

ECS-2025/2033

SMD Clock Oscillator

ECS-2025 (2.5V) and ECS-2033 (3.3V) subminiature SMD oscillators.

[Request a Sample](#)

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

ECS-2025/2033	Parameters	Conditions	ECS-2025 (+2.5V)			ECS-2033 (+3.3V)			Units
			MIN	TYP	MAX	MIN	TYP	MAX	
	Frequency Range		0.750		75.000	0.750		75.000	MHz
	Operating Temperature	Standard	-10		+70	-10		+70	°C
		Extended (N Option)	-40		+85	-40		+85	°C
	Storage Temperature		-55		+100	-55		+100	°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	0.75 ~ 20.0 MHz			5			7	mA
		20.1 ~ 40.0 MHz			9			13	mA
		40.1 ~ 60.0 MHz			11			19	mA
		60.1 ~ 75.0 MHz			14			24	mA
	Stand-by Current	Pin 1 = VIL			10			10	
	Output Symmetry	@50% VDD Level			40/60			45/55	%
	Rise and Fall Times	10% VDD to 90% Level			10			10	ns
	"0" Level	VOL			10% VDD			10% VDD	VDC
	"1" Level	VOH	90% VDD			90% VDD			VDC
	Output Load	CMOS			15			15	pF
	Disable Delay Time				150			150	ns
	Startup Time				10			10	ms
	Aging				±5			±5	PPM

- Low Voltage
- 2.5 x 2.0 mm Footprint
- Low Current Consumption
- PbFree/RoHS Compliant

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

Part Numbering Guide: Example ECS-2033-200-BN-TR

ECS	Series	Frequency Abbreviations	Stability Tolerance	Temperature	Packaging
ECS	2025 = +2.5V 2033 = +3.3V	200 = 20 MHz	A = ±100 ppm B = ±50 ppm C = ±25 ppm	Blank = -10 ~ +70°C M = -20 ~ +70°C N = -40 ~ +85°C U = -55 ~ +125°C	TR = Tape & Reel 1K/Reel

Package Dimensions (mm)

Figure 1) Top, Side, and Bottom views

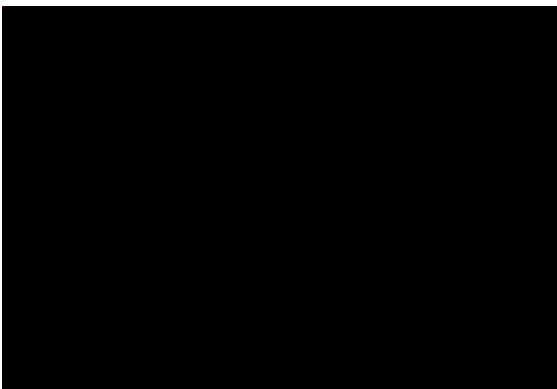
Pin Connections	
#1	Tri-State
#2	Ground
#3	Output
#4	VDD

Figure 2) Land Pattern

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

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

Tape Dimensions (mm)



Package Data	
Item	Description
Lid	Metal
Base	Ceramic
Sealing	AuSn
Terminal	Tungsten (metalized)
Plating	Gold/Nickel (Surface)/(Under)
RoHS	Compliant (Pb Free)

Figure 3) Pocket Tape Dimensions

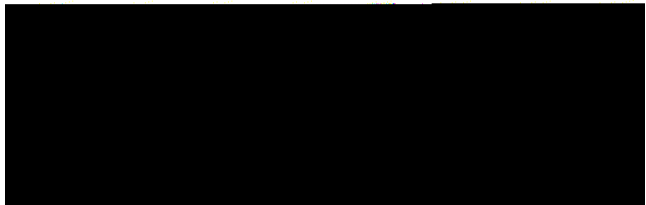
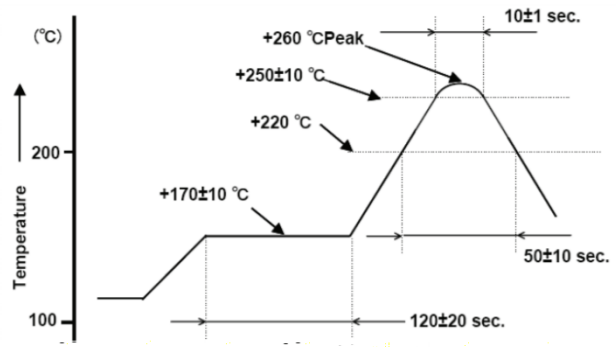
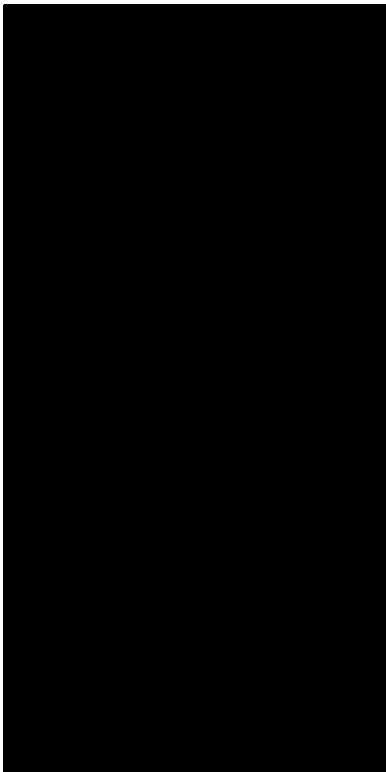


Figure 4) Suggested Reflow Profile