

# Half Size Clock Oscillators

## Electrical Characteristics:

- **Frequency Stability:** ±50ppm max.
- **Supply Voltage:** 4.5V min., 5.5V max.
- **Input Current:**
  - 4.000 ~ 25.000MHz: 25mA
  - 25.000+ ~ 50.000MHz: 46mA
  - 50.000+ ~ 80.000MHz: 77mA
- **Output Symmetry @2.5V:**
  - 4.000 ~ 80.000MHz: 45% min., 55% max.
- **Operating Temp.:** -10°C ~ +70°C
- **Storage Temp.:** -55°C ~ +125°C
- **Rise Time (0.5V ~ 4.5V):** 5nS
- **Fall Time (4.5V ~ 0.5V):** 5nS
- **Output Voltage (4.000 ~ 80.000MHz):**
  - IOL = 16mA; 0.5V max.
  - IOH = -16mA; 4.5V min.
- **Output Current (4.000 ~ 80.000MHz):**
  - VOL = 0.5V; 16mA max.
  - VOH = 4.5V; -16mA max.
- **Output Load:**
  - TTL: 10 TTL max.
  - HCMOS: 50pF
- **Start up Time:** 4.000-80.000MHz: 10mS
- **Output Enable/Disable Time:** 100nS

Denotes Pin 1

Pin	Connection
1	Enable/Disable
4	GND (Case)
5	Output
8	+5 VDC

Enable / Disable Function	
INH (Pin 1)	OUTPUT (Pin 5)
OPEN	ACTIVE
'1' Level VIH ≥ 2.2V	ACTIVE
'0' Level VIL ≤ 0.8V	High Z

† An internal pullup resistor from Pin 1 to Pin 8 allows active output if Pin 1 is left open

Frequency (MHz)	Digi-Key Part No.	Price Each			ECS Part No.	
		1	10	100		500
4.000	XC259-ND	2.12	1.91	1.53	1.36	ECS-2200B-040
4.9152	XC260-ND	2.12	1.91	1.53	1.36	ECS-2200B-049
6.000	XC261-ND	2.12	1.91	1.53	1.36	ECS-2200B-060
6.144	XC262-ND	2.12	1.91	1.53	1.36	ECS-2200B-061
7.3728	XC263-ND	2.12	1.91	1.53	1.36	ECS-2200B-073
8.000	XC264-ND	2.12	1.91	1.53	1.36	ECS-2200B-080
9.216	XC265-ND	2.12	1.91	1.53	1.36	ECS-2200B-092.1
9.8304	XC266-ND	2.12	1.91	1.53	1.36	ECS-2200B-098
10.000	XC267-ND	2.12	1.91	1.53	1.36	ECS-2200B-100
11.0592	XC268-ND	2.12	1.91	1.53	1.36	ECS-2200B-110
12.000	XC269-ND	2.12	1.91	1.53	1.36	ECS-2200B-120
14.31818	XC270-ND	2.12	1.91	1.53	1.36	ECS-2200B-143
16.000	XC271-ND	2.12	1.91	1.53	1.36	ECS-2200B-160
18.432	XC272-ND	2.12	1.91	1.53	1.36	ECS-2200B-184
19.6608	XC273-ND	2.12	1.91	1.53	1.36	ECS-2200B-196
20.000	XC274-ND	2.12	1.91	1.53	1.36	ECS-2200B-200
24.000	XC275-ND	2.12	1.91	1.53	1.36	ECS-2200B-240
25.000	XC276-ND	2.12	1.91	1.53	1.36	ECS-2200B-250
28.322	XC277-ND	2.12	1.91	1.53	1.36	ECS-2200B-283
32.000	XC278-ND	2.12	1.91	1.53	1.36	ECS-2200B-320
40.000	XC279-ND	2.12	1.91	1.53	1.36	ECS-2200B-400
48.000	XC280-ND	2.12	1.91	1.53	1.36	ECS-2200B-480
50.000	XC281-ND	2.12	1.91	1.53	1.36	ECS-2200B-500
66.666	XC282-ND	2.12	1.91	1.53	1.36	ECS-2200B-666
80.000	XC283-ND	2.12	1.91	1.53	1.36	ECS-2200B-800

