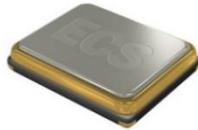


The sub miniature ECS-3225Q is a miniature AEC-Q200 Qualified SMD HCMOS Oscillator. The 3.2 x 2.5 x 2.0 x 0.9 mm ceramic package is ideal for Automotive, Industrial and IOT applications.

ECS-3225Q AEC-Q200 SMD OSCILLATOR

ECX-3225Q SMD HCMOS XO



- Low Profile
- 3.2 x 2.5 mm Footprint
- Extended Temp Range
- RoHS Compliant
- AEC-Q200 Qualified

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-3225Q			UNITS
		MIN	TYP	MAX	
Frequency Range		0.750		50.000	MHz
* Frequency Stability	-40 ~ +125°C (BS Opt)			±50	ppm
	-40 ~ +105°C (DP Opt)			±30	ppm
Power Supply	V _{dd} ±5%	+1.8, +2.5, +3.3			V DC
Output	HCMOS		15		pF
Output voltage Level	V _{OL} :10%V _{dd} max./V _{OH} :90%V _{dd} min.V DC				
Rise & Fall time	10%V _{dd} – 90%V _{dd}			10	ns
Duty Cycle	@ ½ V _{dd}			45/55	%
Phase Jitter	12 KHz to 5 MHz			1	pS
Operating Temp*		-40		+125	°C
Storage Temp		-55		+125	°C

* Frequency Stability includes initial tolerance, temperature, supply voltage & load change reflow frequency shift, and aging.

DIMENSIONS (mm)

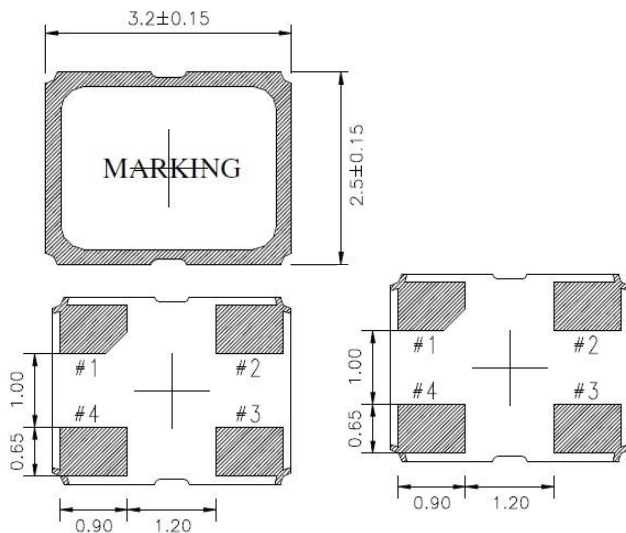


Figure 1) Top, Side, and Bottom views

CURRENT CONSUMPTION mA Max

FREQ.	~ 20 MHz	~ 40 MHz	~ 50 MHz
+1.8V	2.5	3.0	3.5
+2.5V	5.0	9.0	11.0
+3.3V	7.0	13.0	19.0

PAD CONNECTIONS

1	Tri-state
2	Gnd
3	Output
4	V _{dd}

Tri State Function

Pin 1	Output
High or NC	Active
Low	High Impedance

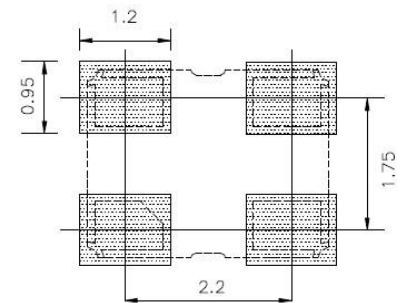


Figure 2) Suggested Land Pattern

PART NUMBERING GUIDE: Example ECS-3225Q-33-240-BS-TR

ECS - SERIES	Voltage	FREQUENCY ABBREVIATION	STABILITY	* TEMP RANGE	PACKAGING
3225Q 3.2 x 2.5 mm AEC-Q200 Oscillator	18 = +1.8V 25 = +2.5V 33 = +3.3V	240 = 24.000 MHz See Developed Frequencies Pg.2	A = ±100 ppm B = ±50 ppm C = ±25 ppm D = ±30 ppm	N = -40 ~ +85°C P = -40 ~ +105°C S = -40 ~ +125°C	TR = Tape & Reel 1K/Reel

DEVELOPED FREQUENCIES

FREQUENCY MHz	CODE
24.000	240
26.000	260

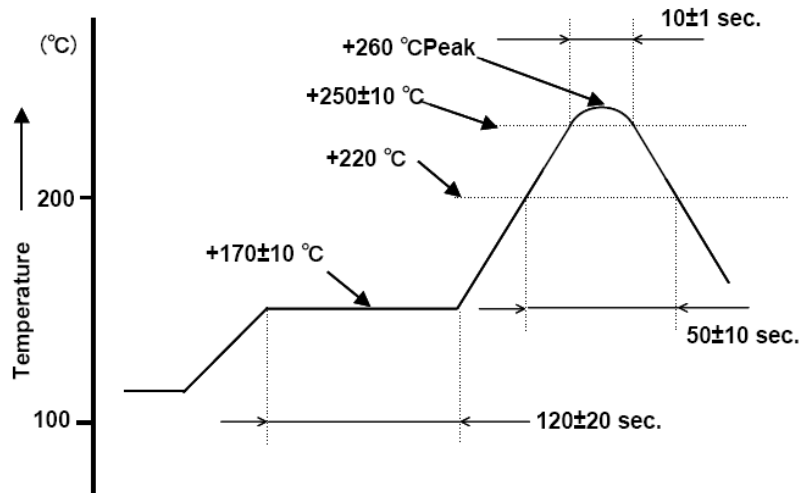
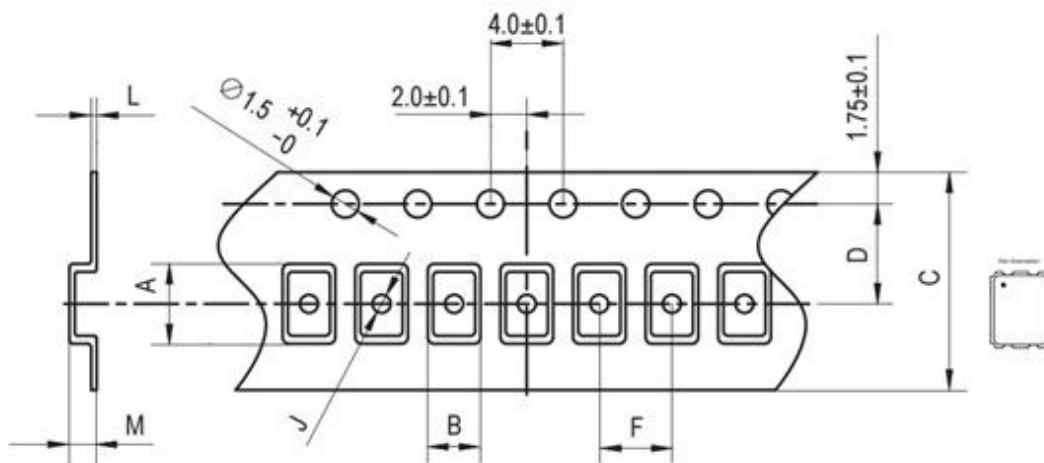


Figure 1) Suggested Reflow Profile

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

POCKET TAPE DIMENSIONS (mm)



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
3.5	2.8	8.0	3.5	4.0	1.0	0.25	1.4	180	1000pcs