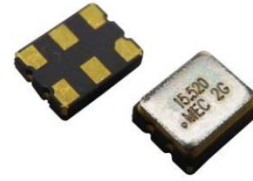


**SMD CMOS output 6 pads**  
**3.2 x 2.5 x 1.0 mm**



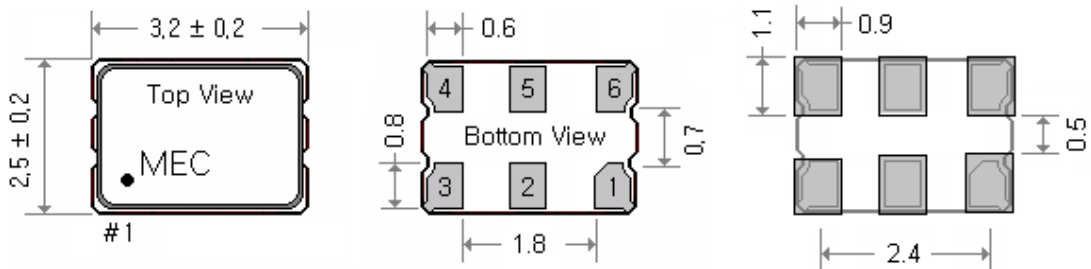
**Applications :**

- SONET / ATM
- set -top boxes
- audio -video modulations
- video game consoles and HDTV sets
- MPEG , SONET , 10GbE
- Fibre Channel , Transponders
- Wireless repeaters
- HDTV , FPGAs , data acquisition

**General Specifications**

| Parameters                                     |  | Electrical Spec.   |                |           |       |                 |        |       |  |
|--|--|--|----------------|-----------|-------|-----------------|--------|-------|--|
| Input Voltage ( V <sub>DD</sub> )              |  | 3.3 V ± 5 %  |                |           |       |                 |        |       |  |
| Frequency Range                                |  | 1.0 ~ 50.0 MHz [ Fundamental crystal used ]                    |                |           |       |                 |        |       |  |
| Output Wave Form                               |  | TTL / CMOS output  |                |           |       |                 |        |       |  |
| Initial Freq. Accuracy ( at 25 °C )            |  | To tune to the nomial frequency with Vc = 1.65V ± 0.2V         |                |           |       |                 |        |       |  |
| Output Logic High " 1 "                        |  | TTL  | 2.4 V ( min. ) |           | CMOS  | 2.97 V ( min. ) |        |       |  |
| Output Logic Low " 0 "                         |  | TTL  | 0.4 V ( min. ) |           | CMOS  | 0.33 V ( min. ) |        |       |  |
| Frequency Deviation Range                      |  | Standard : ± 80 ppm ( min. )                                   |                |           |       |                 |        |       |  |
| Control Voltage Center / Control Voltage Range |  | 1.65 VDC / 0.3V to 3.0V  |                |           |       |                 |        |       |  |
| Output Load                                    |  | 15 pF  |                |           |       |                 |        |       |  |
| Rise Time ( Tr )                               |  | 6 nSec.(max.) ; 4 nSec.(typ.) . Measured between 0.4V to 2.4V. |                |           |       |                 |        |       |  |
| Fall Time ( Tf )                               |  | 6 nSec.(max.) ; 4 nSec.(typ.) Measured 20% to 80% of wave form |                |           |       |                 |        |       |  |
| Duty Cycle                                     |  | 50% ± 10% [ 50% ± 5% is also available ]                       |                |           |       |                 |        |       |  |
| Current Consumption                            |  | 20 mA ( max. )   |                |           |       |                 |        |       |  |
| Start - Up Time ( Ts )                         |  | 10 m sec. ( max. ) ; 5 m sec.( typical )                       |                |           |       |                 |        |       |  |
| Integrated Phase Jitter ( 12 KHz to 20 MHz ) . |  | 1 ps ( max. )  |                |           |       |                 |        |       |  |
| Storage Temperature                            |  | - 50°C to 100°C  |                |           |       |                 |        |       |  |
| Aging  |  | ± 3 ppm per year (max.)  |                |           |       |                 |        |       |  |
| Frequency Stability <sup>(1)</sup> Codes       | Frequency Stability over Operating Temperature Range | ± 25 ppm   | ± 50 ppm       | ± 100 ppm |       |                 |        |       | If non-standard , please enter the desired stability after the " C " or " I " For example : " C20 " ±20 ppm over -10°C to +70°C ; " I20 " ± 20 ppm over -40°C to +85°C |
|  | Commercial ( -10°C to +70°C )                        | A  | B              | C         |       |                 |        |       |  |
|  | Industrial ( -40°C to +85°C )                        | D  | E              | F         |       |                 |        |       |  |
| Phase Noise ( typical ) [ 27.0 MHz at 3.3V ]   |  | Offset   | 10 Hz          | 100 Hz    | 1K Hz | 10 KHz          | 100KHz | 1 MHz | 10 MHz   |
|  |  | dBc / Hz   | -75            | -104      | -132  | -145            | -148   | -150  | -152   |

**General Specifications ( Unit : mm )**



- Pad Connections :
- Pad 1 : Control Voltage
  - Pad 2 : Tri - state
  - Pad 3 : Ground
  - Pad 4 : Output
  - Pad 5 : Complimentary Output
  - Pad 6 : Supply voltage

Mercury [www.mercury-crystal.com](http://www.mercury-crystal.com)