



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!



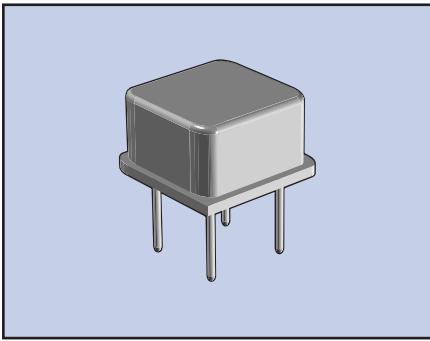
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The ECS-2200 Series clock oscillator can drive both HCMOS and TTL logic. This oscillator also features tri-state enable/disable capabilities in an 8 pin DIP package.

FEATURES

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

PART NUMBERING GUIDE

PART NUMBER *	FREQUENCY STABILITY
ECS-2200A	±100 PPM
ECS-2200B	±50 PPM
ECS-2200C	±25 PPM

* Complete part number to include frequency. i.e. ECS-2200A-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 ~ 25.000			17	25	mA
	25.000 ~ 50.000			33	46	mA
	50.000 ~ 80.000			45	77	mA
	80.000 ~ 150.000			67	82	mA
OUTPUT SYMMETRY	1.000 ~ 80.000	50% V_{DD} level	45	50 ±3	55	%
	80.000 ~ 150.000	50% V_{DD} level	40	50 ±3	60	%
RISE TIME (T_R)	1.000 ~ 150.000	10% ~ 90% V_{DD} level			5	nS
FALL TIME (T_F)	1.000 ~ 150.000	90% ~ 10% V_{DD} level			5	nS
OUTPUT VOLTAGE (V_{OL}) (V_{OH})	1.000 ~ 150.000	$I_{OL} = 16$ mA			0.5	V
	1.000 ~ 150.000	$I_{OH} = -16$ mA	4.5			V
OUTPUT CURRENT (I_{OL}) (I_{OH})	1.000 ~ 150.000	$V_{OL} = 0.5$ V			16	mA
	1.000 ~ 150.000	$V_{OH} = 4.5$ V			-16	mA
OUTPUT LOAD	1.000 ~ 150.000	TTL			10	TTL
	1.000 ~ 80.000	HCMOS			50	pF
	80.000 ~ 150.000	HCMOS			30	pF
START-UP TIME (T_s)	1.000 ~ 150.000	0.0V TO 5.0V			10	mS
SUPPLY VOLTAGE (V_{DC})		+5.0 ±0.25				V _{DC}

* 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 8 allows active output if pin 1 is left open.

PACKAGE DIMENSIONS (mm)

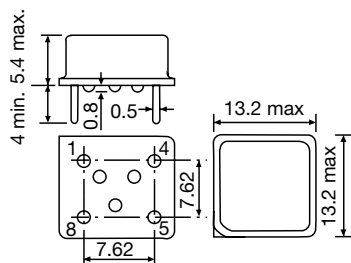


Figure 1) ECS-2200 Series – Side, Bottom and Top views

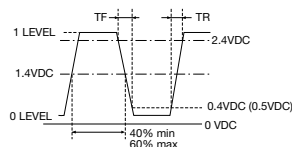


Figure 2) TTL Output Wave Form

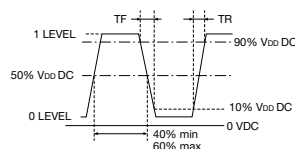


Figure 3) HCMOS Output Wave Form

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

ENABLE / DISABLE FUNCTION**	
INH (PIN 1)	OUTPUT (PIN 5)
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