



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



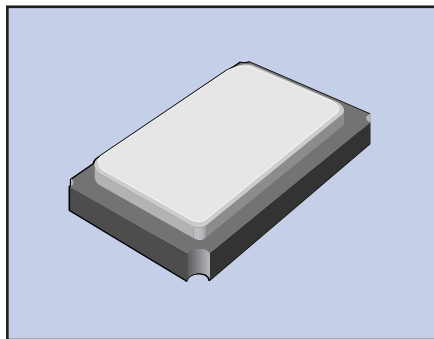
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The ECX-64 delivers unmatched frequency stability with a frequency range from 12MHz to 100MHz with an operating temperature of -10° to +70°C. Aging characteristics are exceptional utilizing advanced cold-sealing processes with a ceramic housing/metal cover. These specifications along with a dimensional height of only 1.1mm make this SMD crystal the perfect choice for compact wireless communication applications.

FEATURES

- 1.1 mm height
- Wide frequency range availability
- Excellent aging characteristics
- High frequency fundamental capability
- Ultra miniature design
- Tape & Reel (1,000 pcs)
- PbFree/RoHS Compliant



PART NUMBERING GUIDE "EXAMPLE"

MANUFACTURER	FREQUENCY (16.0000 MHz)	LOAD CAPACITANCE*	PACKAGE TYPE
ECS	- 160 -	20	23B

* Load capacitance (xx=xx pF, S= series resonance)
 Note: See Product Selection Guide for additional options.

OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
FREQUENCY RANGE		12.0		100.0	MHz
CALIBRATION TOLERANCE	@ +25°C	-30		+30	PPM
FREQUENCY STABILITY ref. 25°C	-10~ +70°C	-50	See Table 1	+50	PPM
SHUNT CAPACITANCE	C ₀			7.0	pF
LOAD CAPACITANCE	C _L (Customer Specified)	10.0	20.0 standard	Series	pF
DRIVE LEVEL	D _L			0.1	mW
OPERATING TEMPERATURE	T _{OPR}	-10		+70	°C
STORAGE TEMPERATURE	T _{STG}	-40		+85	°C
AGING CHARACTERISTICS (FIRST YEAR)	@ +25°C	-2.0		+2.0	PPM

EQUIVALENT SERIES RESISTANCE / MODE OF OSCILLATION

FREQUENCY RANGE (MHz)	MODE OF OSC.	MAX. ESR Ω	FREQUENCY RANGE (MHz)	MODE OF OSC.	MAX ESR Ω
12.000 ~ 15.999	Fundamental	80	20.000 ~ 49.999	Fundamental	40
16.000 ~ 19.999	Fundamental	60	27.000 ~ 100.000	3rd OT	100

PACKAGE DIMENSIONS (mm)

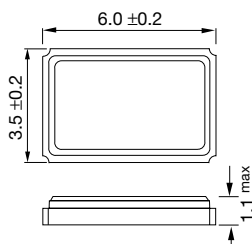


Figure 1) ECX-64 - Top and Side views

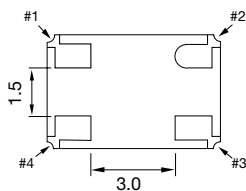


Figure 2) Land Pattern - Bottom view

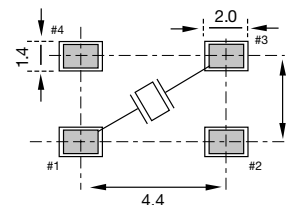


Figure 3) Recommended Solder Pad Layout - Top view

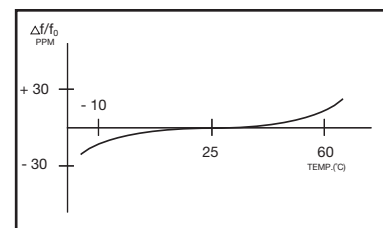


Figure 4) Frequency vs Temperature Curve