

ECS-LVDS25 (2.5V) and ECS-LVDS33 (3.3V) Low Voltage Differential Signaling SMD LVDS oscillators.

Request a Sample

## OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

### ECS-LVDS25/LVDS33



- LVDS
- 7 x 5 mm Footprint
- Low Jitter
- PbFree/RoHS Compliant

| Parameters                         | Conditions            | ECS-LVDS25 (+2.5V) |       |        | ECS-LVDS33 (+3.3V) |      |        | Units |
|------------------------------------|-----------------------|--------------------|-------|--------|--------------------|------|--------|-------|
|                                    |                       | MIN                | TYP   | MAX    | MIN                | TYP  | MAX    |       |
| <b>Frequency Range</b>             |                       | 80.0               |       | 300.0  | 80.0               |      | 300.0  | MHz   |
| <b>Operating Temperature</b>       | Standard              | 0                  |       | +70    | 0                  |      | +70    | °C    |
|                                    | Extended (N Option)   | -40                |       | +85    | -40                |      | +85    | °C    |
| <b>Storage Temperature</b>         |                       | -50                |       | +125   | -50                |      | +125   | °C    |
| <b>Supply Voltage</b>              | VDD                   | +2.375             | +2.5  | +2.625 | +3.135             | +3.3 | +3.465 | VDC   |
| <b>Frequency Stability*</b>        | Option A              |                    |       | ±100   |                    |      | ±100   | PPM   |
|                                    | Option B              |                    |       | ±50    |                    |      | ±50    | PPM   |
|                                    | Option C              |                    |       | ±25    |                    |      | ±25    | PPM   |
| <b>Input Current</b>               | Pin 1 Open or VIH     |                    |       | 70     |                    |      | 70     | mA    |
| <b>Stand-by Current</b>            | Pin 1 = VIL           |                    |       | 30     |                    |      | 30     | µA    |
| <b>Output Symmetry</b>             | at Crossing Point     |                    |       | 45/55  |                    |      | 45/55  | %     |
| <b>Rise and Fall Times</b>         | 20% VDD to 80% Level  |                    |       | 1      |                    |      | 1      | ns    |
| <b>"0" Level</b>                   | VOL                   |                    | +1.10 |        | +1.10              |      |        | V     |
| <b>"1" Level</b>                   | VOH                   |                    | +1.43 |        | +1.43              |      |        | V     |
| <b>Output Load</b>                 | 100Ω (Out-Outn)       |                    |       |        |                    |      |        |       |
| <b>Differential Output Voltage</b> |                       |                    | 0.33  |        | 0.33               |      |        | V     |
| <b>Offset Voltage</b>              |                       |                    | 1.25  |        | 1.25               |      |        | V     |
| <b>Disable Delay Time</b>          |                       |                    |       | 200    |                    |      | 200    | ns    |
| <b>Enable/Startup Time</b>         |                       |                    |       | 10     |                    |      | 10     | ms    |
| <b>RMS Jitter</b>                  | 12 KHz to 20 MHz band |                    |       | 1      |                    |      | 1      | ps    |
| <b>Aging (First Year)</b>          | @ +25°C ±3°C          |                    |       | ±5     |                    |      | ±5     | PPM   |

### Part Numbering Guide: Example ECS-LVDS25-1000-A-TR

| ECS | Series                           | Frequency Abbreviations | Stability                                  | Temperature   | Packaging        |
|-----|----------------------------------|-------------------------|--|---|------------------|
| ECS | LVDS25 = +2.5V<br>LVDS33 = +3.3V | 1000 = 100 MHz          | A = ±100 ppm<br>B = ±50 ppm<br>C = ±25 ppm | Blank = -0 ~ 70°C<br>M = -20 ~ +70°C<br>N = -40 ~ +85°C | TR = Tape & Reel |

