

The ECS-8FMX (5V) and ECS-8FA3X (3.3V) are CMOS compatible, J-leaded SMD oscillators. 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
- RoHS Compliant Note 7 exemption
- Tape and Reel (1,000 pcs STD)

## PART NUMBERING GUIDE

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

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

## OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-8FMX (5V)			ECS-8FA3X (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 TOLERANCE*	-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)

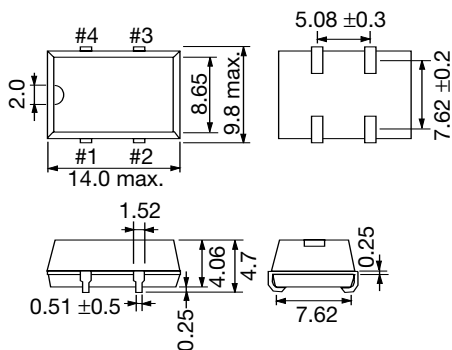


Figure 1) ECS-8FX Top and Side view

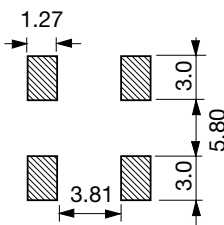


Figure 2) Land Pattern

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

TRI-STATE CONTROL VOLTAGE		
8FMX	8FA3X	OUTPUT
PIN 1	PIN 1	PIN 3
OPEN**	OPEN**	OSCILLATION
2V MIN	2.4V MIN	OSCILLATION
0.8 MAX	0.6 MAX	HIGH IMPEDANCE