# Full Size TTL Clock Oscillators

## Electrical Characteristics:

- **Frequency Stability:** ±100ppm max.
- **Supply Voltage:** 4.5V min., 5.5V max.
- **Input Current:**
  - 1.000 ~ 8.000MHz: 15mA
  - 8.000+ ~ 24.000MHz: 30mA
  - 24.000+ ~ 66.666MHz: 70 mA
- **Output Symmetry @ 1.4V:**
  - 1.000 ~ 8.000MHz: 45% min., 55% max.
  - 8.000+ ~ 66.666MHz: 40% min., 60% max.
- **Operating Temp.:** 0°C ~ +70°C
- **Storage Temp.:** -55°C ~ +125°C
- **Rise Time:**
  - 1.000 ~ 25.000MHz @ 0.4V ~ 2.4V: 10nS
  - 25.000+ ~ 66.666MHz @ 0.5V ~ 2.4V: 5nS
- **Fall Time:**
  - 1.000 ~ 25.000MHz @ 0.4V ~ 2.4V: 10nS
  - 25.000+ ~ 66.666MHz @ 0.5 ~ 2.4V: 5nS
- **Output Voltage (IOL = 20mA):**
  - 1.000 ~ 25.000MHz: 0.4V max.
  - 25.000+ ~ 66.666MHz: 0.5V max.
- **Output Voltage (IOH = 1mA):** 2.4V min.
- **Output Current:**
  - VOL = 0.5V; 16mA max.
  - VOH = 2.4V; -4mA max.
- **Output Load:** TTL: 10 TTL max.
- **Start up Time:**
  - 1.000-3.500MHz: 20mS
  - 3.500+~4.000MHz: 35mS
  - 4.000+~6.000MHz: 30mS
  - 6.000+~20.000MHz: 20mS
  - 20.000+~66.666MHz: 15mS

Pin	Connection
1	NC
7	Gnd/Case Gnd
8	Output
14	+5V dc

Frequency (MHz)	Digi-Key Part No.	Price Each			ECS Part No.	
		1	10	100		500
1.000	X101-ND	1.51	1.36	1.09	.97	ECS-100A-010
1.2288	X102-ND	1.51	1.36	1.09	.97	ECS-100A-012.2
1.8432	X103-ND	1.51	1.36	1.09	.97	ECS-100A-018
2.000	X104-ND	1.51	1.36	1.09	.97	ECS-100A-020
2.4576	X105-ND	1.51	1.36	1.09	.97	ECS-100A-024
3.579545	XC227-ND	1.51	1.36	1.09	.97	ECS-100A-035
3.6864	X106-ND	1.51	1.36	1.09	.97	ECS-100A-036
4.000	X107-ND	1.51	1.36	1.09	.97	ECS-100A-040
4.9152	X108-ND	1.51	1.36	1.09	.97	ECS-100A-049
5.000	X109-ND	1.51	1.36	1.09	.97	ECS-100A-050
5.0688	X110-ND	1.51	1.36	1.09	.97	ECS-100A-051
6.000	X111-ND	1.51	1.36	1.09	.97	ECS-100A-060
6.144	X122-ND	1.51	1.36	1.09	.97	ECS-100A-061
7.3728	X123-ND	1.51	1.36	1.09	.97	ECS-100A-073
8.000	X112-ND	1.51	1.36	1.09	.97	ECS-100A-080
9.216	X113-ND	1.51	1.36	1.09	.97	ECS-100A-092.1
9.8304	X124-ND	1.51	1.36	1.09	.97	ECS-100A-098.3
10.000	X114-ND	1.51	1.36	1.09	.97	ECS-100A-100
11.0592	X125-ND	1.51	1.36	1.09	.97	ECS-100A-110.5
12.000	X126-ND	1.51	1.36	1.09	.97	ECS-100A-120
14.31818	X115-ND	1.51	1.36	1.09	.97	ECS-100A-143
14.7456	X127-ND	1.51	1.36	1.09	.97	ECS-100A-147.4
16.000	X116-ND	1.51	1.36	1.09	.97	ECS-100A-160
16.257	X128-ND	1.51	1.36	1.09	.97	ECS-100A-162.5
18.000	X117-ND	1.51	1.36	1.09	.97	ECS-100A-180
18.432	X118-ND	1.51	1.36	1.09	.97	ECS-100A-184
19.6608	XC314-ND	1.51	1.36	1.09	.97	ECS-100A-196.6
20.000	X119-ND	1.51	1.36	1.09	.97	ECS-100A-200
24.000	X129-ND	1.51	1.36	1.09	.97	ECS-100A-240
25.000	XC315-ND	1.51	1.36	1.09	.97	ECS-100A-250
25.175	X130-ND	1.51	1.36	1.09	.97	ECS-100A-251.7
28.322	X131-ND	1.51	1.36	1.09	.97	ECS-100A-283.2
30.000	XC316-ND	1.51	1.36	1.09	.97	ECS-100A-300
32.000	X132-ND	1.51	1.36	1.09	.97	ECS-100A-320
32.514	X133-ND	1.51	1.36	1.09	.97	ECS-100A-325.1
35.000	X134-ND	1.51	1.36	1.09	.97	ECS-100A-350
40.000	X120-ND	1.51	1.36	1.09	.97	ECS-100A-400
48.000	X135-ND	1.51	1.36	1.09	.97	ECS-100A-480
50.000	X121-ND	1.51	1.36	1.09	.97	ECS-100A-500
64.000	X136-ND	1.51	1.36	1.09	.97	ECS-100A-640
66.666	XC228-ND	1.51	1.36	1.09	.97	ECS-100A-666

**A462-ND** Aries Full-Size Socket for a 4-Pin Oscillator ..... 48/1; 10.07/25; 32.62/100  
**A463-ND** Aries Half-Size Socket for a 4-Pin Oscillator ..... 48/1; 10.07/25; 32.62/100

