

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



ECS-2532HS

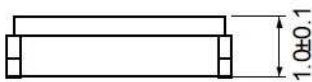
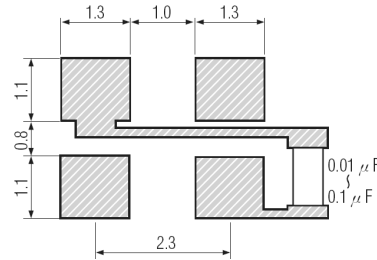
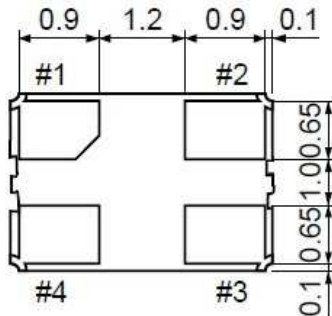
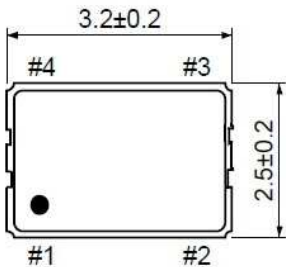
SMD CLOCK OSCILLATOR

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 | | 55.000 | 1.000 | | 55.000 | MHz |
| Operating Temperature | Standard | -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 | Ground |
| Pin #3 | Output |
| Pin #4 | VDD |

Tri-State Control Voltage

| | |
|--------------------|----------------|
| Pad 1 | Pad 3 |
| 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 - TR

| ECS | Series | Frequency Abbreviation | Voltage | Stability | Packaging |
|-----|--------|--|--------------------------------|--|------------------------------|
| | 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 | TR = Tape & Reel 500/Reel |

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.

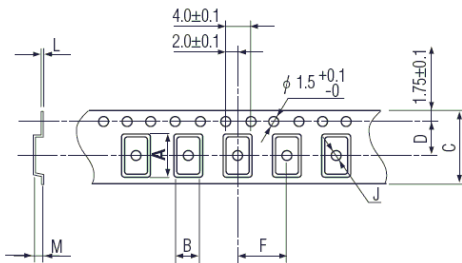
Frequency Abbreviations

| 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 |
| 50.000 | 500 |
| 54.000 | 540 |



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 | 500 |

| 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