



- ▶ Programmable (1 time)
- ▶ 3.3V & 5V options
- ▶ PLL technology
- ▶ Extended temp range
- ▶ Industry Standard Footprint
- ▶ Pb Free/RoHS Compliant

# ECS-P73/P75

## SMD PROGRAMMABLE OSCILLATOR

ECS-P73 (3.3V) and ECS-P75 (5V) is our miniature, one time programmable crystal controlled oscillator. This miniature, very low profile leadless ceramic package is ideal for today's SMD manufacturing environment.

### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS             | CONDITIONS              | ECS-P73 (+3.3V) |      |         | ECS-P75 (+5V) |      |         | UNITS  |
|------------------------|-------------------------|-----------------|------|---------|---------------|------|---------|--------|
|                        |                         | MIN             | TYP  | MAX     | MIN           | TYP  | MAX     |        |
| Frequency Range        |                         | 1.000           |      | 125.000 | 1.000         |      | 150.000 | MHz    |
| Operating Temperature  | Standard                | -10             |      | +70     | -10           |      | +70     | °C     |
|                        | Extended (N Option)     | -40             |      | +85     | -40           |      | +85     | °C     |
| Storage Temperature    |                         | -55             |      | +125    | -55           |      | +125    | °C     |
| Supply Voltage         |                         | +2.97           | +3.3 | +3.63   | +4.5          | +5.0 | +5.5    | VDC    |
| Frequency Stability *  | Option A                |                 |      | ± 100   |               |      | ± 100   | ppm    |
|                        | Option B                |                 |      | ± 50    |               |      | ± 50    | ppm    |
| Input Current          |                         |                 |      | 28      |               |      | 45      | mA     |
| Output Disable Current | Pin 1 = VIL             |                 |      | 15      |               |      | 30      | mA     |
| Output Symmetry        | @ 50% Vcc level         |                 |      | 45/55   |               |      | 45/55   | %      |
| Rise and Fall Times    | 20% Vcc to 80%Vcc level |                 |      | 4       |               |      | 4       | ns     |
| Jitter                 | 1.0 ~ 33.0 MHz          |                 | ±100 | ±250    |               | ±100 | ±250    | pS p-p |
|                        | >33.1 MHz               |                 | ±50  | ±100    |               | ±50  | ±100    | pS p-p |
| "0" level              | VOL                     |                 |      | 0.4     |               |      | 0.4     | VDC    |
| "1" level              | VOH                     | 2.7             |      |         | Vcc-0.5       |      |         | VDC    |
| Output Load (HCMOS)    | 1.0 ~ 50.0 MHz          |                 |      | 30      |               |      | 50      | pF     |
|                        | > 50.1 MHz              |                 |      | 15      |               |      | 15      | pF     |
| Enable/Disable Time    |                         |                 |      | 150     |               |      | 100     | ns     |
| Start-Up Time          |                         |                 |      | 10      |               |      | 10      | ms     |

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

### DIMENSIONS (mm)

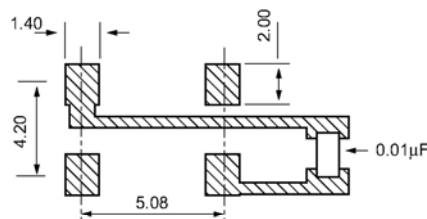
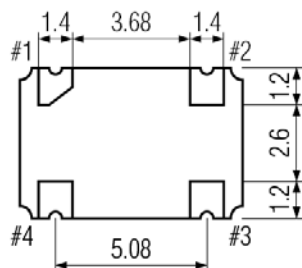
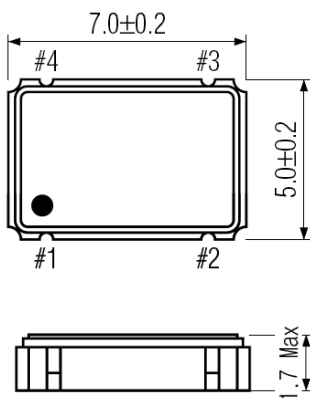


Figure 1) Top, Side, and Bottom views

Figure 2) Suggested Land Pattern

| ECS-P73 (3.3V)<br>Tri-State Control Voltage |                |
|---------------------------------------------|----------------|
| Pad 1                                       | Pad 3          |
| Open                                        | Oscillation    |
| + 0.7V Min.                                 | Oscillation    |
| + 0.2V Max.                                 | High Impedance |

| ECS-P75 (5V)<br>Tri-State Control Voltage |                |
|-------------------------------------------|----------------|
| Pad 1                                     | Pad 3          |
| Open                                      | Oscillation    |
| +2.0V Min.                                | Oscillation    |
| +0.8V Max.                                | High Impedance |

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

### PART NUMBERING GUIDE: Example ECS-P73-20.000-AN

| ECS | - Series                   | - Frequency            | - Stability                   | Temperature                            |
|-----|----------------------------|------------------------|-------------------------------|----------------------------------------|
|     | P73 = +3.3V<br>P75 = +5.0V | 20.000<br>= 20.000 MHz | A = ± 100 ppm<br>B = ± 50 ppm | Blank = -10 ~ +70°C<br>N = -40 ~ +85°C |