# ECS-1633

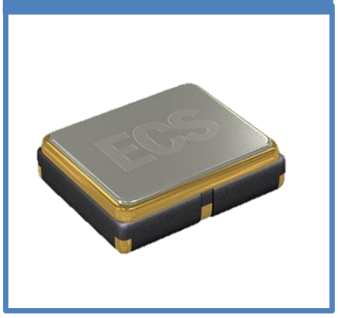
## SMD Clock Oscillator

ECS-1633 (3.3V) subminiature SMD oscillators. Ideal for today's high density applications.

Request a Sample

## OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

**ECS-1633**



- RoHS Compliant
- MSL 1
- Lead Finish Au

| Parameters | Conditions | ECS-1633 (+3.3V) | | | Units |
|---|---|---|---|---|---|
| | | MIN | TYP | MAX | |
| **Frequency Range** | | 1.500 | | 80.000 | MHz |
| **Operating Temperature** | Standard | -10 | | +70 | °C |
| | Extended (N Option) | -40 | | +85 | °C |
| **Storage Temperature** | | -55 | | +100 | °C |
| **Input Voltage** | VDD | +3.135 | +3.3 | +3.465 | VDC |
| **Frequency Stability*** | Option A | | | ±100 | PPM |
| | Option B | | | ±50 | PPM |
| | Option C | | | ±25 | PPM |
| **Input Current** | 1.500 ~ 19.90 MHz | | | 6.0 | mA |
| | 20.0 ~ 39.9 MHz | | | 7.0 | mA |
| | 40.0 ~ 49.9 MHz | | | 8.0 | mA |
| | 50.0 ~ 80.0 MHz | | | 9.0 | mA |
| **Stand-by Current** | Pin 1 = VIL | | | 10 | µA |
| **Output Symmetry** | @50% VDD Level | | | 45/55 | % |
| **Rise and Fall Times** | 10% VDD to 90% Level | | | 5 | ns |
| **"0" Level** | VOL | | | 10% VDD | VDC |
| **"1" Level** | VOH | 90% VDD | | | VDC |
| **Output Load** | CMOS | | | 15 | pF |
| **Disable Delay** | | | | 150 | ns |
| **Startup Time** | | | | 10 | ms |
| **Aging** | | | | ±5 | PPM |

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

## Part Numbering Guide: Example ECS-1633-200-BN-TR

| ECS | - | Series | - | Frequency Abbreviations | - | Stability Tolerance | - | Temperature | - | Packaging |
|---|---|---|---|---|---|---|---|---|---|---|
| ECS | | 1633 = 3.3V | | 200 = 20 MHz | | A = ±100 ppm<br>B = ±50 ppm<br>C = ±25 ppm | | Blank = -10 ~ 70°C<br>M = -20 ~ +70°C<br>N = -40 ~ +85°C | | TR = Tape & Reel |

RoHS COMPLIANT

# ECS-1633
SMD Clock Oscillator

ECS INC INTERNATIONAL®

## Package Dimensions (mm)

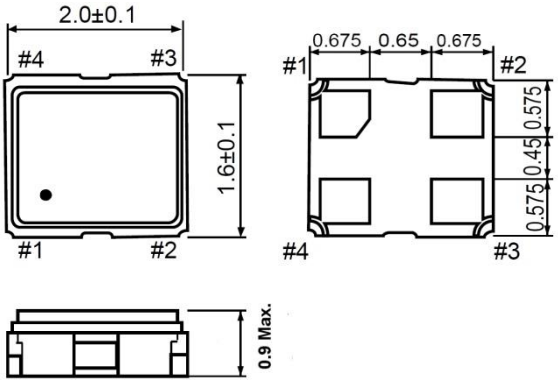



***Figure 1)*** *Top, Side, and Bottom views*

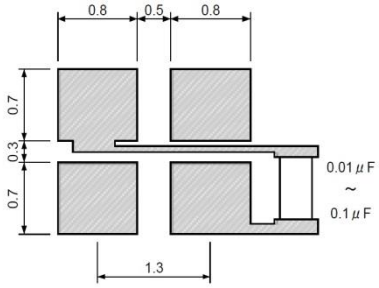



***Figure 2)*** *Land Pattern*

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

| Tri-State Control Voltage | |
|---|---|
| Pad 1 | Pad 3 |
| Open | Oscillation |
| VIH 70% VDD Min. | Oscillation |
| VIL 30% VDD Max. | No Oscillation |

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