

DIP TYPE  
SVA(FULL)

- Voltage Controlled Crystal Oscillator
- HCMOS/TTL output
- 3.3 / 5.0 supply voltage
- 14 pin DIP package
- Custom lead length options available
- Wide frequency and pull range



ELECTRICAL SPECIFICATIONS

|                                                |                                                                     |                                         |                        |
|------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------|------------------------|
| Frequency Range                                | 1.000 to 200.000MHz                                                 |                                         |                        |
| Operating Temperature Range                    | 0 to +70℃ or -40 to +85℃                                            |                                         |                        |
| Storage Temperature Range                      | -40 to +85℃                                                         |                                         |                        |
| Supply Voltage(V <sub>DD</sub> )               | 5.0V <sub>DC</sub> ±5%                                              |                                         | 3.3V <sub>DC</sub> ±5% |
| Aging (at 25℃)                                 | ±3ppm/year max.                                                     |                                         |                        |
| Load Drive Capability                          | 10 TTL Load or 15pF HCMOS Load                                      |                                         |                        |
| Start-up Time                                  | 10ms max.                                                           |                                         |                        |
| Frequency Deviation /<br>Pin 1 Control Voltage | 2.5V <sub>DC</sub> ±2.0V <sub>DC</sub>                              | ±10, ±30, ±50, ±100, ±150ppm min.       |                        |
|                                                | 2.5V <sub>DC</sub> ±2.5V <sub>DC</sub>                              | ±10, ±30, ±50, ±100, ±150, ±200ppm min. |                        |
|                                                | 1.65V <sub>DC</sub> ±1.65V <sub>DC</sub> (or ±1.5V <sub>DC</sub> )  | ±10, ±30, ±50, ±100, ±150ppm min.       |                        |
|                                                |                                                                     | ±300ppm min.(Optional)                  |                        |
| Linearity                                      | ±20, ±15, ±10, ±5%(Optional)                                        |                                         |                        |
| Input Current                                  | 1.000 to 20.000MHz                                                  | 26mA max.                               | 17mA max.              |
|                                                | 20.001 to 40.000MHz                                                 | 40mA max.                               | 25mA max.              |
|                                                | 40.001 to 80.000MHz                                                 | 60mA max.                               | 35mA max.              |
|                                                | 80.001 to 125.000MHz                                                | 70mA max.                               | 45mA max.              |
|                                                | 125.000 to 200.000MHz                                               | 80mA max.                               | 65mA max.              |
| Frequency Stability                            | ±50, ±25, ±20, ±10ppm(See Table1.)                                  |                                         |                        |
| Output Voltage Logic High(V <sub>OH</sub> )    | w/TTL Load                                                          | 2.4V <sub>DC</sub> min.                 |                        |
|                                                | w/HCMOS Load                                                        | 90% of V <sub>DD</sub> min.             |                        |
| Output Voltage Logic Low(V <sub>OL</sub> )     | w/TTL Load                                                          | 0.4V <sub>DC</sub> max.                 |                        |
|                                                | w/HCMOS Load                                                        | 10% of V <sub>DD</sub> max.             |                        |
| Duty Cycle                                     | at 50% of Waveform w/HCMOS Load or<br>1.4V <sub>DC</sub> w/TTL Load | 50 ±10% (STD)                           |                        |
|                                                |                                                                     | 50 ±5% (Optional)                       |                        |
| Rise / Fall Time                               | 5ns max.                                                            |                                         |                        |
| Period Jitter : pk-pk                          | 100ps max.                                                          |                                         |                        |
| Period Jitter : One Sigma                      | 25ps max.                                                           |                                         |                        |

Part Numbering Guide

| MODEL (PKG TYPE) | SUPPLY VOLTAGE           | FREQUENCY STABILITY | OPER-TEMP RANGE     | DUTY CYCLE                     | DEVITION                                                                                                                                                                             | PACKING                               | FREQUENCY (MHZ)          |
|------------------|--------------------------|---------------------|---------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------|
| SVA(F)           | BLANK : 5.0V<br>3 : 3.3V | TABLE1<br>REFERENCE | TABLE1<br>REFERENCE | D : 45 : 55<br>BLANK : 40 : 60 | A : ±10ppm min.<br>B : ±30ppm min.<br>C : ±50ppm min.<br>D : ±100ppm min.<br>E : ±150ppm min.<br>F : ±200ppm min.<br>G : ±300ppm min.<br>SPH : ONLY<br>A ~ E<br>SP,SL : ONLY<br>C, D | BLANK :<br>BULK<br>R : TAPE &<br>REEL | xx.xxx(STD)<br>xx.xxxxxx |

Table1.

| FREQUENCY STABILITY vs. TEMPERATURE RANGE |   |        |        |        |        |        |        |         |
|-------------------------------------------|---|--------|--------|--------|--------|--------|--------|---------|
| Temp \ Stability                          |   | ±10ppm | ±15ppm | ±20ppm | ±25ppm | ±30ppm | ±50ppm | ±100ppm |
|                                           |   | 10     | 15     | 20     | 25     | 30     | 50     | 100     |
| 0 ~ 50℃                                   | A | *      | *      | *      | *      | *      | *      | *       |
| 0 ~ 60℃                                   | B | *      | *      | *      | *      | *      | *      | *       |
| -10 ~ 60℃                                 | C | *      | *      | *      | *      | *      | *      | *       |
| 0 ~ 70℃                                   | D |        | *      | *      | *      | *      | *      | *       |
| -10 ~ 70℃                                 | E |        | *      | *      | *      | *      | *      | *       |
| -20 ~ 70℃                                 | F |        | *      | *      | *      | *      | *      | *       |
| -40 ~ 85℃                                 | G |        |        |        | *      | *      | *      | *       |

MECHANICAL DIMENSIONS

(mm)

