

The ECS-3225MV is a miniature SMD HCMOS Oscillator with MultiVolt™ capability of 1.62 ~ 3.63 V. The 3.2 x 2.5 x 1.2 mm ceramic package is ideal for LoRa WAN, Low Power/Portable, Industrial, and IoT applications.

[Request a Sample](#)

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS



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

DIMENSIONS (mm)

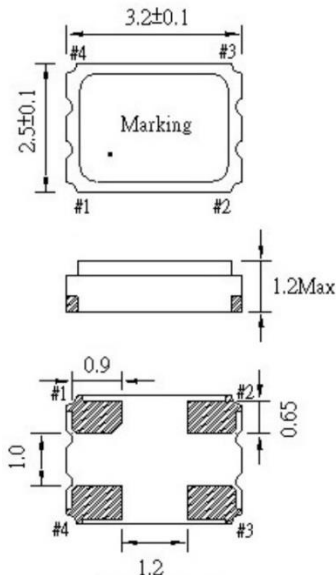


Figure 1) Top, Side, and Bottom views

PARAMETERS	CONDITIONS	ECS-3225MV			UNITS
		MIN	TYP	MAX	
Frequency Range		1.8432		50.000	MHz
* Frequency Stability	-40 ~ +85°C (BN Opt)			±50	ppm
Supply Voltage		1.62		3.63	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			3	mA
	10.00 ~ 39.999 MHz			4	mA
	40.00 ~ 50.000 MHz			5	mA
Aging	Per year			±3	ppm
Standby Current				10	µA
Operating Temp*		-40		+85	°C
Storage Temp		-55		+125	°C

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

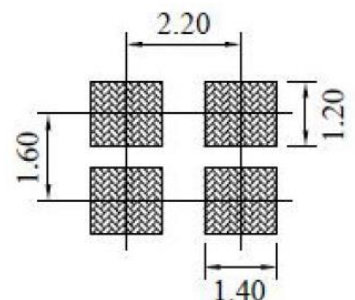


Figure 2) Suggested Land Pattern

PART NUMBERING GUIDE: Example ECS-3225MV-250-BN-TR

ECS	SERIES	FREQUENCY ABBREVIATION	* STABILITY	TEMP RANGE -	PACKAGING
ECS	3225MV 3.2 x 2.5 mm MultiVolt™ Oscillator	250 = 25.000 MHz See Developed Frequencies Pg. 2	A= ±100 ppm B = ±50 ppm C= ±25 ppm	M = -20 ~ +70°C N = -40 ~ +85°C	TR = 1K TR3 = 3K Qty/Reel

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

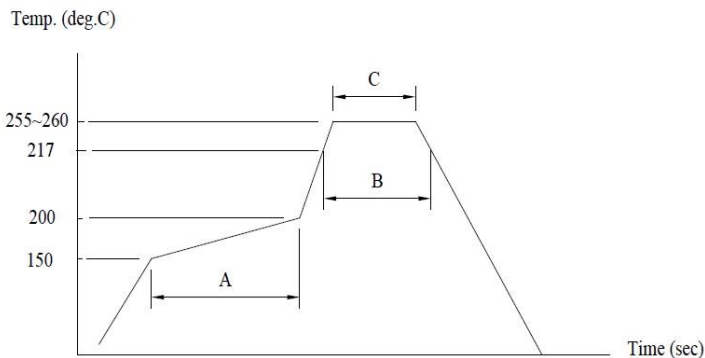
Rev. 2021

DEVELOPED FREQUENCIES

FREQUENCY MHz	CODE
1.8432	018
4.000	040
12.000	120
16.000	160
20.000	200
24.000	240
25.000	250
32.000	320
33.333	333.3
48.000	480
50.000	500

SOLDER PROFILE

Peak solder Temp +260°C ±5°C 10 ±5 Sec Max.
2 Cycles Max.
MSL 1, Lead Finish Au

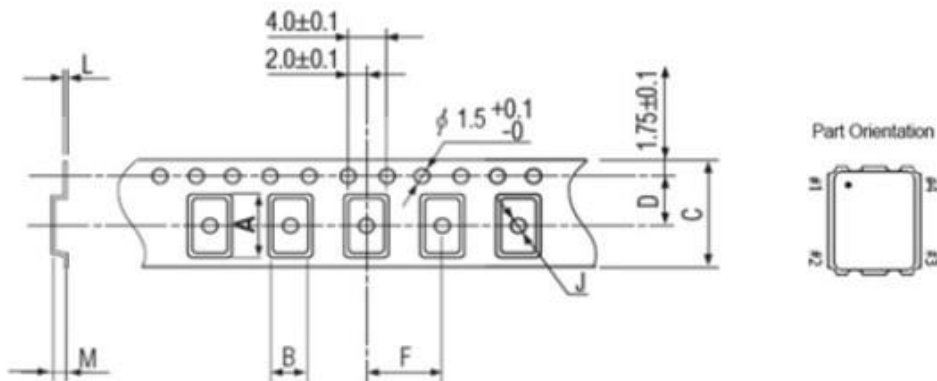


(A)→Preheating area : 150~200°C, 60~120sec.
 (B)→Heating area : 217°C, 60~150sec.
 (C)→Peak temperature : 255~260°C, 30sec. Max.
 Ramp-up rate (217→260°C) : 3°C/sec. Max.
 Ramp-down rate (260→217°C) : 6°C/sec. Max.
 Time 25°C→260°C : 480sec. Max.

*Reference JEDEC J-STD-020

Figure 3) Suggested Reflow Profile

POCKET TAPE DIMENSIONS (mm)



A	B	C	D	F	J	L	M	Reel Dia.
3.4	2.7	8.0	3.5	4.0	1.0	0.25	1.4	178