



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



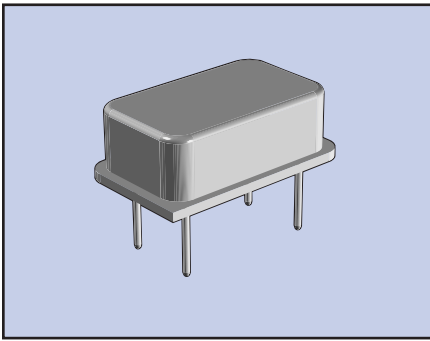
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The ECS-100X clock oscillator is fully compatible with TTL circuitry. The metal package with pin #7 case ground acts as shielding to minimize radiation.

## 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)

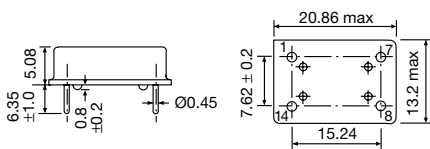


Figure 1) ECS-100X Series Side and Bottom views

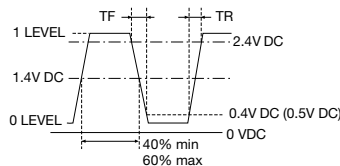


Figure 2) Output Wave Form

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

Figure 3) Pin Connections