# Half Size TTL Clock Oscillators

## Electrical Characteristics:

- **Frequency Stability:** ±100ppm max.
- **Supply Voltage:** 4.5V min., 5.5V max.
- **Input Current:**
  - 1.000 ~ 25.000MHz: 25mA
  - 25.000+ ~ 50.000MHz: 66mA
  - 50.000+ ~ 66.666MHz: 77mA
- **Output Symmetry @ 2.5V:**
  - 1.000 ~ 66.666MHz: 45% min., 55% max.
- **Operating Temp.:** 0°C ~ +70°C
- **Storage Temp.:** -55°C ~ +125°C
- **Rise Time (0.5V ~ 4.5V):** 5nS
- **Fall Time (4.5V ~ 0.5V):** 5nS
- **Output Voltage**
  - IOL = 16mA; 0.5V max.
  - IOH = -16mA; 4.5V min.
- **Output Current:**
  - VOL = 0.5V; 16mA max.
  - VOH = 4.5V; -16mA max.
- **Output Load:**
  - TTL: 10 TTL max.
  - HCMOS: 50pF
- **Start up Time:** 10mS

$R_L = 400\Omega$   
 $D: \text{Switching Diode } 1N4148$   
 $C_L = 15pF \text{ Max.}$

Pin	Connection
1	NC
4	GND
5	Output
8	Vcc

Frequency (MHz)	Digi-Key Part No.	Price Each			ECS Part No.	
		1	10	100		500
1.000	XC229-ND	1.72	1.55	1.24	1.10	ECS-2100A-010
1.2288	XC230-ND	1.72	1.55	1.24	1.10	ECS-2100A-012.2
1.8432	XC231-ND	1.72	1.55	1.24	1.10	ECS-2100A-018
2.000	XC232-ND	1.72	1.55	1.24	1.10	ECS-2100A-020
2.4576	XC233-ND	1.72	1.55	1.24	1.10	ECS-2100A-024
3.6864	XC234-ND	1.72	1.55	1.24	1.10	ECS-2100A-036
3.579545	XC235-ND	1.72	1.55	1.24	1.10	ECS-2100A-035
4.000	X202-ND	1.72	1.55	1.24	1.10	ECS-2100A-040
4.9152	XC236-ND	1.72	1.55	1.24	1.10	ECS-2100A-049
5.000	XC237-ND	1.72	1.55	1.24	1.10	ECS-2100A-050
5.0688	XC238-ND	1.72	1.55	1.24	1.10	ECS-2100A-051
6.000	XC239-ND	1.72	1.55	1.24	1.10	ECS-2100A-060
6.144	XC240-ND	1.72	1.55	1.24	1.10	ECS-2100A-061
7.3728	X208-ND	1.72	1.55	1.24	1.10	ECS-2100A-073.2
8.000	X209-ND	1.72	1.55	1.24	1.10	ECS-2100A-080
9.216	XC241-ND	1.72	1.55	1.24	1.10	ECS-2100A-092.1
9.8304	XC242-ND	1.72	1.55	1.24	1.10	ECS-2100A-098.3
10.000	XC243-ND	1.72	1.55	1.24	1.10	ECS-2100A-100
11.0592	XC244-ND	1.72	1.55	1.24	1.10	ECS-2100A-110.5
12.000	XC245-ND	1.72	1.55	1.24	1.10	ECS-2100A-120
14.31818	XC246-ND	1.72	1.55	1.24	1.10	ECS-2100A-143
14.7456	XC247-ND	1.72	1.55	1.24	1.10	ECS-2100A-147.4
16.000	X216-ND	1.72	1.55	1.24	1.10	ECS-2100A-160
16.257	XC248-ND	1.72	1.55	1.24	1.10	ECS-2100A-162.5
18.000	XC249-ND	1.72	1.55	1.24	1.10	ECS-2100A-180
18.432	XC250-ND	1.72	1.55	1.24	1.10	ECS-2100A-184
19.6608	XC251-ND	1.72	1.55	1.24	1.10	ECS-2100A-196.6
20.000	X220-ND	1.72	1.55	1.24	1.10	ECS-2100A-200
24.000	X221-ND	1.72	1.55	1.24	1.10	ECS-2100A-240
25.000	XC252-ND	1.72	1.55	1.24	1.10	ECS-2100A-250
25.175	X222-ND	1.72	1.55	1.24	1.10	ECS-2100A-251.7
28.322	X223-ND	1.72	1.55	1.24	1.10	ECS-2100A-283.2
30.000	XC253-ND	1.72	1.55	1.24	1.10	ECS-2100A-300
32.000	XC254-ND	1.72	1.55	1.24	1.10	ECS-2100A-320
32.514	X224-ND	1.72	1.55	1.24	1.10	ECS-2100A-325.1
35.000	XC255-ND	1.72	1.55	1.24	1.10	ECS-2100A-350
40.000	X225-ND	1.72	1.55	1.24	1.10	ECS-2100A-400
48.000	XC256-ND	1.72	1.55	1.24	1.10	ECS-2100A-480
50.000	X226-ND	1.72	1.55	1.24	1.10	ECS-2100A-500
64.000	XC257-ND	1.72	1.55	1.24	1.10	ECS-2100A-640
66.666	XC258-ND	1.72	1.55	1.24	1.10	ECS-2100A-666