

- ▶ Low current consumption
- ▶ Built in divider circuit
- ▶ 8-pin DIP Package
- ▶ Pb Free/RoHS Compliant

ECS-300CX

DUAL OUTPUT CMOS CLOCK OSCILLATOR

The ECS-300CX utilizes a built in divider circuit to provide a second divided output. The CMOS based oscillator features low current consumption in a standard 8-pin DIP package.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-300CX			UNITS
		MIN	TYP	MAX	
Frequency Range	Primary Output	12.000		24.000	MHz
	Divided Output	0.048875		12.000	MHz
Frequency Stability *	All Conditions			± 100	ppm
Operating Temperature		-10		+70	°C
Storage Temperature		-55		+125	°C
Input Voltage	V _{CC}	+3.0	+5.0	+5.5	VDC
Input Current				20	mA
Output Symmetry	Primary Output	40/60		60/40	%
	Divided Output	48/52		52/48	%
Rise and Fall Times				15	ns
Output Voltage	V _{OL}			V _{CC} x 0.1	VDC
	V _{OH}	V _{CC} x 0.9			VDC
Output Load	CMOS			50	pF
Startup time				1.5	ms

POSSIBLE FREQUENCY DIVISIONS BY PART NUMBER

ECS PART NUMBER	f _o CLOCK Pin 1	f _o /2 ⁿ (Divided Output) PIN 2							
		1/2 * 1	1/2 * 2	1/2 * 3	1/2 * 4	1/2 * 5	1/2 * 6	1/2 * 7	1/2 * 8
ECS-300CX-120	12.000 MHz	6.000 MHz	3.000 MHz	1.500 MHz	750 KHz	375 KHz	187.5 KHz	93.75 KHz	46.875 KHz
ECS-300CX-160	16.000 MHz	8.000 MHz	4.000 MHz	2.000 MHz	1.000 MHz	500 KHz	250 KHz	125 KHz	62.5 KHz
ECS-300CX-240	24.000 MHz	12.000 MHz	6.000 MHz	3.000 MHz	1.500 MHz	750 KHz	375 KHz	187.5 KHz	93.75 KHz

DIMENSIONS (mm)

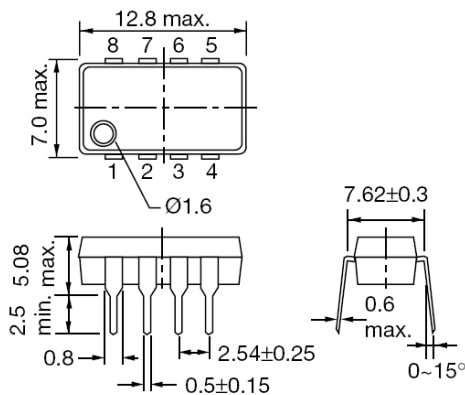


Figure 1) Top, Side and End views

Pin Connections

Pin	Connection
#1	Output
#2	Divided Output
#3	Standby
#4	Ground
#5	A (Divider selection)
#6	B (Divider selection)
#7	C (Divider selection)
#8	V _{CC}

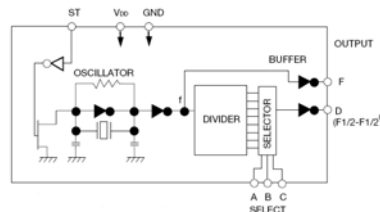


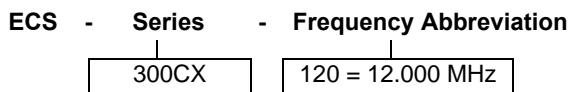
Figure 2) Block Diagram

Input				Output	
Divider Selection			ST	Pin 1 (Primary Output)	Pin 2 (Divided Output)
C	B	A			
L	L	L	H	f _o clock	f _o 1/2 * 1 clock
L	L	H	H	f _o clock	f _o 1/2 * 2 clock
L	H	L	H	f _o clock	f _o 1/2 * 3 clock
L	H	H	H	f _o clock	f _o 1/2 * 4 clock
H	L	L	H	f _o clock	f _o 1/2 * 5 clock
H	L	H	H	f _o clock	f _o 1/2 * 6 clock
H	H	L	H	f _o clock	f _o 1/2 * 7 clock
H	H	H	H	f _o clock	f _o 1/2 * 8 clock
X	X	X	L	L	L

AVAILABLE PART NUMBERS

ECS P/N	Primary Frequency
ECS-300CX-120	12.000 MHz
ECS-300CX-128	12.800 MHz
ECS-300CX-143	14.31818 MHz
ECS-300CX-160	16.000 MHz
ECS-300CX-163.8	16.384 MHz
ECS-300CX-184	18.432 MHz
ECS-300CX-200	20.000 MHz
ECS-300CX-240	24.000 MHz

PART NUMBERING GUIDE: Example ECS-300CX-120



* Note: Inclusive of 25°C tolerance, operating temperature, input voltage change, load change, shock and vibration.