



- ▶ Low current consumption
- ▶ Built in divider circuit
- ▶ 8-pin DIP Package

ECS-300C

DUAL OUTPUT CMOS CLOCK OSCILLATOR

DISCONTINUED

The ECS-300C utilizes a built in divider circuit to provide a second divided output. The CMOS based oscillator features low current consumption in a standard 8-pin DIP package.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | ECS-300C | | | UNITS |
|-----------------------|-----------------|-----------------------|------|-----------------------|-------|
| | | MIN | TYP | MAX | |
| Frequency Range | Primary Output | 12.000 | | 24.000 | MHz |
| | Divided Output | 0.048875 | | 12.000 | MHz |
| Frequency Stability * | All Conditions | | | ± 100 | ppm |
| Operating Temperature | | -10 | | +70 | °C |
| Storage Temperature | | -55 | | +125 | °C |
| Input Voltage | V _{cc} | +3.0 | +5.0 | +5.5 | VDC |
| Input Current | | | | 20 | mA |
| Output Symmetry | Primary Output | 40/60 | | 60/40 | % |
| | Divided Output | 48/52 | | 52/48 | % |
| Rise and Fall Times | | | | 15 | ns |
| Output Voltage | V _{OL} | | | V _{cc} x 0.1 | VDC |
| | V _{OH} | V _{cc} x 0.9 | | | VDC |
| Output Load | CMOS | | | 50 | pF |
| Startup time | | | | 1.5 | ms |

POSSIBLE FREQUENCY DIVISIONS BY PART NUMBER

| ECS PART NUMBER | f _o CLOCK Pin 1 | f _o /2 ⁿ (Divided Output) PIN 2 | | | | | | | |
|-----------------|----------------------------|-------------------------------------------------------|-----------|-----------|-----------|---------|-----------|-----------|------------|
| | | 1/2 * 1 | 1/2 * 2 | 1/2 * 3 | 1/2 * 4 | 1/2 * 5 | 1/2 * 6 | 1/2 * 7 | 1/2 * 8 |
| ECS-300C-120 | 12.000 MHz | 6.000 MHz | 3.000 MHz | 1.500 MHz | 750 KHz | 375 KHz | 187.5 KHz | 93.75 KHz | 46.875 KHz |
| ECS-300C-160 | 16.000 MHz | 8.000 MHz | 4.000 MHz | 2.000 MHz | 1.000 MHz | 500 KHz | 250 KHz | 125 KHz | 62.5 KHz |
| ECS-300C-240 | 24.000 MHz | 12.000 MHz | 6.000 MHz | 3.000 MHz | 1.500 MHz | 750 KHz | 375 KHz | 187.5 KHz | 93.75 KHz |

DIMENSIONS (mm)

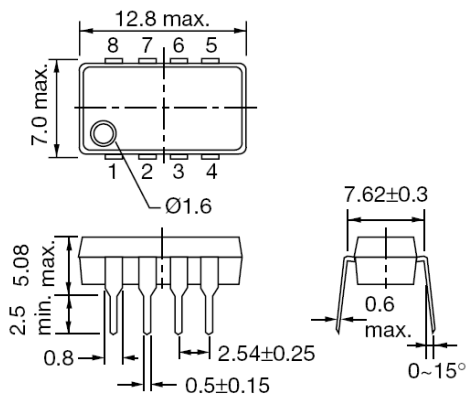


Figure 1) Top, Side and End views

Pin Connections

| Pin | Connection |
|-----|-----------------------|
| #1 | Output |
| #2 | Divided Output |
| #3 | Standby |
| #4 | Ground |
| #5 | A (Divider selection) |
| #6 | B (Divider selection) |
| #7 | C (Divider selection) |
| #8 | V _{cc} |

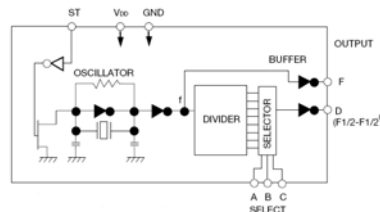


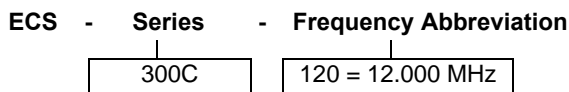
Figure 2) Block Diagram

| Input | | | ST | Output | |
|-------------------|---|---|----|------------------------|------------------------------|
| Divider Selection | | | | Pin 1 (Primary Output) | Pin 2 (Divided Output) |
| C | B | A | | | |
| L | L | L | H | f _o clock | f _o 1/2 * 1 clock |
| L | L | H | H | f _o clock | f _o 1/2 * 2 clock |
| L | H | L | H | f _o clock | f _o 1/2 * 3 clock |
| L | H | H | H | f _o clock | f _o 1/2 * 4 clock |
| H | L | L | H | f _o clock | f _o 1/2 * 5 clock |
| H | L | H | H | f _o clock | f _o 1/2 * 6 clock |
| H | H | L | H | f _o clock | f _o 1/2 * 7 clock |
| H | H | H | H | f _o clock | f _o 1/2 * 8 clock |
| X | X | X | L | L | L |

STANDARD FREQUENCIES

12.000 MHz, 12.288 MHz, 12.800 MHz, 14.31818 MHz, 14.7456 MHz, 15.9744 MHz, 16.000 MHz, 16.384 MHz, 17.734476 MHz, 18.432 MHz, 19.6608 MHz, 20.000 MHz, and 24.000 MHz

PART NUMBERING GUIDE: Example ECS-300C-120



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