ECS-31X SERIES

The ECS-31X Series low frequency tuning fork crystals offer low frequencies in a compact thru hole package.

Request a Sample

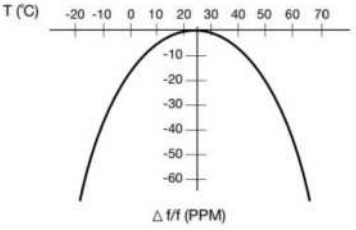
ECS-31X Tuning Fork Crystal

- Miniature size
- Cost effective
- Long term stability
- PbFree/RoHS Compliant

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-31X			UNITS
		MIN	TYP	MAX	
Frequency Range	Fo	30		150	KHz
Frequency Tolerance	@ +25°C		±30		ppm
Temperature Coefficient			-0.034	-0.004	ppm/°C²
Shunt Capacitance	Co		0.8~1.7		pF
Load Capacitance	Specify in P/N		12.5		pF
Drive Level	DL			1.0	µW
Equivalent Series Resistance	R1			50K	Ω
Insulation Resistance	100V DC ±15V	500M			Ω
Turnover Temperature			+25		°C
Operating Temperature	Topr	-10		+60	°C
Storage Temperature	Tstg	-40		+85	°C
Aging (First Year)	@ +25°C ±3°C			±5	ppm
Motional Capacitance			1 ~ 4		fF
Capacitance Ratio			425~800		

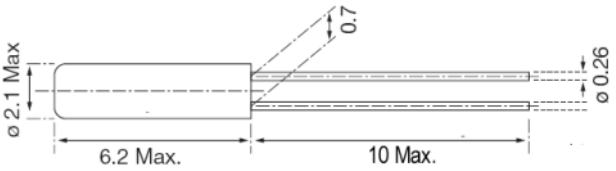
PARABOLIC TEMPERATURE CURVE



To determine frequency stability, use parabolic curvature.
For example: What is the stability at 45°C?

1) Change in T (°C) = 45 -25 = 20°C
2) Change in frequency = -0.04 PPM x (ΔS T)² = -0.04 PPM x (20)² = -16.0 PPM

DIMENSIONS (mm)



PART NUMBERING GUIDE: Example ECS-.400-12.5-13X

ECS - FREQUENCY ABBREVIATION		LOAD CAPACITANCE	PACKAGE
ECS	.400 = 40.000 KHz	12.5 = 12.5 pF	13X = 2x6

Rev.2017

SOLDER PROFILE
Peak solder Temp +260°C Max 10 sec Max.
2 Cycles Max.
MSL 1, Lead Finish Sn/Cu Matte

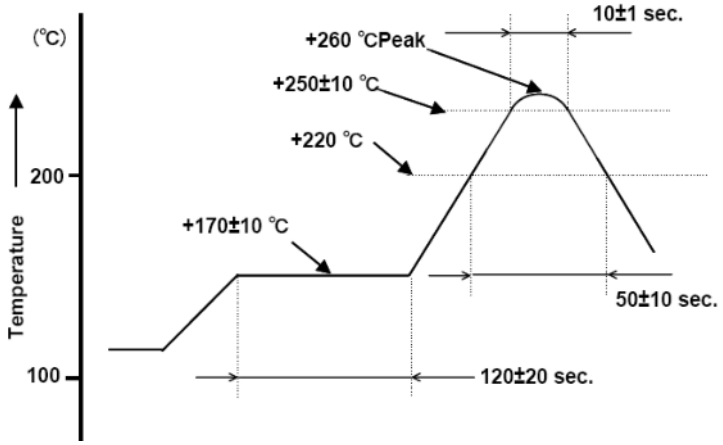


Figure 1) *Suggested Solder Profile*