



The Frequency Control Specialist

Application Guidelines for Crystal Oscillators



Guidelines on Power Supply

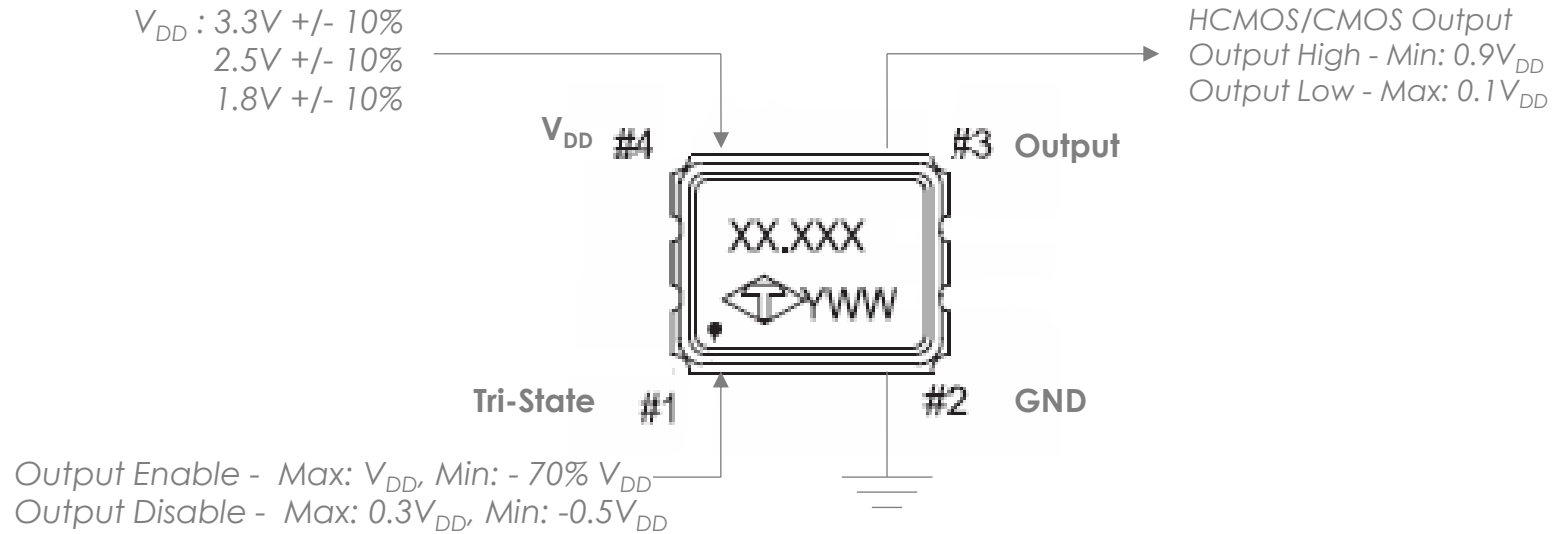


We do not recommend using filter or other device in the circuit leading into V_{DD} pin.

The input voltage of Tri-State pin cannot be higher than the power supply voltage.