**Package Dimensions (mm)**

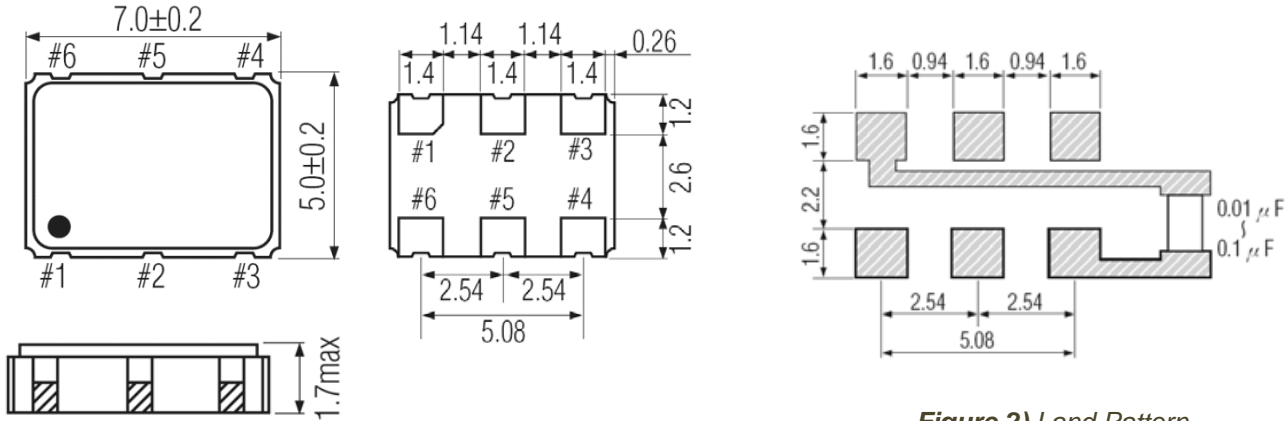


Figure 1) Top, Side, and Bottom views

Figure 2) Land Pattern

| Pin Connections |           |
|-----------------|-----------|
| #1              | Tri-State |
| #2              | N.C.      |
| #3              | Ground    |
| #4              | Output    |
| #5              | C-Output  |
| #6              | VDD       |

| Tri-State Control Voltage |                |
|---------------------------|----------------|
| Pad 1                     | Pad 4 & 5      |
| Open                      | Oscillation    |
| VIH 70% VDD Min           | Oscillation    |
| VIL 30% VDD Max           | No Oscillation |

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

**Frequency Abbreviations**

| FREQUENCY MHz | CODE   |
|---------------|--------|
| 100.000       | 1000   |
| 106.250       | 1062.5 |
| 125.000       | 1250   |
| 156.250       | 1562.5 |
| 200.000       | 2000   |

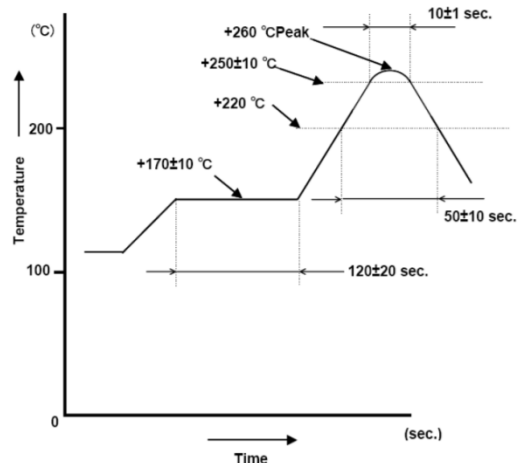
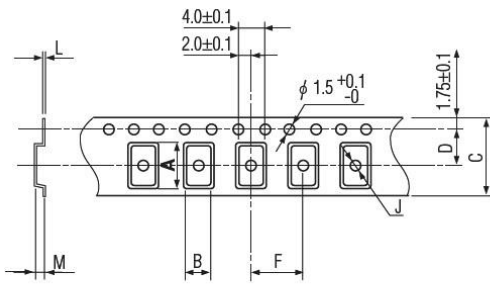


Figure 3) Suggested Reflow Profile

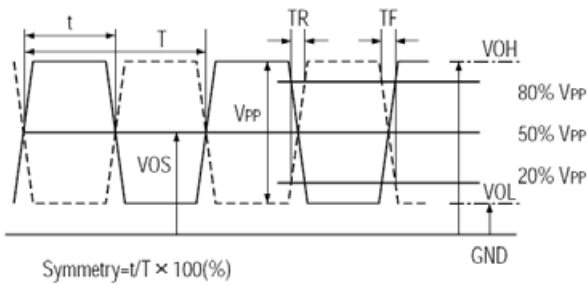
**Tape Dimensions (mm)**



| A   | B   | C    | D   | F   | J   | L   | M   | Reel Dia. |
|-----|-----|------|-----|-----|-----|-----|-----|-----------|
| 7.5 | 5.5 | 16.0 | 7.5 | 8.0 | 2.0 | 0.3 | 2.2 | 245       |

| Package Data |                               |
|--------------|-------------------------------|
| Item         | Description                   |
| Lid          | Metal                         |
| Base         | Ceramic                       |
| Sealing      | Seam                          |
| Terminal     | Tungsten (Metalized)          |
| RoHS         | Compliant (PbFree)            |
| Plating      | Gold/Nickel (Surface)/(Under) |

**Figure 4) Pocket Tape Dimensions**



**Figure 5) Output Wave Form**

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