

ECS-PEC25 (2.5V) and ECS-PEC33 (3.3V) miniature SMD PECL oscillators. Ideal for low jitter applications.

[Request a Sample](#)

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

ECS-PEC25/PEC33



- Low Voltage PECL
- 7 x 5 mm Footprint
- Low Jitter
- PbFree/RoHS Compliant

Parameters	Conditions	ECS-PEC25 (+2.5V)			ECS-PEC33 (+3.3V)			Units
		MIN	TYP	MAX	MIN	TYP	MAX	
Frequency Range		40.0		300.0	40.0		300.0	MHz
Operating Temperature	Standard	0		+70	0		+70	°C
	Extended (N Option)	-40		+85	-40		+85	°C
Storage Temperature		-50		+125	-50		+125	°C
Supply Voltage	VDD	+2.375	+2.5	+2.625	+3.135	+3.3	+3.465	VDC
Frequency Stability*	Option A			±100			±100	PPM
	Option B			±50			±50	PPM
	Option C			±25			±25	PPM
Input Current	Pin 1 Open or VIH			90			90	mA
Stand-by Current	Pin 1 = VIL			30			30	µA
Output Symmetry	@ 50% VDD Level			40/60			45/55	%
Rise and Fall Times	20% VDD to 80% Level			1			1	ns
"0" Level	VOL			+1.195			+1.745	VDC
"1" Level	VOH	+1.415			+2.215			VDC
Output Load	50Ω into VDD -2V							
Disable Delay Time				200			200	ns
Enable/Startup Time				10			10	ms
RMS Jitter	12 KHz to 20 MHz band			1			1	ps
Aging				±5			±5	PPM

Part Numbering Guide: Example ECS-PEC33-1000-B-N-TR

ECS	Series	Frequency Abbreviations	Stability	Temperature	Packaging
ECS	PEC25 = +2.5V PEC33 = +3.3V	1000 = 100 MHz	A = ±100 ppm B = ±50 ppm C = ±25 ppm	Blank = -0 ~ 70°C M = -20 ~ +70°C N = -40 ~ +85°C	TR = Tape & Reel 500/Reel

Package Dimensions (mm)

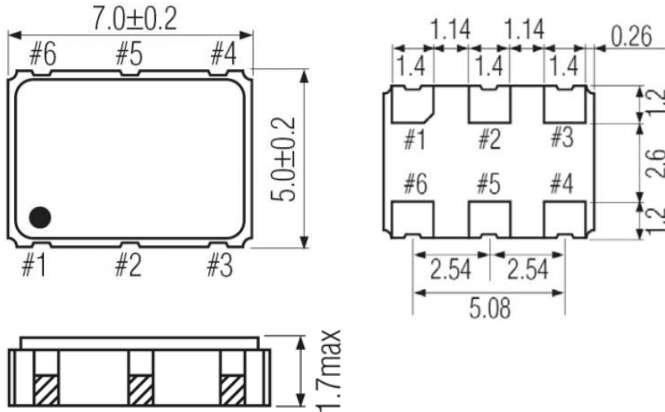


Figure 1) Top, Side, and Bottom views

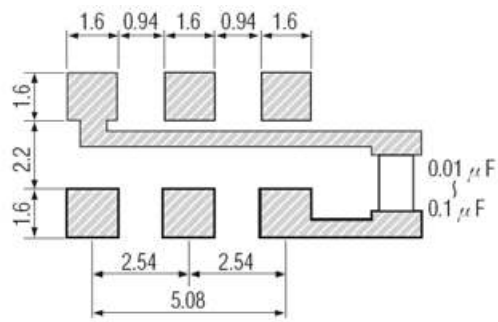


Figure 2) Land Pattern

Pin Connections	
#1	Tri-State
#2	N.C.
#3	Ground
#4	Output
#5	C-Output
#6	VDD

Tri-State Control Voltage	
Pad 1	Pad 4 & 5
Open	Oscillation
VIH 70% VDD Min	Oscillation
VIL 30% VDD Max	No Oscillation

Note: Internal crystal oscillation to be halted (Pin1 = VIL)