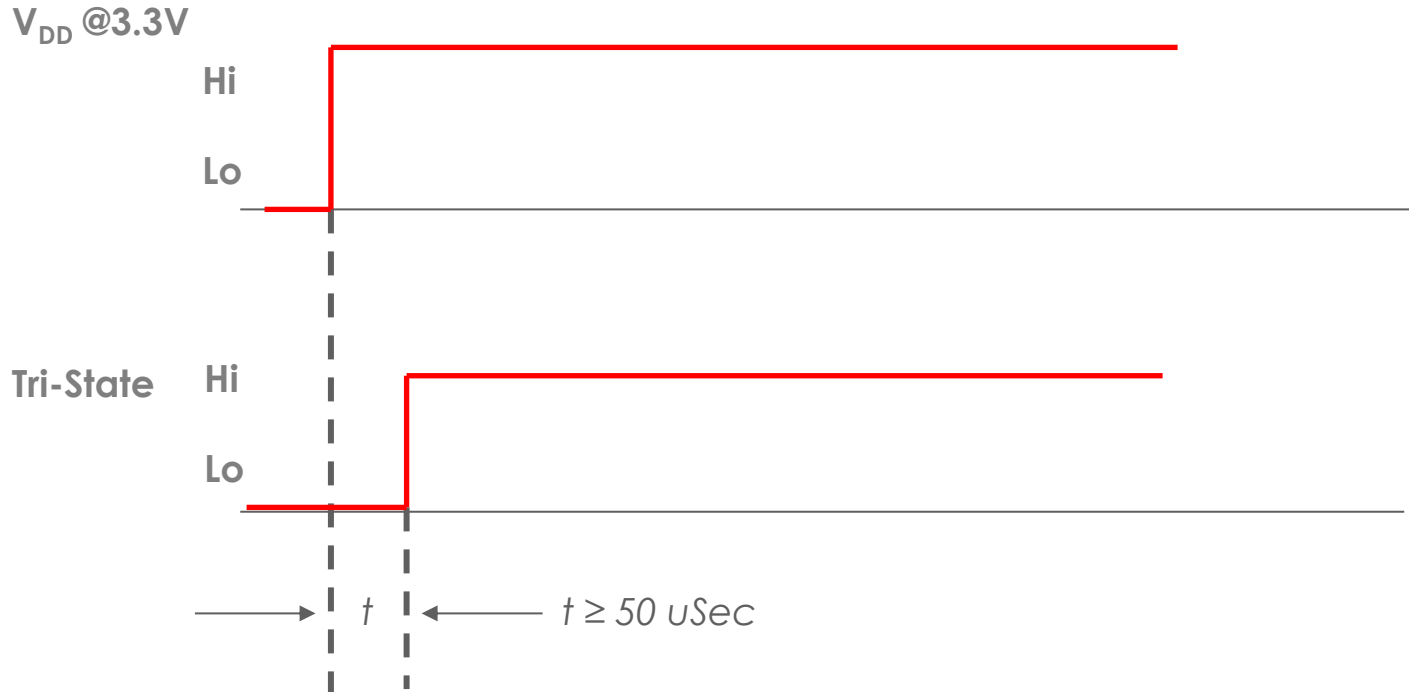


Electrical Specification



Guidelines on Startup Timing (1)

Tri-State signal shall be lagging V_{DD} by 50 μ S or more during startup



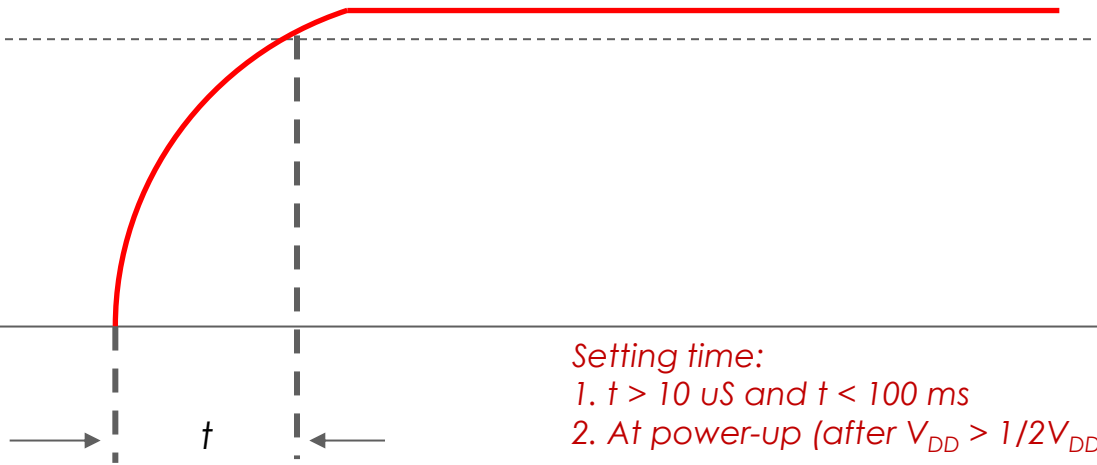
Guidelines on Startup Timing (2)

The startup time (t from 0V to $0.9V_{DD}$) for power source shall be more than 10 μ S and less than 100 mS.

