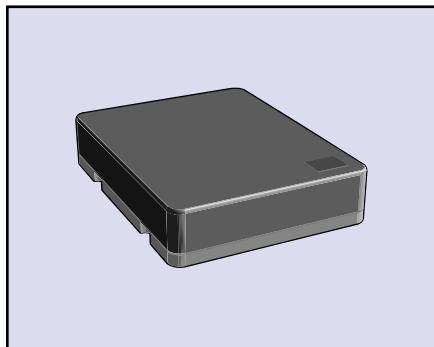




The ECS-6000MV is our smallest VCTCXO crystal oscillator with a total volume of 0.13cc. This oscillator is ideal for PHS, cellular telephone and GPS equipment applications.

FEATURES

- Low profile of 2.0 mm maximum height
- 3 V operation (optional)
- Voltage control function (optional)
- Industry standard footprint
- Tape & Reel (1,000 pcs)

PART NUMBERING GUIDE

PART NUMBER *	WAVEFORM	CONTROL OPTION	VOLTAGE
ECS-6000MV	Clipped Sine Wave	No Voltage Control	5V
VECS-6000MV	Clipped Sine Wave	Voltage Control	5V
ECS-6000MV-3	Clipped Sine Wave	No Voltage Control	3V
VECS-6000MV-3	Clipped Sine Wave	Voltage Control	3V

* Complete part number to include frequency. (i.e. ECS-6000MV-120) (-120 = 12MHz)

STANDARD FREQUENCIES

12.0000MHz, 12.6000MHz, 12.8000MHz,
13.0000MHz, 14.4000MHz, 15.3600MHz,
19.2000MHz, 19.6800Mhz

OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITION	MINIMUM	TYPICAL	MAXIMUM	UNITS
FREQUENCY RANGE	f_0	10.0		20.0	MHz
TEMPERATURE RANGE	@ -30°C ~ +75°C		±2.5ppm		PPM
STORAGE TEMPERATURE	T_{STG}	-40		+85	°C
INPUT VOLT. CHANGE	@ $V_{CC} \pm 5\%$		±0.3ppm		PPM
AGING	per year @ 25°C		±1.0ppm		PPM
OUTPUT LOAD CHANGE	@ 10kΩ ±10% w/ 10pF		±0.2ppm		PPM
INPUT CURRENT	(SW-A=OFF) without Load			2.0 mA	mA
OUTPUT	LEVEL	0.8			Vp-p
	LOAD	10kΩ/10pF			pF
	WAVEFORM	Clipped Sine Wave			
VOLTAGE CONTROL	($V_{CC}/2 \pm 1V$ to $V_{CC}/2 \pm 2V$ DC)	-4		+4	PPM
INTERNAL TRIMMER		-1		+1	PPM
OPERATING CONDITIONS	OPERATING TEMP.	-30°		+75°	C
	STORAGE TEMP.	-40°		+85°	C
	INPUT VOLTAGE	V_{CC}	+3V, +3.3V, 3.7V, +4.0V or +5.0V		V
	INPUT VOLTAGE	(RATING OF ABSOLUTE MAX.)	-0.5V	+7.0V	V DC
	CONTROL VOLTAGE		$V_{CC}/2 \pm 1V \sim V_{CC}/2 \pm 2V$ DC		V

PACKAGE DIMENSIONS (mm)

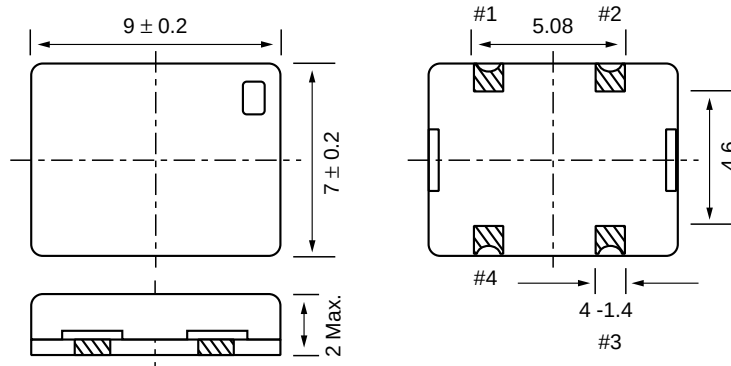


Figure 1) ECS-6000MV – Top, Side and Bottom views

PIN CONNECTIONS		
Terminal	ECS	VECS
#1	N.C.	Vcont.
#2	GND	GND
#3	OUTPUT	OUTPUT
#4	+Vcc	+Vcc

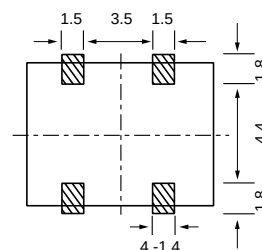


Figure 2) ECS-6000MV – Land Pattern