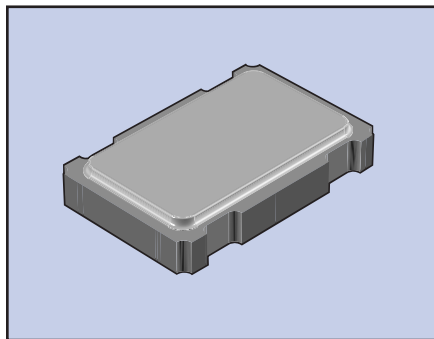


ECS-3961/3963 SERIES SMD CLOCK OSCILLATOR



The ECS-3961 (5V) and ECS-3963 (3V) is our smallest crystal controlled low-current clock oscillator. This subminiature, very low profile leadless ceramic package is ideal for today's SMD manufacturing environment. Package is seam welded with a metal lid.

FEATURES

- 3x5 mm footprint
- SMD
- 3 & 5V versions
- Seam welded package
- Tape and Reel (1,000 pcs)
- PbFree/RoHS Compliant

PART NUMBERING GUIDE "EXAMPLE"

MANUFACTURER	SERIES	FREQUENCY (14.4 MHz)	(STABILITY TOLERANCE (A=±100 PPM))
ECS	- 3961 -	144	- A

Sample Part Number: ECS-3961-144-A

OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-3961 (5V)			ECS-3963 (3.0V)			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
FREQUENCY RANGE		2.500		35.000	2.500		66.666	MHz
FREQUENCY STABILITY**	Option (A)	-100		+100	-100		+100	PPM
	Option (B)	-50		+50	-50		+50	PPM
	Option (C)**	-25		+25	-25		+25	PPM
OPERATING TEMPERATURE		-10		+70	-10		+70	°C
STORAGE TEMPERATURE		-55		+125	-55		+125	°C
INPUT VOLTAGE V _{CC}		+4.5	+5	+5.5	+2.7	+3.0	+3.3	V DC
INPUT CURRENT	2.5 ~ 35.0 MHz			15			10	mA
	35.0 ~ 50.0 MHz			-			15	mA
	1.8 ~ 36.0 MHz			-			20	mA
OUTPUT SYMMETRY	@ 1/2 V _{CC} Level	40/60	50 ±4	60/40	40	50 ±4	60	%
RISE AND FALL TIMES				10			10	ns
LOGIC "0" LEVEL	V _{CC} x 0.1V max.							
LOGIC "1" LEVEL	V _{CC} x 0.9V max.							
LOAD				15			15	pF
START-UP				10			10	ms

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

** Reduced operating temperature with option C (±25 PPM) -10° ~ +60°C

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

PACKAGE DIMENSIONS (mm)

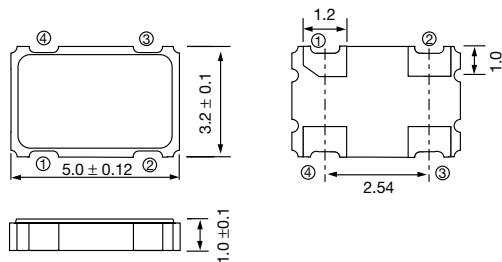


Figure 1) ECS-3961/3963 Series Top, Side and Bottom Views

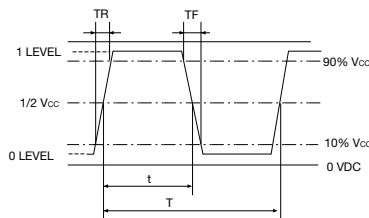


Figure 2) Output Waveform

ECS-3961 (5V) Standby Control Voltage	
PIN #1 = OPEN***	#3 = OUTPUT
PIN #1 = +3.5V MIN	#3 = OUTPUT
PIN #1 = 1.5V MAX	#3 = NO OSCILLATION

ECS-3963 (3V) Standby Control Voltage	
PIN #1 = OPEN***	#3 = OUTPUT
PIN #1 = +2.1V MIN	#3 = OUTPUT
PIN #1 = 0.9V MAX	#3 = NO OSCILLATION

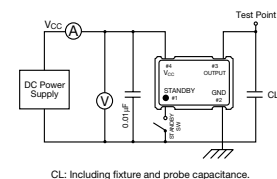


Figure 3) Test Circuit

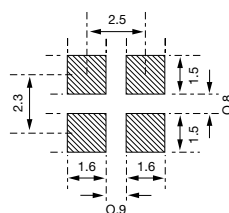


Figure 4) Land Pattern

PIN CONNECTIONS	
#1	TRI-STATE***
#2	GND
#3	OUTPUT
#4	V _{CC}