ECS-PEC25/PEC33

SMD PECL Oscillator

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)

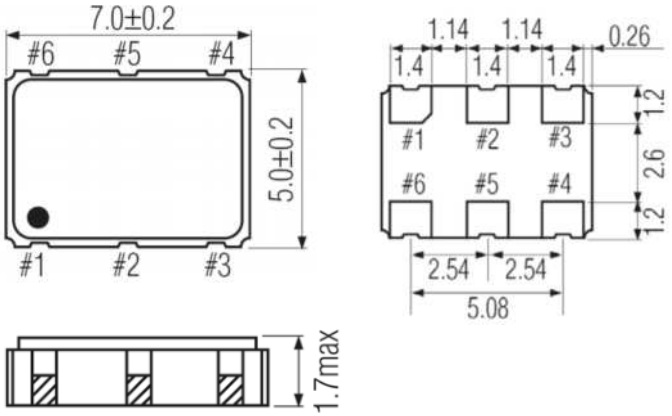


Figure 1) *Top, Side, and Bottom views*

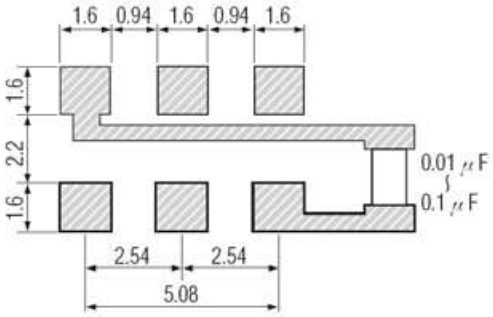


Figure 2) *Land Pattern*

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

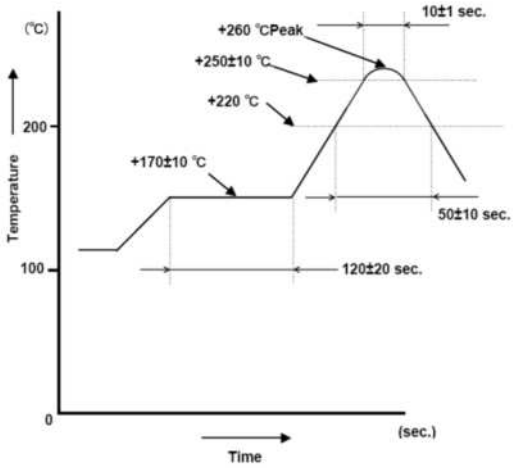
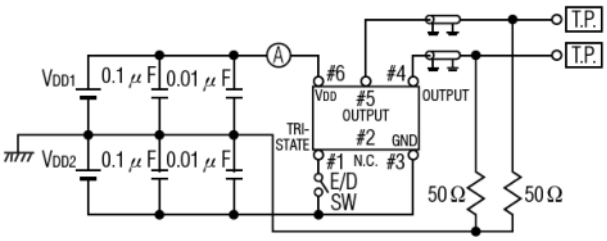


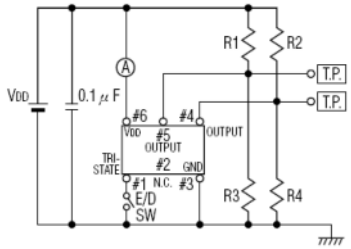
Figure 3) *Suggested Reflow Profile*



Termination : 50Ω impedance matching

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

Figure 4) *Test Circuit 1*



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 5) *Test Circuit 2*

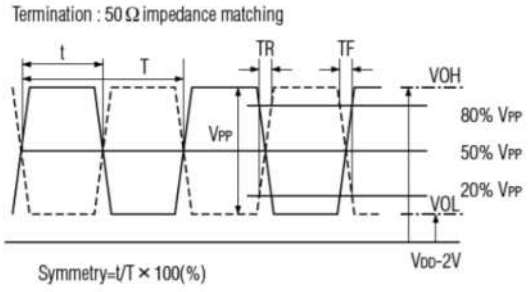


Figure 6) *Output Waveform 1*

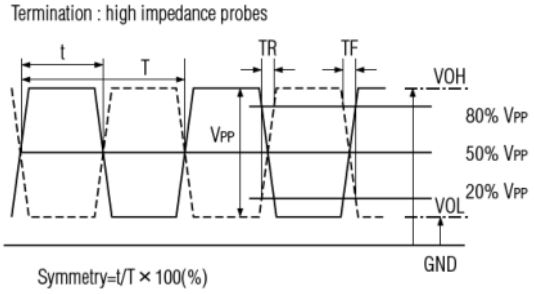
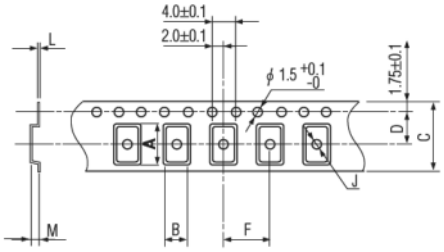


Figure 7) *Output Waveform 2*

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)