



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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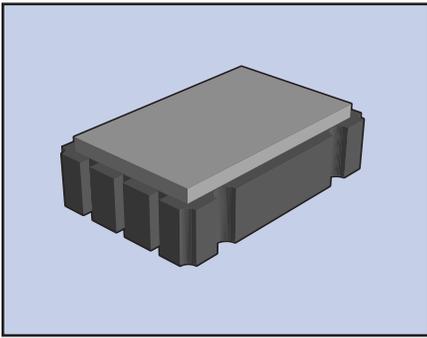
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ECS-3951M/3953M SERIES SMD CLOCK OSCILLATOR



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.

FEATURES

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

PART NUMBERING GUIDE

PACKAGE TYPE	FREQUENCY (50.0 MHz)	STABILITY TOLERANCE (± 50 PPM)
ECS-3951M	- 500	- B

Sample Part Number: ECS-3951M-500-B

OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-3951M (5V)			ECS-3953M (3.3V)*			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
FREQUENCY RANGE		1.800		125.0	1.800		125.00	MHz
TEMPERATURE RANGE	Operating	-10		+70	-10		+70	$^{\circ}$ C
	Storage	-55		+125	-55		+125	$^{\circ}$ C
SUPPLY VOLTAGE		+4.5	+5.0	+5.5	+3.0	+3.3	+3.6	V DC
FREQUENCY STABILITY**	Standard	-100	± 40	+100	-100	± 40	+100	PPM
	Option (B)	-50		+50	-50		+50	PPM
	Option (C)	-25		+25	-25		+25	PPM
INPUT CURRENT	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
OUTPUT SYMMETRY	@ 1/2 Vcc Level	40/60	50 \pm 4	60/40	40/60	50 \pm 4	60/40	%
RISE AND FALL TIMES	1.8 ~ 70.0 MHz			15			5	nS
	70.0 ~ 125.0 MHz			5			5	nS
LOGIC "0" LEVEL	Vcc x 0.1V max.							
LOGIC "1" LEVEL	Vcc x 0.9V min.							
LOAD	HCMOS			30			15	pF
START-UP TIME	1.8 ~ 36.0 MHz			5			5	ms
	36.0 ~ 70.0 MHz			10			10	ms
	70.0 ~ 100.0 MHz			15			15	ms
OUTPUT CURRENT (IOL) (IOH)	VOL=0.5V/0.33			4			4	mA
	VOL=4.5V/2.97V			-4			-4	mA
ENABLE/DISABLE TIME				100			100	ns

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

** Inclusive of 25 $^{\circ}$ 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 μ F bypass capacitor should be placed between VCC (Pin 4) and GND (Pin 2) to minimize power line noise.

PACKAGE DIMENSIONS (mm)

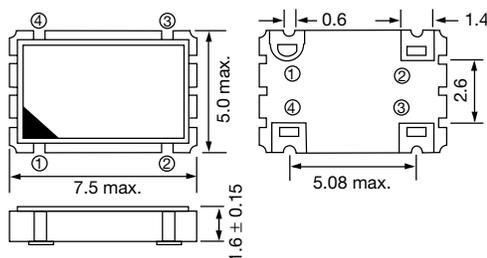


Figure 1) ECS-3951M/3953M Top, Side and Bottom views

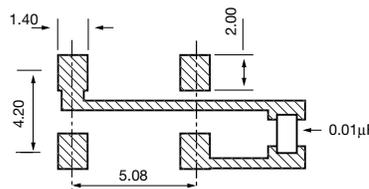


Figure 2) Land Pattern

PIN CONNECTIONS	
#1	TRI-STATE***
#2	GND
#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