

The ECS-100X clock oscillator is fully compatible with TTL circuitry. The metal package with pin #7 case ground acts as shielding to minimize radiation.

## FEATURES

- 10 TTL output load
- Low cost
- Wide frequency range
- Industry standard footprint
- Resistance weld package
- 3.3V operation (optional)
- PbFree/RoHS Compliant



## PART NUMBERING GUIDE

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

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

## OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	FREQUENCY RANGE	CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
FREQUENCY RANGE ( $f_0$ )	1.000 ~ 150.000		1.000		150.000	MHz
OPERATING TEMP. RANGE ( $T_{OPR}$ )	1.000 ~ 150.000		0		+70	°C
STORAGE TEMP. RANGE ( $T_{STG}$ )	1.000 ~ 150.000		-55		+125	°C
FREQUENCY STABILITY	1.000 ~ 150.000	All conditions*	-100		+100	PPM
INPUT CURRENT ( $I_{DD}$ )	1.000 ~ 7.999	max. load			15	mA
	8.000 ~ 23.999	max. load			30	mA
	24.000 ~ 69.999	max. load			70	mA
	70.000 ~ 150.000	max. load			80	mA
OUTPUT SYMMETRY	1.000 ~ 7.999	1.4V level	45	50 ±3	55	%
	8.000 ~ 150.000	1.4V level	40	50 ±3	60	%
RISE TIME ( $T_R$ )	1.000 ~ 24.999	0.4V ~ 2.4V			10	nS
	25.000 ~ 69.999	0.5V ~ 2.4V			5	nS
	70.000 ~ 150.000	0.5V ~ 2.4V			4	nS
FALL TIME ( $T_F$ )	1.000 ~ 24.999	2.4V ~ 0.4V			10	nS
	25.000 ~ 69.999	2.4V ~ 0.5V			5	nS
	70.000 ~ 150.000	2.4V ~ 0.5V			4	nS
OUTPUT VOLTAGE ( $V_{OL}$ )	1.000 ~ 24.999	$I_{OL} = 20$ mA			0.4	V
	25.000 ~ 150.000	$I_{OL} = 20$ mA			0.5	V
	70.000 ~ 150.000	$I_{OH} = 1$ mA	2.4			V
OUTPUT CURRENT ( $I_{OL}$ )	1.000 ~ 150.000	$V_{OL} = 0.5$ V			20	mA
	1.000 ~ 150.000	$V_{OH} = 2.4$ V			1.0	mA
OUTPUT LOAD	1.000 ~ 150.000				10	TTL
START-UP TIME ( $T_S$ )	1.000 ~ 3.499				20	mS
	3.500 ~ 3.999				35	mS
	4.000 ~ 5.999				30	mS
	6.000 ~ 19.999				20	mS
	20.000 ~ 150.000				15	mS
SUPPLY VOLTAGE	1.000 ~ 150.000	+5.0 ±0.25			-	V <sub>DC</sub>

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

## PACKAGE DIMENSIONS (mm)

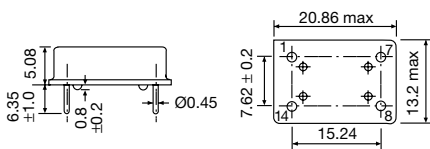


Figure 1) ECS-100X Series Side and Bottom views

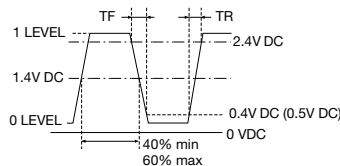


Figure 2) Output Wave Form

PIN CONNECTIONS	
#1	NC
#7	CASE GND
#8	OUTPUT
#14	+5 V DC

Figure 3) Pin Connections