

# 2.0x1.6 mm SMD Crystals

## DYN Series

### Product Features

1. Output type : LVDS/LVPECL/HCSL
2. Excellent low phase noise and jitter
3. Tri-State function available

### Applications

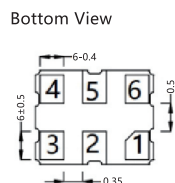
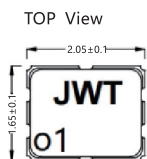
1. Telecom&Netcom (Optical communication/ RF units/Switches/Servers/Base stations, etc.)
2. Automotive

### Specifications

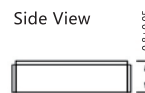
| Model   | DYN2016                     |        |                  |          |                        |        |
|---|-----------------------------|--------|------------------|----------|------------------------|--------|
|   | LVDS                        |        | LVPECL           |          | HCSL                   |        |
| Output type                                       | 1.71~1.89V/2.375~3.63V      |        | 2.375~3.63V      |          | 1.71~1.89V/2.375~3.63V |        |
|   | Min                         | Max    | Min              | Max      | Min                    | Max    |
| Frequency range                                   | 20MHz~156.250MHz            |        | 20MHz~156.250MHz |          | 20MHz~156.250MHz       |        |
| Oscillation mode                                  | Fundamental or 3rd overtone |        |                  |          |                        |        |
| Frequency tolerance at 25°C±3°C                   | ±20ppm                      |        | ±20ppm           |          | ±20ppm                 |        |
| Operating temperature range                       | -40°C~125°C                 |        | -40°C~125°C      |          | -40°C~125°C            |        |
| Frequency stability over temperature(Ref.to 25°C) | ±30ppm                      |        | ±30ppm           |          | ±30ppm                 |        |
| Storage temperature range                         | -55°C~125°C                 |        | -55°C~125°C      |          | -55°C~125°C            |        |
| High-level output voltage                         | -                           | 1.6V   | VDD-1.025        | VDD-0.88 | 0.50V                  | 1.00V  |
| Low-level output voltage                          | 0.9V                        | -      | VDD-1.810        | VDD-1.62 | -0.15V                 | 0.15V  |
| Supply current                                    | -                           | 40mA   | -                | 60mA     | -                      | 40mA   |
| Rise time   | -                           | 0.6ns  | -                | 0.6ns    | -                      | 0.8ns  |
| Fall time   | -                           | 0.6ns  | -                | 0.6ns    | -                      | 0.8ns  |
| Duty cycle  | 45%                         | 55%    | 45%              | 55%      | 45%                    | 55%    |
| Start-up time                                     | -                           | 10ms   | -                | 10ms     | -                      | 10ms   |
| Output load                                       | 99Ω                         | 101Ω   | 49.5Ω            | 50.5Ω    | 49.5Ω                  | 50.5Ω  |
| Tri-State   | Output enable               | 70%VDD | -                | 70%VDD   | -                      | 70%VDD |
|   | Output disable              | -      | 30%VDD           | -        | 30%VDD                 | -      |
| Oscillation enable time                           | -                           | 10ms   | -                | 10ms     | -                      | 10ms   |
| Oscillation disable time                          | -                           | 0.2us  | -                | 0.2us    | -                      | 0.2us  |
| RMS Phase Jitter (12KHz ~ 20MHz)                  | -                           | 0.5ps  | -                | 0.5ps    | -                      | 0.5ps  |
| Phase noise@156.25MHz                             | 100Hz                       | -      | -90dBc/Hz        | -        | -90dBc/Hz              | -      |
|   | 1KHz                        | -      | -120dBc/Hz       | -        | -120dBc/Hz             | -      |
|   | 10KHz                       | -      | -140dBc/Hz       | -        | -140dBc/Hz             | -      |
| Aging at first year                               | ±3.0ppm                     |        | ±3.0ppm          |          | ±3.0ppm                |        |

Notes: The above parameters are for normal demands, if you have any different demands, please check with us.

### Dimensions (Unit: mm)



Land View



| Pad Connections |                |
|-----------------|----------------|
| Pad1            | O E            |
| Pad2            | No Connections |
| Pad3            | Ground         |
| Pad4            | Output         |
| Pad5            | Complementary  |
| Pad6            | Supply Voltage |