

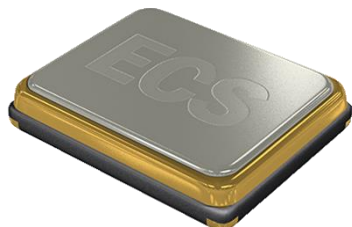
The ECS-2520MVQ is a miniature SMD HCMOS Oscillator with MultiVolt™ capability of 1.6 ~ 3.6 V. The 2.5 x 2.0 x 0.8 mm ceramic package is ideal for LoRa WAN, Low Power/Portable, Industrial and Automotive applications.

Request a Sample

## OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

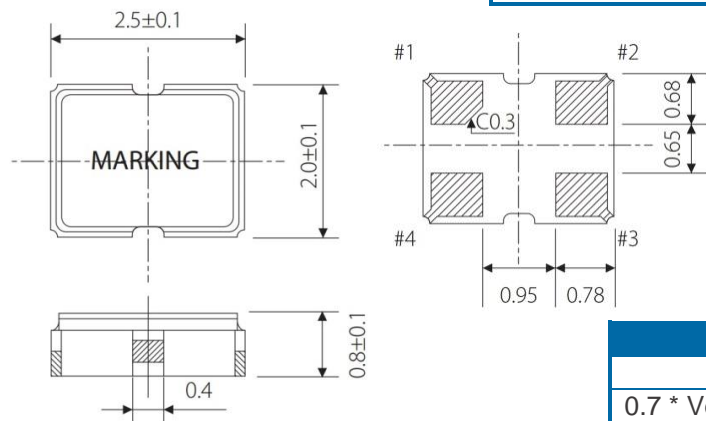
PARAMETERS	CONDITIONS	ECS-2520MVQ			UNITS
		MIN	TYP	MAX	
Frequency Range		1.000		160.000	MHz
* Frequency Stability	-40 ~ +85°C (BN Opt)			±50	ppm
Supply Voltage		1.7		3.6	V
Output Load	CMOS			15	pF
Output voltage Level	VOL: 0.2 Vdd max. / VOH: 0.8 Vdd min. V DC				
Rise & Fall time	20% Vdd – 80% Vdd			7	ns
Start Up Time				10	mS
Phase Jitter	12 kHz to 20 MHz			1	pS
Duty Cycle	@ ½ Vdd		45/55		%
Input Current (No Load)	1.000 ~ 9.999 MHz			8	mA
	10.000 ~ 39.999 MHz			10	mA
	40.000 ~ 50.000 MHz			12	mA
	50.100 ~ 160.000 MHz			20	mA
Aging	Per year			±3	ppm
Standby Current				10	µA
Operating Temp*		-40		+85	°C
Storage Temp		-55		+125	°C

### ECS-2520MVQ SMD XO



- 2.5 x 2.0 mm Footprint
- Extended Temp Range
- RoHS Compliant
- Wide Supply Voltage
- Low Jitter
- Compatible with 1.8V, 2.5V or 3.3V Power Supply
- AEC-Q200 Qualified

### DIMENSIONS (mm)



### PAD CONNECTIONS

1	Tri-state
2	Gnd
3	Output
4	Vdd

### Tri State Function

Pin 1	Output
0.7 * Vdd Min or NC	Active
0.3 * Vdd Max.	High Impedance

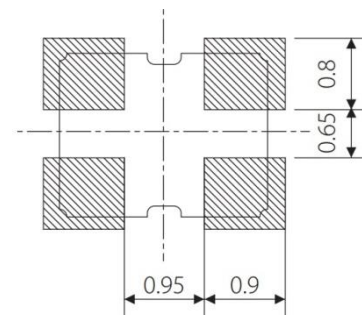


Figure 1) Top, Side, and Bottom views

Figure 2) Suggested Land

### PART NUMBERING GUIDE: Example ECS-2520MVQ-250-BN-TR

ECS	SERIES	FREQUENCY ABBREVIATION	* STABILITY-	TEMP RANGE -	PACKAGING
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ECS

2520MVQ  
2.5 x 2.0 mm  
MultiVolt™ Oscillator

250 = 25.000 MHz  
See Developed  
Frequencies Pg.2

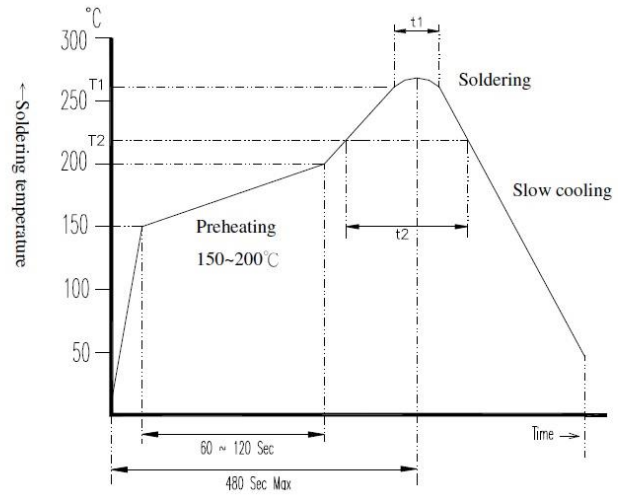
A = ±100 ppm  
B = ±50 ppm  
C = ±25 ppm  
D = ±20 ppm

M = -20 ~ +70°C  
N = -40 ~ +85°C  
P = -40 ~ +105°C  
S = -40 ~ +125°C

-TR = Tape & Reel  
1K/Reel

## DEVELOPED FREQUENCIES

FREQUENCY MHz	CODE
12.000	120
24.000	240
25.000	250
26.000	260
33.3333	333.3
48.000	480
50.000	500
125.000	1250



Application / Temperature Time	T1 / t1	T2 / t2
Lead Free	260 ± 5°C / 10 ± 5 Sec Max.	217°C Min / 60 ~ 150 Sec
Non-Lead Free	260 ± 5°C / 10 ± 5 Sec Max.	183°C Min / 60 ~ 150 Sec

Figure 3) Suggested Reflow Profile

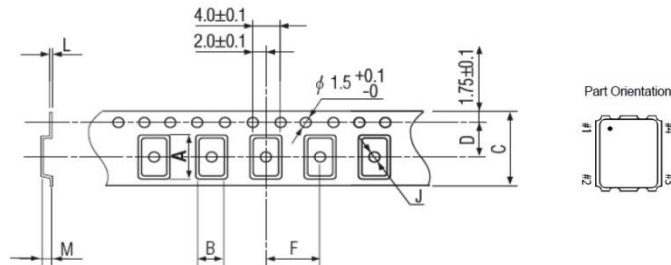
### SOLDER PROFILE

Peak solder Temp +260°C ±5°C 10 ±5 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
2.8	2.3	8.0	3.5	4.0	1.0	0.25	1.1	180	1000pcs

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[100.000M TR](#) [SIT1602BC-83-33E-10.000000Y](#) [8003AI-12-33S-40.000000Y](#) [1602BI-13-33S-19.200000E](#)