C
FREQUENCY STABILITY	1.000 ~ 100.000	All conditions*	-100		+100	PPM
INPUT CURRENT ( $I_{DD}$ )	1.000 ~ 25.000			17	25	mA
	25.000 ~ 50.000			33	40	mA
	50.000 ~ 80.000			45	77	mA
	80.000 ~ 100.000			67	82	mA
OUTPUT SYMMETRY	1.000 ~ 80.000	50% $V_{DD}$ level	45	50 ±3	55	%
	80.000 ~ 100.000	50% $V_{DD}$ level	40	50 ±3	60	%
RISE TIME ( $T_R$ )	1.000 ~ 100.000	10% ~ 90% $V_{DD}$ level			5	nS
FALL TIME ( $T_F$ )	1.000 ~ 100.000	90% ~ 10% $V_{DD}$ level			5	nS
OUTPUT VOLTAGE ( $V_{OL}$ , $V_{OH}$ )	1.000 ~ 100.000	$I_{OL} = 16$ mA			0.5	V
	1.000 ~ 100.000	$I_{OH} = -16$ mA	4.5			V
OUTPUT CURRENT ( $I_{OL}$ , $I_{OH}$ )	1.000 ~ 100.000	$V_{OL} = 0.5$ V			16	mA
	1.000 ~ 100.000	$V_{OH} = 4.5$ V			-16	mA
OUTPUT LOAD	1.000 ~ 100.000	TTL			10	TTL
	1.000 ~ 80.000	HCMOS			50	pF
	80.000 ~ 100.000	HCMOS			30	pF
START-UP TIME ( $T_s$ )	1.000 ~ 100.000				10	mS
SUPPLY VOLTAGE		+5.0 ±0.25				V

\* Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, aging, shock and vibration.

\*\* An internal pullup resistor from pin 1 to pin 14 allows active output if pin 1 is left open.

## PACKAGE DIMENSIONS (mm)

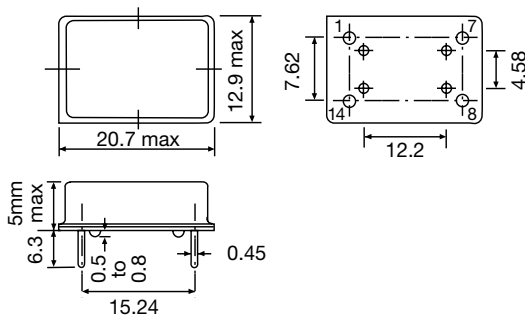


Figure 1) ECS-1000X Series – Top, Bottom and Side views

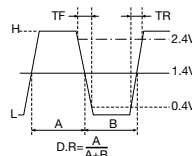


Figure 2) TTL Output Wave Form

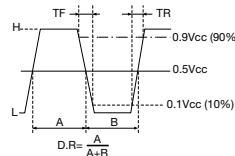


Figure 3) HCMOS Output Wave Form

PIN CONNECTIONS	
#1	TRI-STATE
#7	CASE GROUND
#8	OUTPUT
#14	+5V DC

ENABLE / DISABLE FUNCTION**	
$\overline{INH}$ (PIN 1)	OUTPUT (PIN 8)
OPEN**	ACTIVE
1 LEVEL $V_{IH} \geq 2.2$ V ( $V_{IH} \geq 2.0$ V ABOVE 70MHz)	ACTIVE
'0' LEVEL $V_{IL} \leq 0.8$ V	HIGH Z