



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!



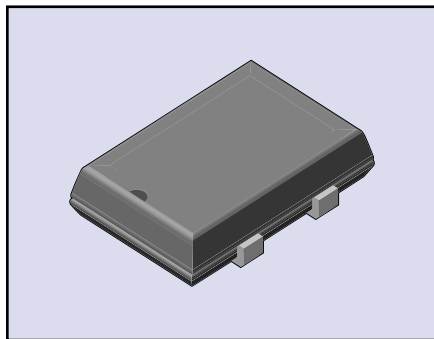
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The ECS-8FM (5V) and ECS-8FA3 (3.3V) CMOS compatible, J-led SMD oscillator. The 8F series utilizes a low power CMOS IC in a cost effective package suitable for reflow soldering.

## FEATURES

- 5.0V & 3.3V versions
- Extended temperature range
- Tri-State function
- Tape and Reel (1,000 pcs STD)

## PART NUMBERING GUIDE

	FREQUENCY (50.0 MHz)	TAPE AND REEL
ECS-8FM	- 500	- TR

Sample Part Number: ECS-8FM-500-TR

## OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-8FM (5V)			ECS-8FA3 (3.3V)			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
FREQUENCY RANGE		1.000		80.000	1.000		80.000	MHz
TEMPERATURE RANGE	Operating	-40°		+85°	-40°		+85°	°C
	Storage	-55°		+125°	-55°		+125°	°C
SUPPLY VOLTAGE		+4.5°	+5.0°	+5.5°	+3.0	+3.3	+3.6	V DC
FREQUENCY STABILITY*	-10 ~ +70°C			±100			±100	PPM
	-40 ~ 85°C			±200			±200	PPM
INPUT CURRENT	1.0 ~ 30.0 MHz			23			9	mA
	30.1 ~ 80.0 MHz			35			20	mA
OUTPUT SYMMETRY	@ 1/2 V <sub>CC</sub> Level	40/60		60/40	45/55		55/45	%
RISE AND FALL TIMES	1.0 ~ 30.0 MHz			8			6	ns
	30.1 ~ 80.0 MHz			7			6	ns
OUTPUT VOLTAGE	V <sub>OL</sub>			+0.5			+0.4	V
	V <sub>OH</sub>	V <sub>CC</sub> -0.5			V <sub>CC</sub> -0.4			V
OUTPUT LOAD	TTL			10				TTL
	CMOS			50			30	pF
START-UP TIME	1.0 ~ 30.0 MHz			4			4	ms
	30.1 ~ 80.0 MHz			10			10	ms
ENABLE/DISABLE TIME				100			100	ns

\* 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.

## PACKAGE DIMENSIONS (mm)

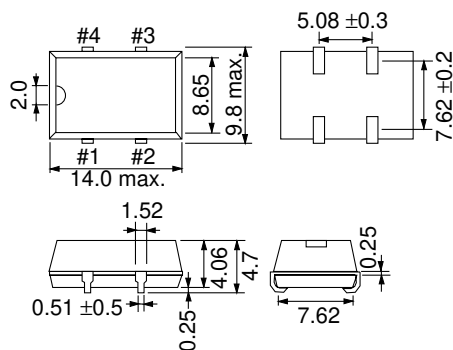


Figure 1) ECS-8F Top and Side view

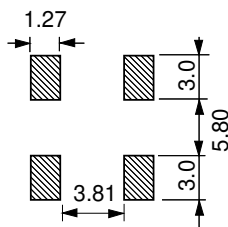


Figure 2) Land Pattern

PIN CONNECTIONS	
#1	TRI-STATE
#2	GND
#3	OUTPUT
#4	V <sub>CC</sub>

TRI-STATE CONTROL VOLTAGE		
8FM	8FA3	OUTPUT
PIN 1	PIN 1	PIN 3
OPEN**	OPEN**	OSCILLATION
2V MIN	2.4V MIN	OSCILLATION
0.8 MAX	0.6 MAX	HIGH IMPEDANCE