Frequency Abbreviations

FREQUENCY MHz	CODE
100.000	1000
106.250	1062.5
125.000	1250
155.520	1555.2
156.250	1562.5

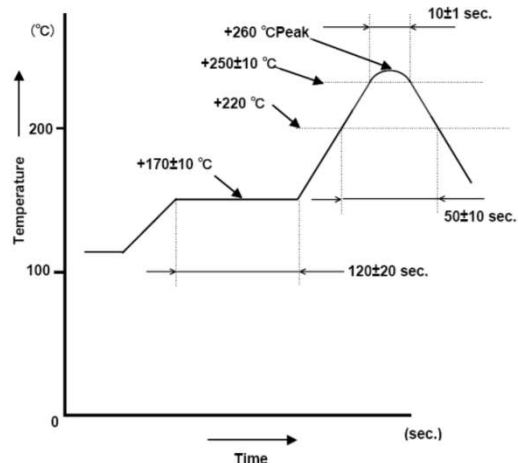
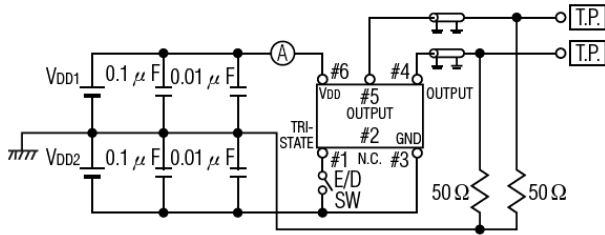
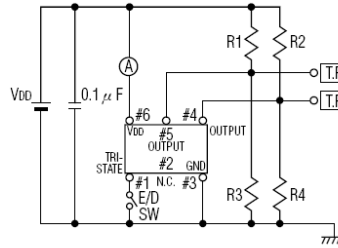


Figure 3) Suggested Reflow Profile



Termination : 50Ω impedance matching

VDD	VDD1	VDD2
+3.3V	+2.0V	-1.3V
+2.5V	+2.0V	-0.5V



Termination : high impedance probes

VDD	R1	R2	R3	R4
+3.3V	130Ω	130Ω	82Ω	82Ω
+2.5V	270Ω	270Ω	62Ω	62Ω

Note : R3 & R4 to change for the use of low impedance probes

Figure 4) Test Circuit 1

Figure 5) Test Circuit 2

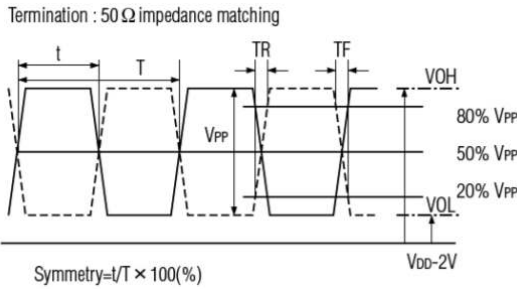


Figure 6) Output Waveform 1

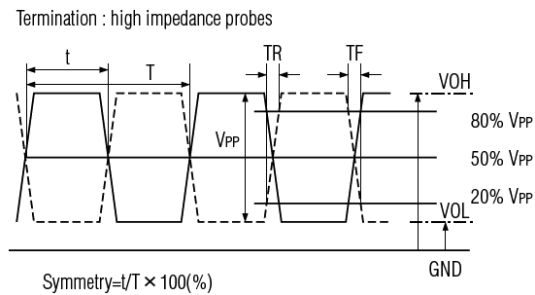
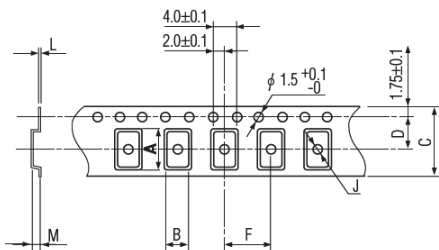


Figure 7) Output Waveform 2

Tape Dimensions (mm)



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
7.5	5.5	16.0	7.5	8.0	2.0	0.3	2.2	245	500pcs

Figure 8) Pocket Tape Dimensions

Package Data	
Item	Description
Lid	Metal
Base	Ceramic
Sealing	Seam
Terminal	Tungsten (Metalized)
Plating	Gold/Nickel (Surface)/(Under)
RoHS	Compliant (PbFree)