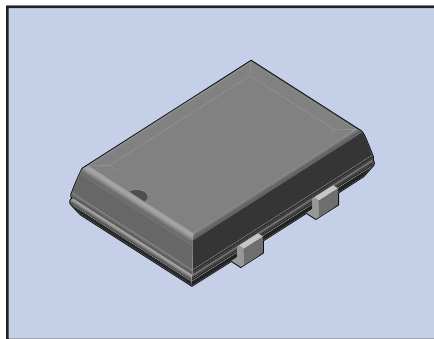




The ECS-8F Series oscillator is compatible with both TTL and HCMOS technologies. The J-leaded configuration and high resistance to soldering temperature makes it ideal for surface mount production processes. The 8F offers low power consumption of HCMOS, but will also drive full 10 TTL gates when used in a TTL application.

FEATURES

- Extended temperature range capabilities
- Optional 3.3V available from 1.000 ~ 30.000MHz
- Tri-State enable/disable
- Tape and Reel (1,000 pcs)

PART NUMBERING GUIDE

PART NUMBER *	SUPPLY VOLTAGE	PART NUMBER *	SUPPLY VOLTAGE
ECS-8FM	5.0 ±0.5V	ECS-8FA	5.0 ±0.5V
ECS-8FB	5.0 ± 0.5V	ECS-8FA3	3.3V ± 0.3V

* Complete part number to include frequency i.e. ECS-8FM-160 (160 = 16MHz)

OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-8FM		ECS-8FB		ECS-8FA		ECS-8FA3		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
FREQUENCY RANGE	f_0	1.000	30.000	30.0001	66.6667	30.0001	66.6667	1.000	30.000	MHz
FREQUENCY STABILITY	-10 ~ +70°C*	-100	+100	-100	+100	-100	+100	-100	+100	PPM
	-40 ~ +85°C*	-200	+200	-200	+200	—	—	—	—	PPM
INPUT CURRENT (I_{DD})	No Load		23		35		35		9	mA
	Output Disabled (I_z)		12		25		20		20	mA
OUTPUT SYMM. (CMOS)	(V _{DD} /2)	40	60	45	55	40	60	45	55	%
	(TTL)	(1.4V)	45	55	—	45	55	—	—	%
RISE TIME (T_r)	20% ~ 80% V _{DD}		8		5		7		5	nS
	0.4V ~ 2.4V		8		5		7		5	nS
FALL TIME (T_f)	80% ~ 20% V _{DD}		8		5		7		5	nS
	2.4V ~ 0.4V		8		5		7		5	nS
OUTPUT VOLTAGE (V _{OL})	I _{OL} = max.		0.4		0.4		0.4		0.4	V
	I _{OH} = max.	V _{DD} -0.4		2.4		V _{DD} -0.4		V _{DD} -0.4		V
OUTPUT CURRENT (I _{OL})	V _{OL} = max.		16		16		4.0		4.0	mA
	V _{OH} = min.		-0.4		-0.4		-4.0		-0.4	mA
OUTPUT LOAD	HCMOS		50				50		30	pF
	TTL		10		5		10			TTL
START-UP TIME (T_s)			4		10		10		4	mS
OUTPUT ENABLE/DISABLE TIME			100		100		100			ns
LOGIC		TTL/CMOS		TTL		CMOS		CMOS		
STOR. TEMP. RANGE (T_{STG})	-55 ~ +125°C									°C
SUPPLY VOLTAGE (V _{DD})		5.0 ±0.5V		5.0 ±0.5V		5.0 ±0.5V		3.3V ±0.3V		V _{DD}

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

PACKAGE DIMENSIONS (mm)

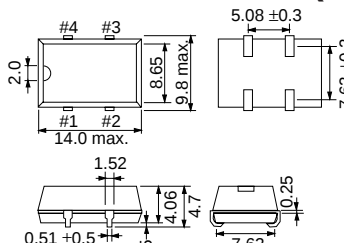


Figure 1) ECS-8F Top and Side view

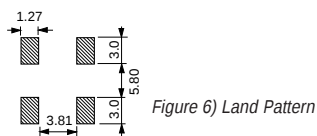


Figure 6) Land Pattern

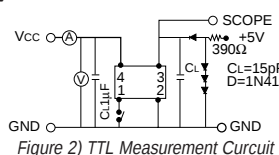


Figure 2) TTL Measurement Circuit

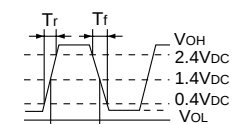


Figure 4) TTL Output Waveform

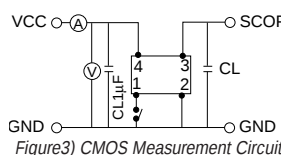


Figure 3) CMOS Measurement Circuit

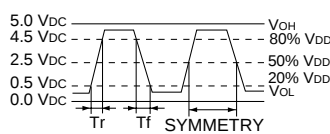


Figure 5) CMOS Output Waveform

PIN CONNECTIONS	
#1	ENABLE/DISABLE**
#2	GND
#3	OUT
#4	VDD

ENABLE / DISABLE FUNCTION** 5.0 ± 0.5V	
INH (Pin 1)	OUTPUT (Pin 3)
OPEN**	ACTIVE
"1" Level V _{IH} ≥ 2.0V (8FA,8FM)	ACTIVE
"1" Level V _{IH} ≥ 3.5V (8FB)	ACTIVE
"0" Level V _{IL} ≤ 0.8V (8FA,8FM)	High Z
"0" Level V _{IL} ≤ 1.5V (8FA,8FM)	High Z

** An internal pullup resistor from pin 1 to pin 14 allows active output if pin 1 is left open.