- -40 ~ +85°C Temp Range
- 5 x 7 mm Footprint
- Pb Free/RoHS Compliant
- ± 50 ppm Stability

ECS-3951M/3953M-BN

SMD CLOCK OSCILLATOR

ECS-3951M-BN (5.0V) and ECS-3953M-BN (3.3V) Industrial Grade (-40 to +85°C) miniature SMD oscillators . Ideal for today's high temperature range applications.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-3951M-BN (+5V)			ECS-3953M-BN (+3.3V)			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
Frequency Range		1.800		125.00	1.800		125.00	MHz
Operating Temperature		-40		+85	-40		+85	°C
Storage Temperature		-55		+125	-55		+125	°C
Supply Voltage	VDD	+4.5	+5.0	+5.5	+2.97	+3.3	+3.63	VDC
Frequency Stability *	Option B			± 50			± 50	ppm
Input Current	1.800 to 36.000 MHz			20			15	mA
	36.100 to 70.000 MHz			55			25	mA
	70.100 to 100.000 MHz			60			30	mA
	100.100 to 125.000 MHz			65			35	mA
Output Symmetry	@ 50% VDD level			40/60			40/60	%
Rise and Fall Times	1.800 to 70.000 MHz			15			5	ns
	70.001 to 125.000 MHz			5			5	ns
"0" level	VOL			10% VDD			10% VDD	VDC
"1" level	VOH	90% VDD			90% VDD			VDC
Output Load	HCMOS			30			15	pF
Startup time	1.800 to 36.000 MHz			5			5	ms
	36.100 to 70.000 MHz			10			10	ms
	70.100 to 100.000 MHz			15			15	ms
Disable delay time				100			100	ns

ECS-3953M-BN is also compatible with a supply voltage of +3.0V DC ±0.3V.

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

DIMENSIONS (mm)

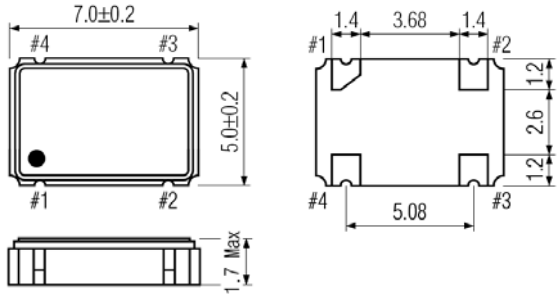

Figure 1) Top, Side and Bottom views

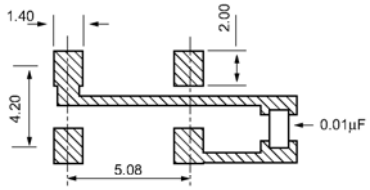

Figure 2) Suggested Land Pattern

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
+2.2V Min	Oscillation
+0.8V Max	No Oscillation

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

PART NUMBERING GUIDE: Example ECS-3953M-200-BN

ECS -	Series -	Frequency Abbreviation -	Stability	Temperature
	3951M = +5.0V 3953M = +3.3V	200 = 20.000 MHz See Frequency Abbreviations	B = ± 50 ppm	N = -40 ~ +85°C

1105 South Ridgeview Road • Olathe, KS 66062 • Phone: 913.782.7787 • Fax: 913.782.6991 • www.ecsxtal.com