

CTS CORPORATION

KNIGHTS CRYSTALS AND OSCILLATORS

FREQUENCY CONTROL DIVISION 400 Reimann Ave., Sandwich, IL 60548 • 815/786-8411 • FAX 815-786-9743

Hybrid Clock Oscillators

ORDERING INFORMATION

MXO-55L SERIES

True TTL logic outputs
 Stocked through authorized distributors
 2.4576 MHz to 70 MHz

PIN CONNECTIONS

Pin 1: N/C, enable, or output
 Pin 7: Ground/case
 Pin 8: Output
 Pin 14: +5 VDC



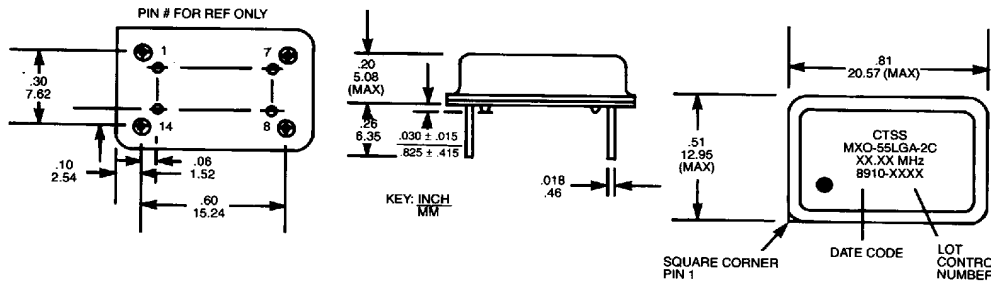
FREQUENCY RANGE	CODE
4.9152 MHz TO 70 MHz BASIC OSCILLATOR (NO ENABLE)	GA
4.9152 MHz TO 70 MHz BASIC OSC WITH ENABLE (NOTE)	GAE
2.4576 MHz to >4.9152 MHz BASIC OSCILLATOR WITH DIVIDERS	GB
4.9152 MHz TO 25 MHz COMPLEMENTARY OUTPUTS	GC

FREQUENCY TOLERANCE (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 to 85 C REQUIRES ±5% SUPPLY TOL.	I

NOTE: SEE MODEL MXO55GAE ON NEXT PAGE FOR ENABLE TRUTH TABLE.
 25.0 TO 70.0 MHz WILL BE AVAILABLE 11/91.

MX055L OUTLINE DRAWING



ELECTRICAL CHARACTERISTICS (Over -40 to 85°C Temperature Range)

SPECIFICATION	MODEL	FREQ. RANGE	SYMBOL	MIN.	TYP.	MAX.	UNITS
OPERATING VOLTAGE*	A,B,C	2.4576 to 70 MHz	V _{cc}	4.50	5.00	5.50	V
MAXIMUM SUPPLY VOLTAGE			V _{cc max.}			7.00	
SUPPLY CURRENT	A	4.9152 to 25 MHz	I _{cc}		20	35	mA
		>25 to 70 MHz			33	65	
	B	2.4576 to <4.9152 MHz			30	50	
	C	4.9152 to 25 MHz			22	35	
OUTPUT VOLTAGE—HI	A,B,C	2.4576 to 70 MHz	V _{oh}	2.40	3.60	V	
OUTPUT VOLTAGE—LO			V _{ol}		0.30		0.40
RISE & FALL TIME (MEASURED BETWEEN 0.5V & 2.4V)	A	4.9152 to 25 MHz	t _R & t _F		3	5	nS
		>25 to 70 MHz			2	4	
	B	2.4576 to <4.9152 MHz			3	5	
	C	4.9152 to 25 MHz			3	5	
START-UP TIME	A,B,C	2.4576 to 11 MHz	t _s		8	15	mS
	A,C	>11 to 25 MHz			2	5	
		A		>25 to 70 MHz		8	
	DUTY CYCLE (UPTIME) (MEASURED @ 1.5V)	A		4.9152 to 70 MHz		40	
B		2.4576 to <4.9152 MHz		45	50	55	
C		4.9152 to 25 MHz		40	60	60	
PHASE DELAY (MEASURED @ 1.5V)	C	4.9152 to 25 MHz	t _d & t _{d2}		6	10	nS
ENABLE INPUT LOAD FACTOR	AE	4.9152 to 70 MHz	FI			1	
FANOUT (PER OUTPUT)	A,B,C	2.4576 to 25.0 MHz	F _O			10	TTL GATES
		>25.0 MHz				5	

*NOTE: SUPPLY VOLTAGE TOLERANCE OF ±10% APPLIES FOR 0 TO 70 TEMP RANGE ONLY. FOR -40 TO +85 C TEMP RANGE SUPPLY VOLTAGE TOLERANCE IS ±5%.

MECHANICAL SPECIFICATIONS

Case

Metal, hermetically sealed

Leads

Kovar, nickel plated with solder coating

Sealing

Resistance welding method gross leak test

Fine Leak Test

Mass spectrometer leak rate less than 5 × 10⁻⁶
 atmosphere-cc/sec of helium

Solderability

95% solder coverage, using RMA flux at 245°C
 ±5°C temp solder bath 63 Sn/37 Pb

Temperature

Operating: 0 to 70°C
 Storage: -55 to 125°C

Vibration

20 Gs rms, 20 to 2000 Hz

Mechanical Shock

1000G, 0.5ms pulse (3 shocks/plane)

CTS — QUALITY FREQUENCY CONTROL COMPONENTS FOR RELIABLE ELECTRONICS