



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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- ▶ -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)

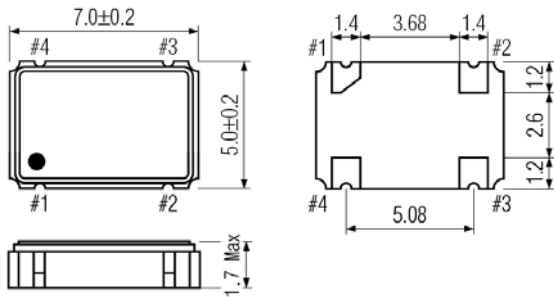


Figure 1) Top, Side and Bottom views

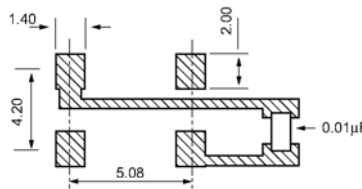


Figure 2) Suggested Land Pattern

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