

The ECS-3951M (5V) and ECS 3953M (3.3V) Series are miniature, crystal controlled, low current clock oscillators in a ceramic SMD package. Package is seam welded with a metal lid. The low profile package is ideal for today's advanced portable PC and instrumentation designs.

Request a Sample

### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS



- 3.3 or 5.0V version
- Low Power Consumption
- Standby function
- Seam welded package
- Tape & Reel (1,000 pcs)
- PbFree/RoHS Compliant

Parameters	Conditions	ECS-3951M (5V)			ECS-3953M (3.3V)*			Units
		MIN	TYP	MAX	MIN	TYP	MAX	
<b>Frequency Range</b>		1.800		125.0	1.800		125.0	MHz
<b>Temperature Range</b>	Operating	-10		+70	-10		+70	°C
	Storage	-55		+125	-55		+125	°C
<b>Supply Voltage</b>		+4.5	+5.0	+5.5	+3.0	+3.3	+3.6	V DC
<b>Frequency Stability**</b>	Standard	-100	±40	+100	-100	±40	+100	PPM
	Option (B)	-50		+50	-50		+50	PPM
	Option (C)	-25		+25	-25		+25	PPM
<b>Input Current</b>	1.8 ~ 36.0 MHz			20			15	mA
	36.0 ~ 70.0 MHz			55			25	mA
	70.0 ~ 100.0 MHz			60			30	mA
	100.0 ~ 125.0 MHz			65			30	mA
<b>Output Symmetry</b>	@ ½ VCC Level	40/60	50±4	60/40	40/60	50±4	60/40	%
<b>Rise and Fall Times</b>	1.8 ~ 70.0 MHz			15			5	nS
	70.0 ~ 125.0 MHz			5			5	nS
<b>Logic "0" Level</b>	VCC x 0.1V max.							
<b>Logic "1" Level</b>	VCC x 0.9V min.							
<b>Load</b>	HCMOS			30			15	pF
<b>Start-Up Time</b>	1.8 ~ 36.0 MHz			5			5	ms
	36.0 ~ 70.0 MHz			10			10	ms
	70.0 ~ 100.0 MHz			15			15	ms
<b>Output Current</b>	(IOL) VOL=0.5V/0.33			4			4	mA
	(IOH) VOL=4.5V/2.97V			-4			-4	mA
<b>Enable/Disable Time</b>				100			100	ns

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

\*\*Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, aging shock and vibration.

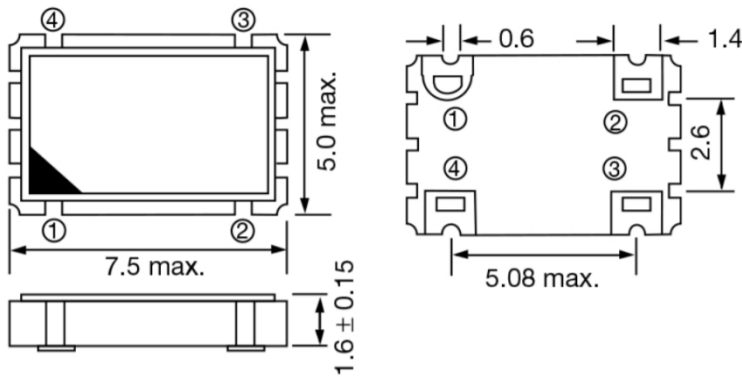
\*\*\*An internal pullup resistor from pin 1 to 4 allows active output if pin 1 is left open.

Note: A 0.01 µF bypass capacitor should be placed between VCC (Pin 4) and GND (Pin2) to minimize power line noise.

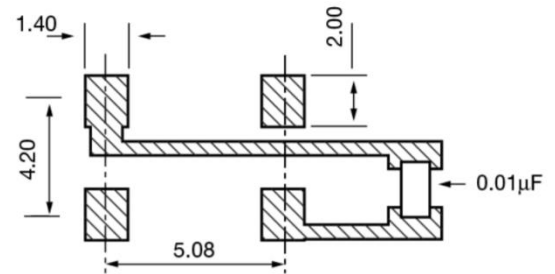
### Part Numbering Guide: Example ECS-3951M-500-B-TR

ECS	Series	Frequency Abbreviations	Stability Tolerance	Packaging
ECS	3951M +5V 3953M +3.3V	500 = 50 MHz	A = ±100 ppm B = ±50 ppm C = ±25 ppm D = ±20 ppm	TR = Tape & Reel 1K/Reel

**Package Dimensions (mm)**



*Figure 1) Top, Side, and Bottom views*



*Figure 2) Land Pattern*

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

ECS-3951M/3953M Standby Control Voltage	
Pin #1 = Open***	#3 = Oscillation
Pin #1 = ±2.2V Min.	#3 = Oscillation
Pin #1 = 0.8V Max	#3 = High Impedance