



- ▶ Low Current 1.5  $\mu$ A
- ▶ 3.2 x 2.5 mm Footprint
- ▶ 1.5 to 5.5V
- ▶ Pb Free/RoHS Compliant
- ▶ -40 ~ +85°C Operating Temp

# ECS-327KE

## SMD CLOCK OSCILLATOR

ECS-327KE 32.768 KHz low power CMOS subminiature SMD oscillator. Ideal for today's high density low power applications.

### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-327KE			UNITS
		MIN	TYP	MAX	
Frequency			32.768		KHz
Frequency Tolerance	VDD = +3.3V at +25°C	-10		+30	ppm
Frequency Stability	-20 ~ +70°C	-90		+30	ppm
	-40 ~ +85°C	-130		+30	ppm
Operating Temperature		-40		+85	°C
Storage Temperature		-55		+125	°C
Input Voltage		+1.5		+5.5	VDC
Absolute Supply Voltage		+1.5		+5.5	VDC
Input Current (-40~+85°C)	at VDD=+3.3V, no load			1.5	$\mu$ A
Standby Current (at +25°C)	No Load			250	nA
Output Symmetry	@ 50% VDD CL 15 pF @+25°C	40/60		60/40	%
Rise and Fall Times	CL 15 pF @+25°C (10% to 90% VDD)			200	ns
"0" level (VOL)	CL 15 pF @ +25°C			+0.4	VDC
"1" level (VOH)	CL 15 pF @ +25°C	VDD-0.4V			VDC
Output Load	CMOS			15	pF
Disable delay time				100	nS
Enable delay time	VDD = +3.3V @ +25°C			1	S
Startup time				1	S
Aging (first year)	@ +25°C $\pm$ 3°C			$\pm$ 5	ppm

### DIMENSIONS (mm)

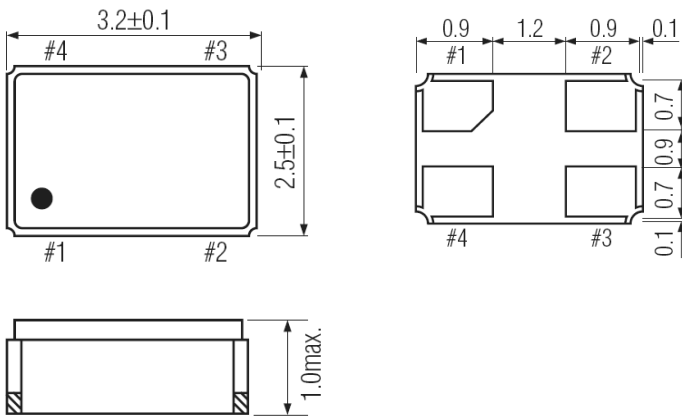


Figure 1) Top, Side and Bottom views

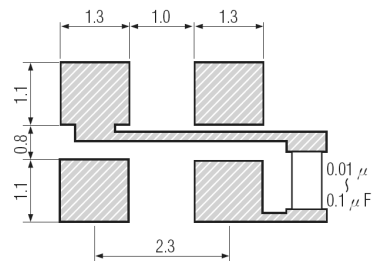


Figure 2) Suggested Land Pattern

Pin Connections	
Pin #1	Tri-State
Pin #2	Ground
Pin #3	Output
Pin #4	VDD

Tri-State Control Voltage	
Pad 1	Pad 4
Open	Oscillation
ViH 90% VDD Min	Oscillation
ViL 10% VDD Max	High Impedance

Note: Internal crystal oscillation to be halted (Pin #1=ViL)

### PART NUMBER: ECS-327KE-TR

