

The ECX-53BQ is a miniature SMD Crystal with a 3.2 x 5 mm footprint. AEC-Q200 Qualified.

# ECX-53BQ SMD CRYSTAL

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## ECX-53BQ SMD CRYSTAL



- Compact and low profile
- Extended Temp. Range Option
- RoHS Compliant
- AEC-Q200 Qualified

## DIMENSIONS (mm)

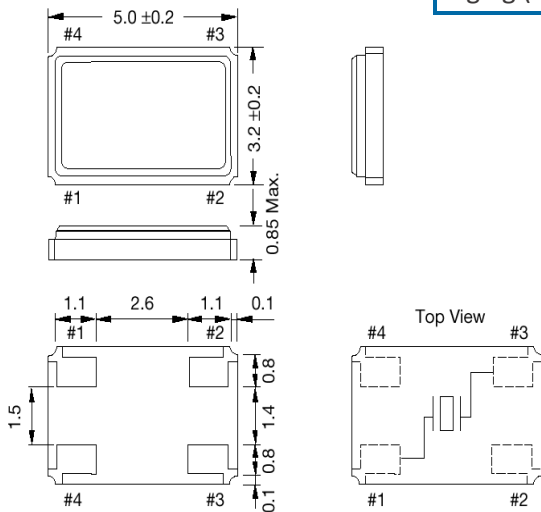


Figure 1) Top, Side, and Bottom

Crystal is symmetrical, pad 1 & 3 are interchangeable. Chamfer on the bottom pad has no electrical significance.

## OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-53BQ			UNITS
		MIN	TYP	MAX	
Frequency		8.000		54.000	MHz
Mode of Oscillation	Fundamental				
Frequency Tolerance*	@ +25°C			± 30	ppm
Frequency Stability*	-40 ~ +125°C (DS Option)			± 100	ppm
Shunt Capacitance	Co			7	pF
Load Capacitance	Specify in P/N	6	20	Series	pF
Drive Level	DL			100	μW
Operating Temperature*	T <sub>opr</sub> (DS Option)	-40		+125	°C
Storage Temperature	T <sub>stg</sub>	-55		+125	°C
Aging (First Year)	@ +25°C ±3°C			±5	ppm

Frequency (MHz)	ESR Ω Max.
8.000 ~ 9.999	100
10.000 ~ 15.999	80
16.000 ~ 19.999	50
20.000 ~ 23.999	40
24.000 ~ 54.000	30

### Pad Connections

1	In/Out
2	Gnd
3	Out/In
4	Gnd

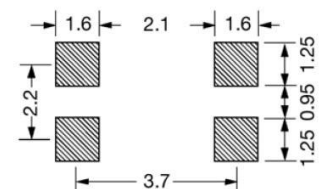


Figure 2) Suggested land

## PART NUMBERING GUIDE: Example ECS-200-20-30BQ-DU-TR

ECS - FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	AVAILABLE OPTIONS			PACKAGING	
			Tolerance	Stability	Temp Range		
ECS	200 = 20.000 MHz See P/N Guide	20 = 20 pF S = Series	30BQ = ECX-53BQ	Blank = Std A = ± 25 ppm J = ± 20 ppm R = ± 15 ppm C = ± 10 ppm	Blank = Std D = ± 100 ppm E = ± 50 ppm G = ± 30 ppm H = ± 25 ppm T = ± 20 ppm † W = ± 15 ppm † K = ± 10 ppm †	Blank = Std L = -10 ~ +70°C M = -20 ~ +70°C Y = -30 ~ +85°C N = -40 ~ +85°C P = -40 ~ +105°C S = -40 ~ +125°C U = -55 ~ +125°C	TR = Tape & Reel 1K/Reel

\* Specify available options in P/N.

† Contact ECS for availability over extended temp range.

Rev.2020

**POCKET TAPE DIMENSIONS (mm)**



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

DEVELOPED FREQUENCIES	
Abbreviation	Frequency (MHZ)
80	8.000
100	10.000
120	12.000
135.6	13.560
143	14.31818
160	16.000
184	18.432
196.6	19.6608
200	20.000
240	24.000
250	25.000
260	26.000
270	27.000
300	30.000
320	32.000
400	40.000



Figure 1) Suggested Reflow Profile

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