

MXO45/MXO45HS

Metal DIP Clock Oscillator

- ♦ Stability to ±20 PPM
- ♦ +5.0Vdc Operation
- ♦ CMOS/TTL Compatible
- ♦ Operating Temperature to -40°C to +85°C
- ♦ Output Enable Option
- ♦ 14 Pin and 8 Pin Packages



Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Unit
Output Frequency Range	fo		4.0		405 504	N.41.1
0. 1 35		-	1.0	-	105.561	MHz
Stability	∆f/f					
(Note 1)		-	-	-	20,25,50 or 100	ppm
(See Ordering Information)					01 100	
Supply Voltage	V _{cc}					
		-	4.5	5.0	5.5	V
Operating Supply Current	lcc	1.0 MHz to 7.0 MHz C _L =50	nF -	5	12	
		1.0 MHz to 7.0 MHz C_L =50 7.1 MHz to 25 MHz C_L =50		15	25	
		25.1 MHz to 50 MHz C _L =50		30	40	mA
		$50.1 \text{ MHz to } 70 \text{ MHz}$ $C_L=30$		40	60	ш
		80.1 MHz to 105.561 MHz C _L =15		45	85	
Output Load	CL		-			
CMOS	_	1.0 MHz to 50 MHz	-	-	50	
		50.1 MHz to 70 MHz	-	-	30	PF
		70.1 MHz to 105.561 MHz	-	-	15	
TTL		1.0 MHz to 105.561 MHz	-	-	10	TTL
Output Voltage Levels						
Logic '1' Level	V_{OH}	CMOS Load	Vcc-0.4V	-	-	
_	V _{OH}	TTL Load	Vcc-0.6V	-	-	V
Logic '0' Level	V _{OL}	CMOS or TTL Load	-	-	0.4	
Output Current						
	Юн	$V_{OH} = 3.9V$ $V_{CC} = 4.5V$	-	-	-16	mA
	l _{OL}	$V_{OL} = 0.4V$ $V_{CC} = 4.5V$	-	-	+16	
Output Duty Cycle	SYM					
(50% Level)		1.0 MHz to 50 MHz	45	-	55	0/
		50.1 MHz to 70 MHz	40 45		60 55	%
Rise & Fall Time (10% - 90% Level)	t _R , t _F	70.1 MHz to 105.561 MHz	40		55	
Rise & Fall Time (10% - 90% Level)	ι _R , ι _F	1.0 MHz to 25 MHz	pF -	5	8	
		25.1 MHz to 70 MHz C _L =30		3	5	nS
		70.1 MHz to 105.561 MHz $C_L=150 \text{ MHz}$		2	3	110
Start Up Time			F -	 		
от при типо	-		-	-	10	mS
Enable Function						
(Note 2)	-	See 'Enable Truth Table' on	-	-	-	-
		Page 2 or 3				
Phase Jitter						_
	tj	Peak - Peak	-	30	50	pS

Notes:

- 1. Inclusive of initial tolerance at time of shipment, changes in supply voltage, load, temperature and first year aging at an average operating temperature of 40 °C.
- 2. Reference CTS Application Note 014-0002-0.

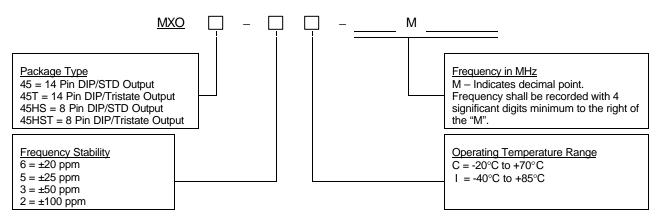
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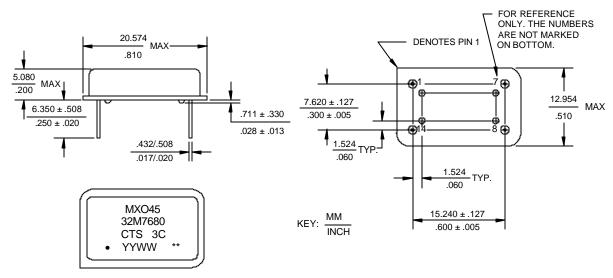
ORDERING INFORMATION



Example P/N: MXO45 - 3C - 32M7680 or MXO45HS - 3C - 32M7680

MECHANICAL SPECIFICATIONS

DIP 14



Marking Notes:

- 1. Frequency marked with 4 significant digits after the "M"
- 2. CTS XX stability/temp. code.
- 3. ** Manufacturing site code

Enable Truth Table

Pin 1	Pin 8		
"1"	Output		
"0"	High Imp.		
Open	Output		

PIN CONNECTIONS

Pin	Symbol	mbol Function	
1	EOH	Output Enable or NC	
7	GND	Circuit and Package Ground	
8	Output	RF Output	
14	V_{CC}	Supply Voltage	

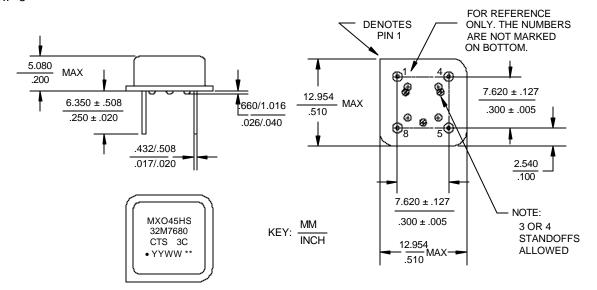
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DIP 8



Marking Notes:

- 1. Frequency marked with 4 significant digits after the "M"
- 2. CTS XX stability/temp. code.
- 3. ** Manufacturing site code

Enable Truth Table

Pin 1	Pin 5
"1"	Output
"0"	High Imp.
Open	Output

PIN CONNECTIONS

Pin	Symbol	mbol Function	
1	EOH	Output Enable or NC	
4	GND	Circuit and Package Ground	
5	Output	RF Output	
8	V_{CC}	Supply Voltage	

ENVIRONMENTAL SPECIFICATIONS

Storage Temperature: -55°C to +125°C

Temperature Cycle: 400 cycles, -55°C to +125°C, 10 min dwell, 1 min transfer

Mechanical Shock: 1,500g's, 0.5mS, ½ sinewave, 3 shocks each direction, in 3 planes

Sinusoidal Vibration: 0.06" D.A., 10 to 55 Hz and 20g's, 55 to 2,000 Hz,

3 cycles per plane

Gross Leak: No leak shall appear while immersed in an FC40 or equivalent

liquid at 125°C for 20 seconds

Mass spectrometer leak rates less than 2x10⁻⁸ cc/sec air equivalent Fine Leak: High Temperature Operating Bias:

2,000 hours at 125°C, disregarding frequency shift

< 5 ppm shift in 1,000 hours at 85°C

90% coverage using: (no pre-conditioning required)

A) R Flux

Solder bath temperature of 245°C ± 5°C

Solder composition 63% Sn/ 37% Pb

QUALITY AND RELIABILITY

Frequency Aging:

Solderability:

Quality Systems meet or exceed the requirements of ISO 9000: 2000 standards. Reliability Audits are performed on this or similar products with results available upon request.