

- ▶ High Stability Oscillator
- ▶ 2.5 x 3.2 mm Footprint
- ▶ Low Current Consumption
- ▶ RoHS Compliant

# ECS-2532HS

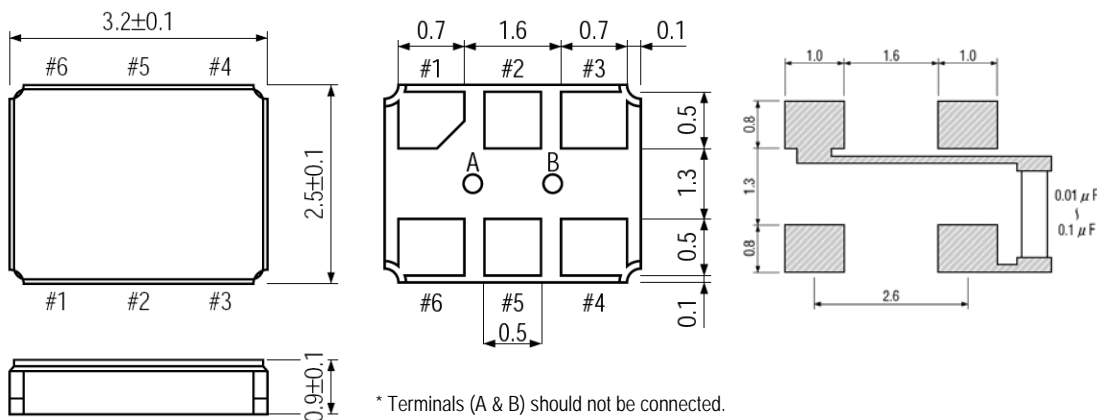
## SMD CLOCK OSCILLATOR

ECS-2532HS-2 (2.8V) and ECS-2532HS-3 (3.3V) subminiature High Stability SMD oscillators. Ideal for today's tight tolerance applications.

### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-2532HS-2 (+2.8V)			ECS-2532HS-3 (+3.3V)			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
Frequency Range		1.000		45.000	1.000		45.000	MHz
Operating Temperature	Standard	-30		+85	-30		+85	°C
	N Option	-40		+85	-40		+85	°C
Supply Voltage	VDD	+2.66	+2.8	+2.94	+3.135	+3.3	+3.465	VDC
Frequency Stability	Option E			± 20			± 20	ppm
	Option F			± 15			± 15	ppm
	Option G			± 10			± 10	ppm
Input Current	Pin 1 Open or ViH			10			10	mA
Stand-by Current	Pin 1 = VIL			10			10	µA
Output Symmetry	@ 50% VDD level			45/55			45/55	%
Rise and Fall Times	10% VDD to 90% level			5			5	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				100			100	ns
Startup time				10			10	ms
Aging	@ +25°C ±3°C first year			2			2	ppm

### TOP, BOTTOM, SIDE VIEWS & LAND PATTERN



### Pin Connections

Pin #1	Tri-State
Pin #2	No Connect
Pin #3	Ground
Pin #4	Output
Pin #5	No Connect
Pin #6	VDD

### Tri-State Control Voltage

Pad 1	Pad 4
Open	Output
VDD-0.5V Min.	Output
0.5V Max. (Note 1)	High Impedance

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

### PART NUMBERING GUIDE: Example ECS - 2532HS - 200 - 3 - G

ECS	Series	Frequency Abbreviation	Voltage	Stability	Temperature
	2532HS	200 = 20.000 MHz See Frequency Abbreviations (Pg 2)	2 = +2.8V ±5% 3 = +3.3V ±5%	E = +/- 20 ppm F = +/- 15 ppm G = +/- 10 ppm	Blank = -30 ~ +85°C N = -40 ~ +85°C

ECS-2018 (1.8V) subminiature SMD oscillators. Ideal for today's high density applications.

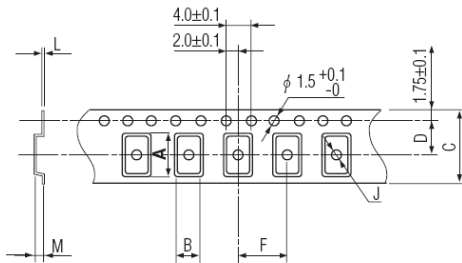
### Frequency Abbreviations

FREQUENCY MHz	CODE
20.000	200
22.1184	221
24.000	240
26.000	260
27.000	270
32.000	320
40.000	400
44.000	440



Figure 1) Suggested Reflow Profile

### TAPE DIMENSIONS (mm)



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
3.5	2.8	8.0	3.5	4.0	1.1	0.25	1.0	180	1000

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

Figure 2) Pocket Tape Dimensions