

Amateur Radio Frequency Crystals Datasheet

Whale Electronics' series of standard-temperature and extended temperature range crystals were manufactured for frequencies commonly used by experimental radio amateurs. All crystals in the series are fundamental mode, AT-cut crystals. Crystal blanks are packaged in metal and resistance welded for reliability. Crystals come in a standard HC-49/S form factor.

Ordering Options

Frequency (nominal)	Part Number	Description
3.550 MHz	WE-c3550-S	80m SKCC Frequency
3.560 MHz	WE-c3560-S	80m QRP Frequency
7.030 MHz	WE-c7030-S	40m QRP Frequency
7.030 MHz	WE-c7030-A	40m QRP Frequency Extended Temperature
7.0475 MHz	WE-c70475-S	40m ARRL Frequency
7.055 MHz	WE-c7055-S	40m SKCC Frequency
14.060 MHz	WE-c14060-S	20m QRP Frequency
21.060 MHz	WE-c21060-S	15m QRP Frequency

Mechanical (Typical)

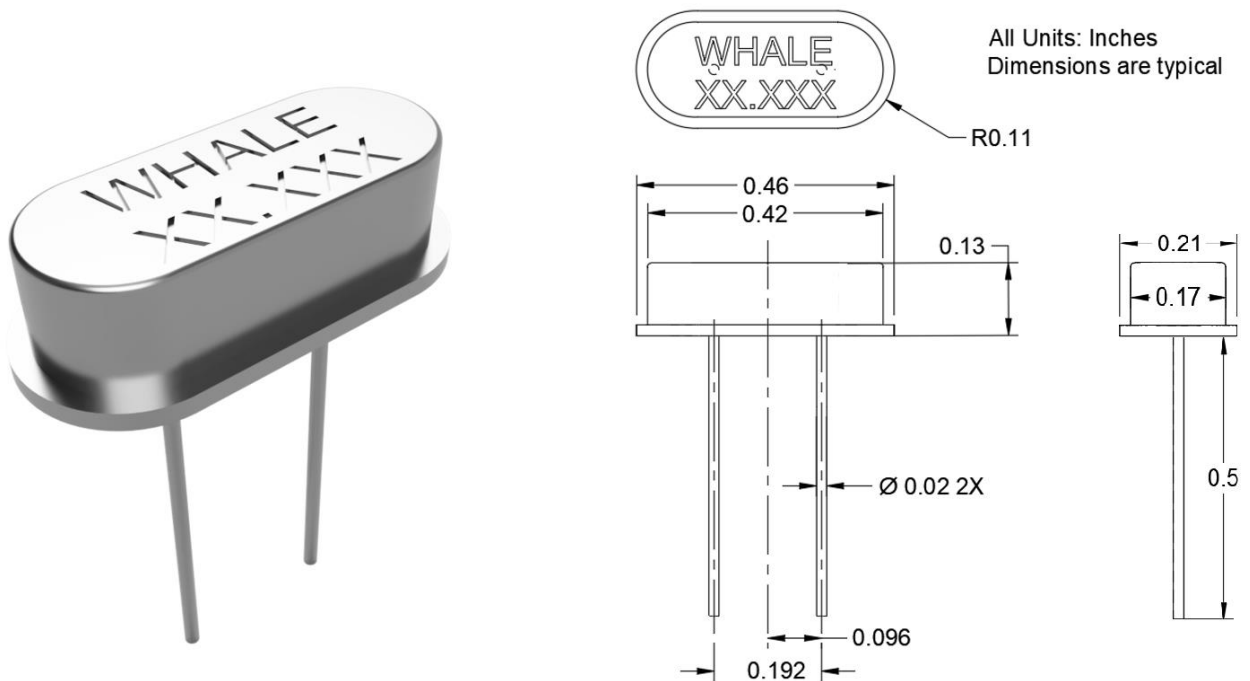


Figure 1 Typical dimensions and rendering

Electrical

Symbol	Parameter	Min.	Typical	Max.	Units	Test Conditions/ Comments
f_0	Nominal Frequency	--	See Ordering Options	--	MHz	At 25°C ambient temperature
$\frac{\Delta f}{f_0}$	Temperature Tolerance	-30	0	+30	ppm	Over operating temperature range
$\frac{\Delta f}{f_0}$	Aging	-5	--	+5	ppm	Per year
C_L	Load Capacitance	--	20	--	pF	Correct circuit loading capacitance is required for specified frequency accuracy.
T_{op}	Operating Temperature Range	-20	+25	+70	°C	S (standard) grade
		-40	+25	+85	°C	A (Extended Temperature/Industrial) grade
T_{store}	Storage Temperature Range	-55	+25	+125	°C	--
P_D	Drive Level	--	10	100	μW	Higher drive levels may prematurely age crystal
C_0	Shunt Capacitance	--	3	--	pF	WE-c3550-S
		--	3	--	pF	WE-c3560-S
		--	3	--	pF	WE-c7030-S
		--	3	--	pF	WE-c7030-A
		--	3	--	pF	WE-c70475-S
		--	3	--	pF	WE-c7055-S
		--	4	--	pF	WE-c14060-S
		--	4	--	pF	WE-c21060-S
RR	Motional Resistance	--	TBD	60	Ω	WE-c3550-S
		--	TBD	60	Ω	WE-c3560-S
		--	21	60	Ω	WE-c7030-S
		--	30	60	Ω	WE-c7030-A
		--	TBD	60	Ω	WE-c70475-S
		--	TBD	60	Ω	WE-c7055-S
		--	10	60	Ω	WE-c14060-S
		--	8	60	Ω	WE-c21060-S