



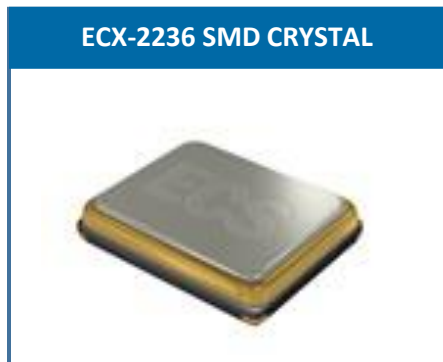
**THE DATASHEET OF  
ECS-120-12-36-AGN-TR**



The miniature ECX-2236 is a compact SMD Crystal. The industry standard 2.5 x 2.0 x 0.55 mm is ideal for bluetooth, LoRa WAN, and wireless applications.

# ECX-2236 SMD CRYSTAL

Request a Sample



- Low Profile
- 2.5 x 2.0 mm Footprint
- Extended Temp. Range
- IOT/Wearable applications

## OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-2236			UNITS
		MIN	TYP	MAX	
Frequency		12.000		80.000	MHz
Mode of Oscillation	Fundamental				
Frequency Tolerance*	@ +25°C			± 50	ppm
Frequency Stability*	-20 ~ +70°C			± 50	ppm
Shunt Capacitance	Co			5	pF
Load Capacitance	Specify in P/N		8		pF
Drive Level	DL			100	μW
Operating Temperature*	Topr	-20		+70	°C
Storage Temperature	Tstg	-55		+125	°C
Aging (First Year)	@ +25°C ±3°C			±5	ppm

### DIMENSIONS (mm)

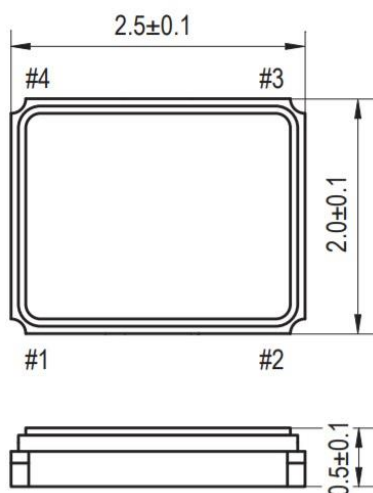
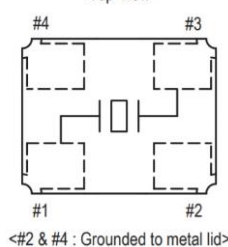
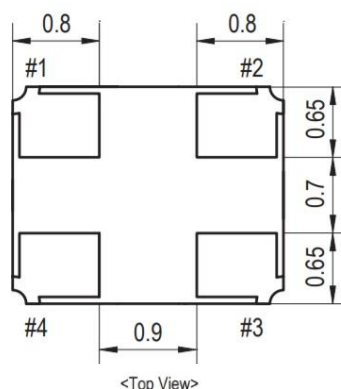


Figure 1) Top, Side, and Bottom

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



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

Frequency (MHz)	ESR Ω Max.
12.000 ~ 15.999	150
16.000 ~ 19.999	80
20.000 ~ 29.999	60
30.000 ~ 34.999	50
35.000 ~ 80.000	40

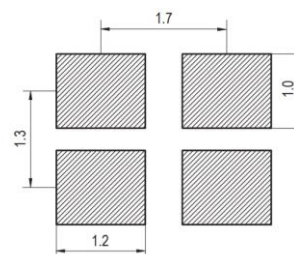


Figure 2) Suggested land

## PART NUMBERING GUIDE: Example ECS-240-8-36-TR

ECS - FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	AVAILABLE OPTIONS			PACKAGING	
			Tolerance	Stability	Temp Range		
ECS	240 = 24.000 MHz See P/N Guide	8 = 8 pF 10=10 pF	-36 = ECX-2236	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 =1K TR3=3K Qty/Reel

\* Specify available options in P/N.

† Contact ECS for availability over extended temp range.

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## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View ECS-120-12-36-AGN-TR on WIN SOURCE](#)

 [ECS Inc. Information](#)

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