- Low Voltage HCMOS
- 2.5 x 2.0 mm Footprint
- Low current consumption
- Pb Free/RoHS Compliant

ECS-2018

SMD CLOCK OSCILLATOR

ECS-2018 (1.8V) subminiature SMD oscillators. Ideal for today's high density applications.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-2018 (+1.8V)			UNITS
		MIN	TYP	MAX	
Frequency Range	Primary Output	0.750		50.000	MHz
Operating Temperature	Standard	-10		+70	°C
	Extended (N Option)	-40		+85	°C
Storage Temperature		-55		+100	°C
Input Voltage	VDD	+1.71	+1.80	+1.89	VDC
Frequency Stability *	Option A			± 100	ppm
	Option B			± 50	ppm
	Option C			± 25	ppm
Input Current	0.75 to 30 MHz			2.5	mA
	30.1 to 40 MHz			3.0	mA
	40.1 to 50 MHz			3.5	mA
Stand-by Current	Pin 1 = VIL			10	µA
Output Symmetry	@ 50% VDD Level			45/55	%
Rise and Fall Times	10% VDD to 90% level			10	ns
"0" level	VOL			10% VDD	VDC
"1" level	VOH	90% VDD			VDC
Output Load	CMOS			15	pF
Disable delay				150	ns
Startup time				10	ms
Aging				±5	ppm

* Note: Inclusive of +25°C tolerance, operating temperature, input voltage change, load change, shock and vibration.

DIMENSIONS (mm)

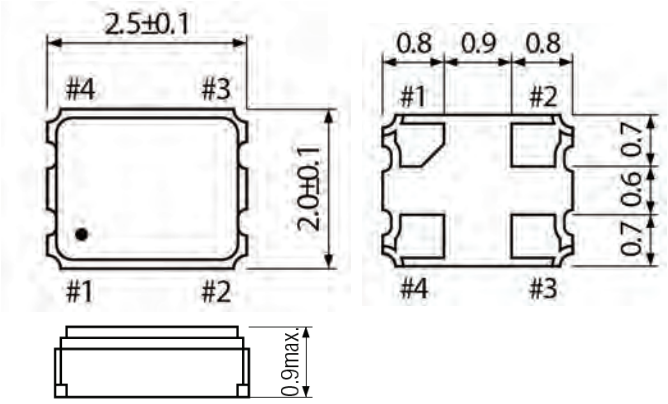

Figure 1) Top, Side and Bottom views

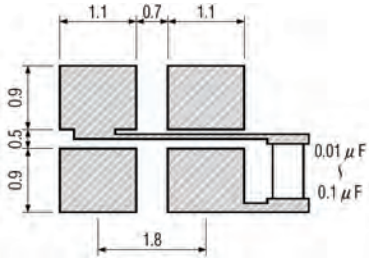

Figure 2) Suggested Land Pattern

Pin Connections	
Pin #1	Tri-State
Pin #2	Ground
Pin #3	Output
Pin #4	VDD

Tri-State Control Voltage	
Pad 1	Pad 3
Open	Oscillation
VIH 70% VDD Min	Oscillation
VIL 30% VDD Max	No Oscillation

Note: Internal crystal oscillation to be halted (Pin #1=VIL)

PART NUMBERING GUIDE: Example ECS-2018-200-BN