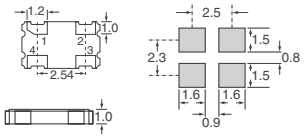
Programmable Oscillators

The ability to create a custom oscillator to certain specifications provides engineers with a great deal of flexibility. They allow for last minute changes in circuitry or design. ECS Blanks are "Twice Programmable". This is a cost saving feature which allows you to reprogram the same part to different specifications. ECS Programmable Oscillators are available in four different package styles: 3.2 x 5.0 SMD, 5.0 x 7.5 SMD, Half Size Dip and Full Size Dip Package. Frequency ranges are available from 1MHz ~ 125MHz in 3.3V and 1MHz ~ 150MHz in 5V* and in ±50ppm** and ±100ppm Frequency Stability Options.

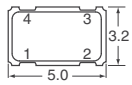
*3.2 x 5.0 SMD package: Frequency range 1MHz ~ 125MHz in 5V.

**±50ppm not available in Extended Temperature Range Option.

Fig. 1

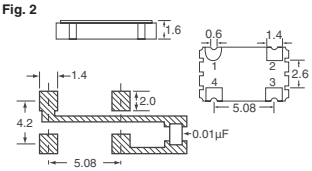


Pin Connection	
1	Tri-State
2	Gnd
3	Output
4	Vcc

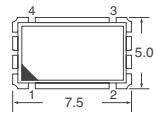


ECS-P53 (3.3V) Tri-State Control Voltage	
Pin #1 = Open	#3 = Output
Pin #1 = +0.7V Min.	#3 = Output
Pin #1 = +0.2V Max.	#3 = High Impedance
ECS-P55 (5V) Tri-State Control Voltage	
Pin #1 = Open	#3 = Output
Pin #1 = +2.0V Min.	#3 = Output
Pin #1 = +0.8V Max.	#3 = High Impedance

Fig. 2

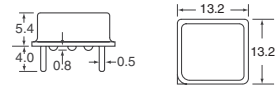


Pin Connection	
1	Tri-State
2	Gnd
3	Output
4	Vcc

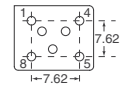


ECS-P73 (3.3V) Tri-State Control Voltage	
Pin #1 = Open	#3 = Output
Pin #1 = +0.7V Min.	#3 = Output
Pin #1 = +0.2V Max.	#3 = High Impedance
ECS-P75 (5V) Tri-State Control Voltage	
Pin #1 = Open	#3 = Output
Pin #1 = +2.0V Min.	#3 = Output
Pin #1 = +0.8V Max.	#3 = High Impedance

Fig. 3

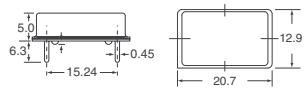


Pin Connection	
1	Tri-State
4	Gnd
5	Output
8	Vcc

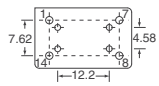


ECS-P83 (3.3V) Tri-State Control Voltage	
Pin #1 = Open	#5 = Output
Pin #1 = +0.7V Min.	#5 = Output
Pin #1 = +0.2V Max.	#5 = High Impedance
ECS-P85 (5V) Tri-State Control Voltage	
Pin #1 = Open	#5 = Output
Pin #1 = +2.0V Min.	#5 = Output
Pin #1 = +0.8V Max.	#5 = High Impedance

Fig. 4



Pin Connection	
1	Tri-State
7	Gnd
8	Output
14	Vcc



ECS-P143 (3.3V) Tri-State Control Voltage	
Pin #1 = Open	#8 = Output
Pin #1 = +0.7V Min.	#8 = Output
Pin #1 = +0.2V Max.	#8 = High Impedance
ECS-P145 (5V) Tri-State Control Voltage	
Pin #1 = Open	#8 = Output
Pin #1 = +2.0V Min.	#8 = Output
Pin #1 = +0.8V Max.	#8 = High Impedance

Fig.	Supply Voltage (V)	Frequency Tolerance	Operating Temperature	Case Style	Digi-Key † Part No.	Price Each 1	10	50	100
Surface Mount — RoHS Compliant									
1	3.3	±100ppm	-40°C ~ 85°C	3.2 x 5	ECS-P53-AN-ND	11.03	9.45	6.93	6.30
			-10°C ~ 70°C	3.2 x 5	ECS-P53-A-ND	11.03	9.45	6.93	6.30
		±50ppm	-10°C ~ 70°C	3.2 x 5	ECS-P53-B-ND	11.03	9.45	6.93	6.30
	5	±100ppm	-40°C ~ 85°C	3.2 x 5	ECS-P55-AN-ND	11.03	9.45	6.93	6.30
			-10°C ~ 70°C	3.2 x 5	ECS-P55-A-ND	11.03	9.45	6.93	6.30
		±50ppm	-10°C ~ 70°C	3.2 x 5	ECS-P55-B-ND	11.03	9.45	6.93	6.30
2	3.3	±100ppm	-40°C ~ 85°C	5 x 7	ECS-P73-AN-ND	6.77	5.81	4.26	3.87
			0°C ~ 70°C	5 x 7	ECS-P73-A-ND	6.77	5.81	4.26	3.87
		±50ppm	0°C ~ 70°C	5 x 7	ECS-P73-B-ND	6.77	5.81	4.26	3.87
	5	±100ppm	-40°C ~ 85°C	5 x 7	ECS-P75-AN-ND	6.77	5.81	4.26	3.87
			0°C ~ 70°C	5 x 7	ECS-P75-A-ND	6.77	5.81	4.26	3.87
		±50ppm	0°C ~ 70°C	5 x 7	ECS-P75-B-ND	6.77	5.81	4.26	3.87
Through Hole									
3	3.3	±100ppm	-40°C ~ 85°C	8 Pin DIP	ECS-P83-AN-ND	6.77	5.81	4.26	3.87
			0°C ~ 70°C	8 Pin DIP	ECS-P83-A-ND	6.77	5.81	4.26	3.87
		±50ppm	0°C ~ 70°C	8 Pin DIP	ECS-P83-B-ND	6.77	5.81	4.26	3.87
	5	±100ppm	-40°C ~ 85°C	8 Pin DIP	ECS-P85-AN-ND	6.77	5.81	4.26	3.87
			0°C ~ 70°C	8 Pin DIP	ECS-P85-A-ND	6.77	5.81	4.26	3.87
		±50ppm	0°C ~ 70°C	8 Pin DIP	ECS-P85-B-ND	6.77	5.81	4.26	3.87

