

C-MOS Compatible Hybrid Clock Oscillators

CXO-65 SERIES

High speed CMOS logic output
14-pin DIP compatible
(MXO-55 style)
200 Hz to 70 MHz
PIN CONNECTIONS
Pin 1: N/C or Enable or ITP
Pin 7: Ground/Case
Pin 8: Output
Pin 14: +5 VDC

ENABLE INPUT	OUTPUT
Open or High	Oscillator Output
Low	Latches High

ORDERING INFORMATION



FREQUENCY AND MODEL	CODE
3.0 to 50 MHz Basic oscillator	GA
200 Hz to <3.0 MHz Basic oscillator with dividers	GB
3.0 to 50.0 MHz Basic oscillator with enable (active high)	GAE

FREQUENCY TOL. (NOTE 2)	CODE
±.1% (1000 ppm)	1
±.01% (100 ppm)	2
±.005% (50 ppm)	3
±.05% (500 ppm)	4
±.0025% (25 ppm) (0°C to 70°C only)	5

OPERATING TEMP. RANGE	CODE
0°C to +70°C	C
-40°C to +85°C	I
-55°C to +105°C	P
-55°C to +125°C	M

NOTE: Screening Similar to MIL-O-55310, Class B Available by Adding -MLB to the End of the P/N.

CX065G SERIES ELECTRICAL CHARACTERISTICS

SPECIFICATION	MODEL	FREQ. RANGE	TEMP. RANGE	CONDITIONS	SYMBOL	MIN.	TYPICAL	MAX.	UNITS
Operating Voltage	A, B	200 Hz - 70 MHz	-40°C to +85°C		V_{DD}	4.50	5.00	5.50	VDC
		200 Hz - 70 MHz	-55°C to +125°C			4.75		7.00	
Max. Supply Voltage	A, B	200 Hz - 70 MHz			$V_{DD} \text{ (max.)}$		16.0	20.0	mA
Input Current vs. Frequency	A, B	200 Hz - <15 MHz	-55°C to +125°C	$C_L = 50 \text{ pF}$ $FO = 10 \text{ LS TTL}$	I_{DD}	0.4	1.0	1.2	mA/MHz
		15 MHz - 70 MHz							
Output Voltage - Hi	A, B	200 Hz - 70 MHz	-55°C to +125°C	$C_L = 50 \text{ pF}$ $FO = 10 \text{ LS TTL}$	V_{OH}	$V_{DD} - 0.4$	$V_{DD} - 0.1$		V
						3.5	4.5		
Output Voltage - Lo	A, B	200 Hz - 70 MHz	-55°C to +125°C	$C_L = 50 \text{ pF}$ $FO = 10 \text{ LS TTL}$	V_{OL}		0.1	0.2	V
							0.2	0.4	
Rise & Fall Times (FO = Fan Out)	B	200 Hz - 2.9 MHz	-40°C to +85°C	$C_L = 50 \text{ pF}$ 10% to 90% of Waveform	t_r & t_f		14	20	nS
			-55°C to +125°C				25		
						9	12		
	A	3 MHz - 25 MHz	-40°C to +85°C				5	8	
			-55°C to +125°C				10		
			-40°C to +85°C				2	5	
Duty Cycle (% Uptime)	A, B	200 Hz - <3 MHz	-55°C to +125°C	$C_L = 50 \text{ pF}$ @50% of Waveform	I_{OH}	45	50	55	%
			0 to +70°C			40	60		
			-55°C to +125°C			40	60		
Output Current - Hi	A, B	200 Hz - 70 MHz	-55°C to +125°C	10 LS TTL @ 1.5V Level	I_{OL}			-4.0	mA
								4.0	
Output Current - Lo	A, B	200 Hz - 70 MHz	-55°C to +125°C		C_L			50	pF
								10	
Fan Out	A, B	200 Hz - 70 MHz	-55°C to +125°C		FO			10	LS TTL
Enable Input Volt	AE	3 MHz - 70 MHz	-55°C to +125°C		V_{IH}	3.20		5.50	V
						V_{IL}	-0.50	1.30	

CXO-55 SERIES

Low power consumption
CMOS logic output
14-pin DIP compatible
(MXO-55 style)
200 Hz to 5 MHz
PIN CONNECTIONS
Pin 1: N/C or ITP
Pin 7: Ground/Case
Pin 8: Output
Pin 14: +5 VDC to +15 VDC

ORDERING INFORMATION (SEE NOTE)



FREQUENCY AND MODEL	CODE
3 to 5 MHz Basic oscillator	GA
200 Hz to <3 MHz Basic oscillator with dividers	GB

FREQUENCY TOL. (NOTE 2)	CODE
±.1% (1000 ppm)	1
±.01% (100 ppm)	2
±.005% (50 ppm)	3
±.05% (500 ppm)	4

OPERATING TEMP. RANGE	CODE
0°C to +70°C	C
-40°C to +85°C	I
-55°C to +105°C	P
-55°C to +125°C	M

ELECTRICAL SPECIFICATIONS

SPECIFICATION	MODEL	FREQ. RANGE	TEMP. RANGE	CONDITIONS	SYMBOL	MIN.	TYPICAL	MAX.	UNITS
Operating Voltage	A, B	200 Hz to 5 MHz	-55°C to +125°C		V_{DD}	4.50	5.00	15.50	V
Max. Supply Voltage					$V_{DD} \text{ Max.}$			18	
								3	
Supply Current	A	3 MHz to 5 MHz	-55°C to +125°C	$C_L = 15 \text{ pF}$	I_{DD}	$V_{DD} = 5V$		6	mA
						$V_{DD} = 10V$		9	
						$V_{DD} = 15V$		4	
	B	200 Hz to <3 MHz				$V_{DD} = 5V$		9	
						$V_{DD} = 10V$		15	
						$V_{DD} = 15V$			
Output Voltage—HI	A, B	200 Hz to 5 MHz	-55°C to +125°C	$C_L = \text{Max.}$	V_{OH}	$V_{DD} - .5$	$V_{DD} - .1$		V
							.1	.5	
Output Voltage—LO					V_{OL}			130	nS
								70	
Rise & Fall Times (measured from 10% to 90% waveform)	A, B	200 Hz to 5 MHz	-55°C to +125°C	$C_L = \text{Max.}$	t_r & t_f	$V_{DD} = 5V$		45	%
						$V_{DD} = 10V$			
						$V_{DD} = 15V$			
Duty Cycle (uptime) (@ 50% of waveform)	A, B	200 Hz to 5 MHz	-55°C to +125°C	$C_L = \text{Max.}$	C_L		40	50	pF
								15	
Output Load	B	200 Hz to <3.0 MHz	-55°C to +125°C		I_{OH}	$V_{DD} = 5V$		-100	μA
						$V_{DD} = 10V$		-250	
						$V_{DD} = 15V$		-800	
						$V_{DD} = 5V$		300	
Output Current—HI (source)	A, B	200 Hz to 5 MHz	-55°C to +125°C		I_{OL}	$V_{DD} = 10V$	$V_{OL} = .5V$	900	
						$V_{DD} = 5V$		2000	
						$V_{DD} = 10V$			
						$V_{DD} = 15V$			

NOTE: Frequency stability is guaranteed for ±10% supply voltage tolerance. Although the CXO-55 may operate from 5 to 15 VDC, standard frequency calibration is done at $V_{DD} = 5VDC$. If your application requires V_{DD} to be other than 5 VDC, please specify nominal V_{DD} , when ordering, to insure proper frequency accuracy and stability.