



- ▶ Smallest VCXO in Industry
- ▶ 3.2 x 2.5 mm Footprint
- ▶ Low current consumption
- ▶ Pb Free/RoHS Compliant

ECS-2532VXO

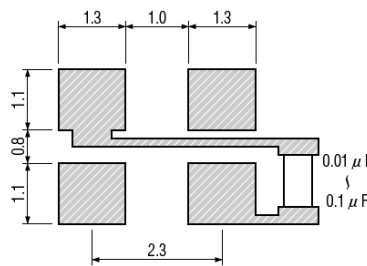
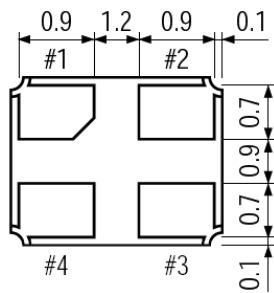
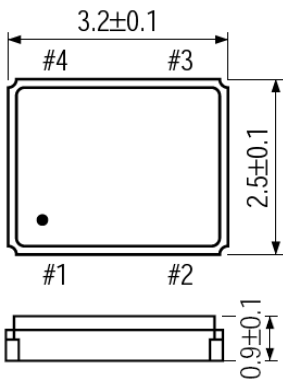
SMD VCXO

ECS-2532VXO offers a 2.8V and 3.3V version, subminiature SMD VCXO. Ideal for today's high density applications.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | ECS-2532VXO (+2.8V) | | | ECS-2532VXO (+3.3V) | | | UNITS |
|---|----------------------|---------------------|------|---------|---------------------|-------|---------|--------|
| | | MIN | TYP | MAX | MIN | TYP | MAX | |
| Frequency Range | | 2.000 | | 54.000 | 2.000 | | 54.000 | MHz |
| Operating Temperature | Standard | -10 | | +70 | -10 | | +70 | °C |
| Storage Temperature | | -40 | | +85 | -40 | | +85 | °C |
| Supply Voltage | VDD | +2.66 | +2.8 | +2.94 | +3.135 | +3.3 | +3.465 | VDC |
| Frequency Stability * Vco = 1/2 VDD | Option A | | | ± 50 | | | ± 50 | ppm |
| | Option B | | | ± 30 | | | ± 30 | ppm |
| Frequency vs. Input Voltage | VDD ±5% | | | ± 5 | | | ± 5 | ppm |
| Frequency Pulling Range | | ± 90 | | | ± 90 | | | ppm |
| Control Voltage | Vcon = Pin#1 | 0 | +1.4 | +2.8 | 0 | +1.65 | +3.3 | VDC |
| Frequency Slope | Positive | | | | | | | |
| Frequency Linearity | | | | 15 | | | 15 | % |
| Modulation bandwidth | -3 dB | 10 | | | 10 | | | KHz |
| Vcon input impedance | Vcon-GND | 100K | | | 100K | | | Ω |
| Output Symmetry | @ 50% VDD level | | | 40/60 | | | 60/40 | % |
| Rise and Fall Times 20% to 80% VDD level | 2.0 MHz to 10.0 MHz | | | 10 | | | 10 | ns |
| | 10.1 MHz to 54.0 MHz | | | 6 | | | 6 | ns |
| "0" level | VOL | | | 10% VDD | | | 10% VDD | VDC |
| "1" level | VOH | 90% VDD | | | 90% VDD | | | VDC |
| Output Load | CMOS | | | 15 | | | 15 | pF |
| Startup time | | | | 10 | | | 10 | ms |
| Input Current | No Load | | | 5 | | | 8 | mA |
| SSB Phase Noise | at 1 KHz offset | | | -120 | | | -120 | dBc/Hz |
| Aging (first year) | at +25°C ±3°C | | | ± 5 | | | ± 5 | ppm |

DIMENSIONS (mm)

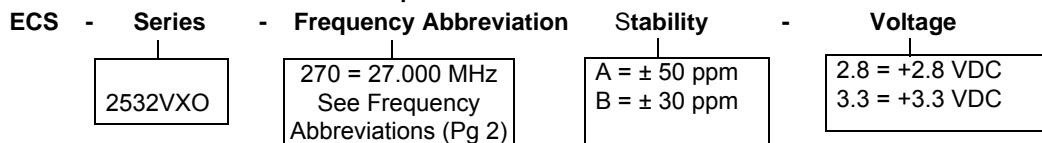


| Pin Connections | |
|-----------------|----------|
| Pin #1 | Vcontrol |
| Pin #2 | GND |
| Pin #3 | Output |
| Pin #4 | VDD |

Figure 1) Top, Side and Bottom views

Figure 2) Suggested Land Pattern

PART NUMBERING GUIDE: Example ECS-2532VXO-270B-2.8





Frequency Abbreviations

| FREQUENCY MHz | CODE |
|---------------|------|
| 20.000 | 200 |
| 27.000 | 270 |
| 54.000 | 540 |

TEST CIRCUIT

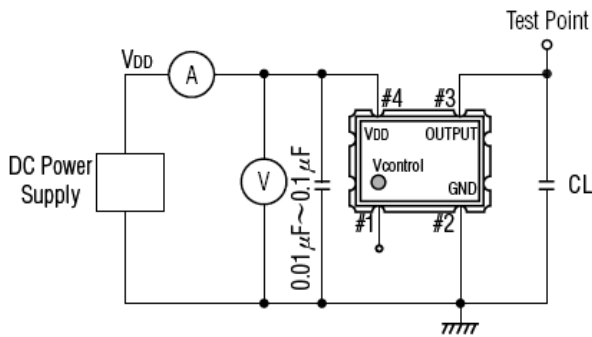


Figure 1) Suggested Reflow Profile

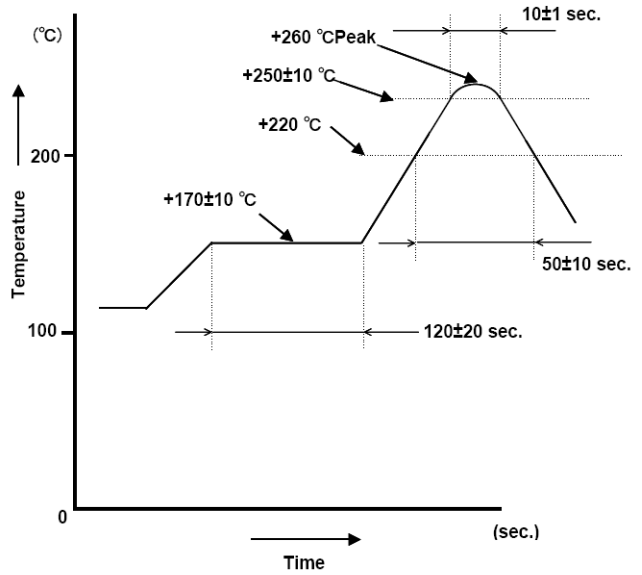
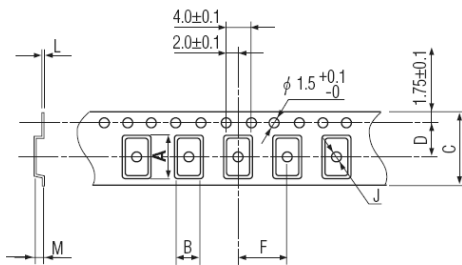


Figure 3) Suggested Reflow Profile

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 | Seam |
| Terminal | Tungsten (metalized) |
| Plating | Gold/Nickel (Surface)/(Under) |
| RoHS | Compliant (Pb Free) |

Figure 2) Pocket Tape Dimensions