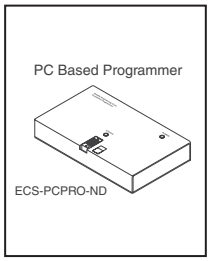
Fig.	Supply Voltage (V)	Frequency Tolerance	Operating Temperature	Case Style	Digi-Key † Part No.	Price Each 1	10	50	100
4	3.3	±100ppm	-40°C ~ 85°C	14 Pin DIP	ECS-P143-AN-ND	6.77	5.81	4.26	3.87
			0°C ~ 70°C	14 Pin DIP	ECS-P143-A-ND	6.77	5.81	4.26	3.87
		±50ppm	0°C ~ 70°C	14 Pin DIP	ECS-P143-B-ND	6.77	5.81	4.26	3.87
	5	±100ppm	-40°C ~ 85°C	14 Pin DIP	ECS-P145-AN-ND	6.77	5.81	4.26	3.87
			0°C ~ 70°C	14 Pin DIP	ECS-P145-A-ND	6.77	5.81	4.26	3.87
		±50ppm	0°C ~ 70°C	14 Pin DIP	ECS-P145-B-ND	6.77	5.81	4.26	3.87
Through Hole — RoHS Compliant									
3	3.3	±100ppm	-40°C ~ 85°C	8 Pin DIP	ECS-P83-ANX-ND	6.77	5.81	4.26	3.87
			0°C ~ 70°C	8 Pin DIP	ECS-P83-AX-ND	6.77	5.81	4.26	3.87
		±50ppm	0°C ~ 70°C	8 Pin DIP	ECS-P83-BX-ND	6.77	5.81	4.26	3.87
	5	±100ppm	-40°C ~ 85°C	8 Pin DIP	ECS-P85-ANX-ND	6.77	5.81	4.26	3.87
			0°C ~ 70°C	8 Pin DIP	ECS-P85-AX-ND	6.77	5.81	4.26	3.87
		±50ppm	0°C ~ 70°C	8 Pin DIP	ECS-P85-BX-ND	6.77	5.81	4.26	3.87
4	3.3	±100ppm	-40°C ~ 85°C	14 Pin DIP	ECS-P143-ANX-ND	6.77	5.81	4.26	3.87
			0°C ~ 70°C	14 Pin DIP	ECS-P143-AX-ND	6.77	5.81	4.26	3.87
		±50ppm	0°C ~ 70°C	14 Pin DIP	ECS-P143-BX-ND	6.77	5.81	4.26	3.87
	5	±100ppm	-40°C ~ 85°C	14 Pin DIP	ECS-P145-ANX-ND	6.77	5.81	4.26	3.87
			0°C ~ 70°C	14 Pin DIP	ECS-P145-AX-ND	6.77	5.81	4.26	3.87
		±50ppm	0°C ~ 70°C	14 Pin DIP	ECS-P145-BX-ND	6.77	5.81	4.26	3.87

† Call Digi-Key with your Selected Base Part Number, and a Sales Representative will enter your desired frequency.

Programmable parts are non-cancelable and non-returnable!

CrystalPro Oscillator Programming System

Programmer



Designed specifically to program oscillator devices, the CrystalPro is a fast, accurate, low cost solution for your low to mid volume programming needs. Software and firmware upgrades can be downloaded off the web to support future parts from manufacturers and new technologies such as programmable TCXO and VCXO devices. The user-friendly CrystalWindow graphical interface insures complete and valid part specification and fast part type switching. Attaches to any Windows PC via standard serial port.

Features: • Fast - average programming is less than two seconds • Accurate frequency at time of programming cycle is within 5ppm • Simple - just select part number, type in desired frequency and click PROGRAM • Flexible - handling devices up to 250MHz and LVTTL/TTL/CMOS/ECL/PECL I/O technologies, the CrystalPro is designed to handle tomorrow's technologies as they become available.

Description	Digi-Key Part No.	Price Each
PC Based Programmer	ECS-PCPRO-ND◆	1521.00

◆ ***RoHS compliant***

Blank Oscillator

Description	Digi-Key Part No.	Price Each
Blank Oscillator, Full Size	ECS-UPO-14PIN-ND	4.52
Blank Oscillator, Half Size	ECS-UPO-8PIN-ND	4.52
RoHS Compliant		
Blank Oscillator, 3 x 5 SMD	ECS-UPO-3X5-ND	7.35
Blank Oscillator, 5 x 7 SMD	ECS-UPO-5X7-ND	4.52
Blank Oscillator, Full Size	ECS-UPO-14PINX-ND	4.52
Blank Oscillator, Half Size	ECS-UPO-8PINX-ND	4.52

Adapter

Description	Digi-Key Part No.	Price Each
Adapter 3 x 5 SMD	ECS-UPO-3X5-FXT-ND	87.75
Adapter 5 x 7 SMD	ECS-UPO-5X7-FXT-ND	67.50