

The ECS-2520MV 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 IoT applications.

[Request a Sample](#)

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS



- 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

PARAMETERS	CONDITIONS	ECS-2520MV			UNITS
		MIN	TYP	MAX	
Frequency Range		0.750		60.000	MHz
* Frequency Stability	-40 ~ +85°C (BN Opt)			±50	ppm
Supply Voltage		1.6		3.6	V
Output Load	CMOS			15	pF
Output voltage Level	VOL: 10% Vdd max. / VOH: 90% Vdd min. V DC				
Rise & Fall time	10% Vdd – 90% Vdd			7	ns
Start Up Time	@ 90% Vdd			5	mS
Phase Jitter	12 kHz to 5 MHz			1	pS
Duty Cycle	@ ½ Vdd			45/55	%
Standby Current				10	µA
Operating Temp*		-40		+85	°C
Storage Temp		-55		+125	°C

DIMENSIONS (mm)

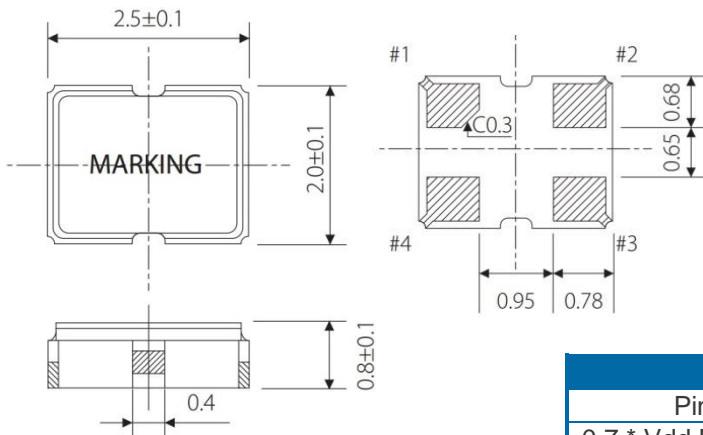


Figure 1) Top, Side, and Bottom views

CURRENT CONSUMPTION mA Max

FREQ.	~ 19 MHz	~ 39.9 MHz	~ 50 MHz	~ 60 MHz
+1.8V	2.5	3.0	3.5	4.0
+2.5V	4.5	5.5	6.5	7.0
+3.0V	5.5	6.5	7.5	8.0
+3.3V	6.0	7.0	8.0	8.5

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

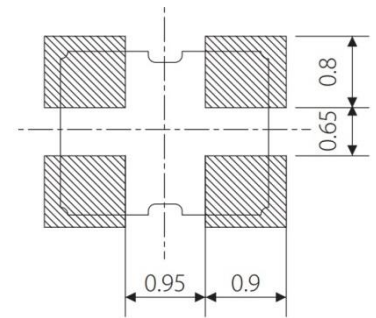


Figure 2) Suggested Land

PART NUMBERING GUIDE: Example ECS-2520MV-250-BN-TR

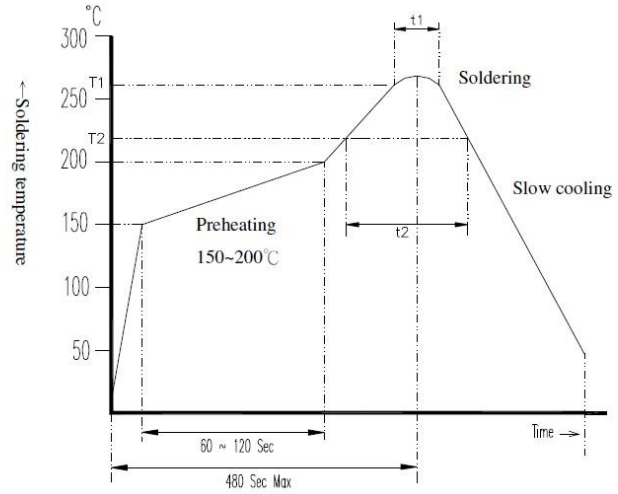
ECS	SERIES	FREQUENCY ABBREVIATION	* STABILITY	TEMP RANGE	PACKAGING
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ECS	2520MV 2.5 x 2.0 mm MultiVolt™ Oscillator	250 = 25.000 MHz See Developed Frequencies Pg.2	A = ±100 ppm B = ±50 ppm C = ±25 ppm D = ±20 ppm	M = -20 ~ +70°C N = -40 ~ +85°C	-TR = Tape & Reel 3K/Reel
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* Frequency Stability includes initial tolerance, temperature, supply voltage and load change reflow frequency shift, and aging.

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



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

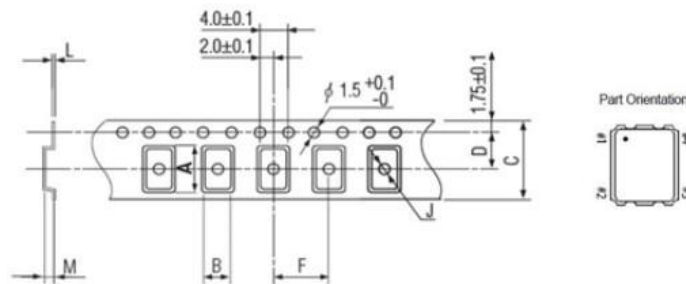
SOLDER PROFILE

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	3000pcs