V_{DD} @3.3V

90% V_{DD}

0 V



Setting time:

1. $t > 10 \mu$ S and $t < 100$ ms

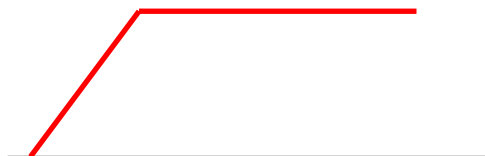
2. At power-up (after $V_{DD} > 1/2V_{DD}$, 2mSec Max)

Programmable Products Power Rise mode Recommendation

Good or Pass V_{DD}



Sleek



Linear

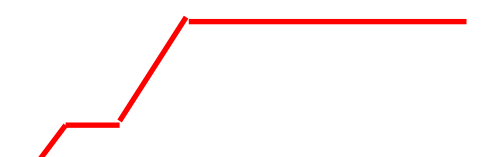
Bad or Failed V_{DD}



Undulation + Dip



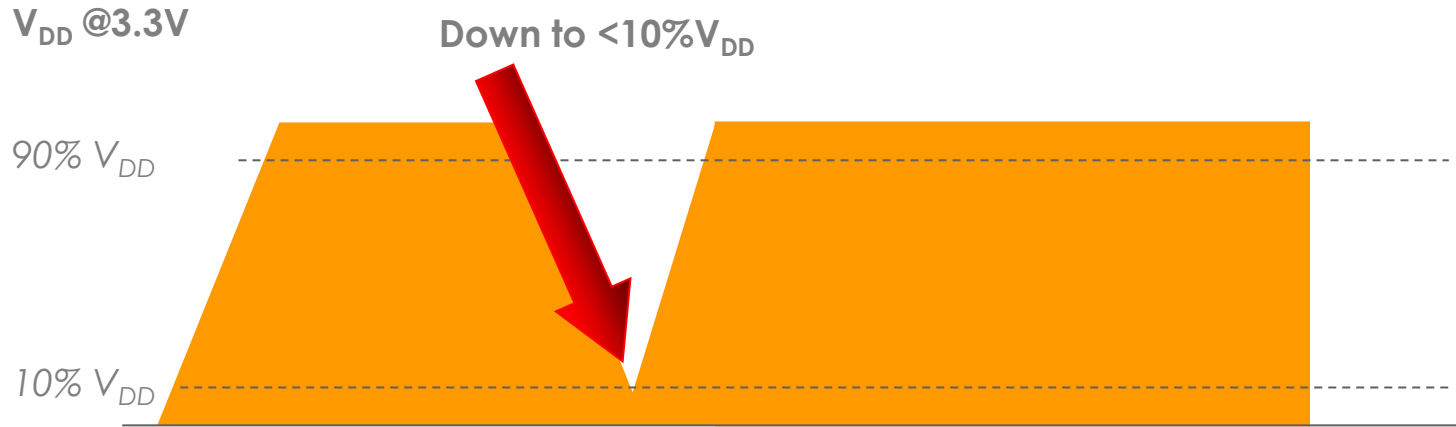
Linear + Dip



Two or more Step

Guideline on Power Supply Profile

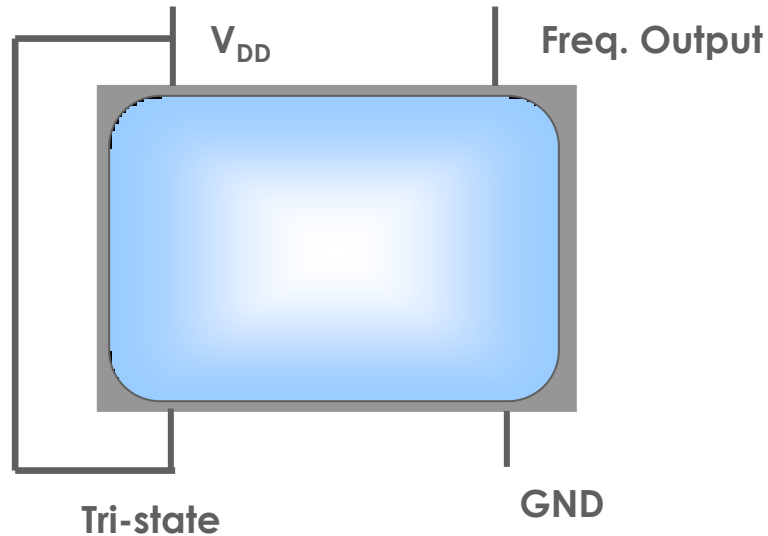
When turning off the oscillator, make sure the power level drop below $0.1V_{DD}$



How to use Tri-State XO if you do not need Tri-State Function

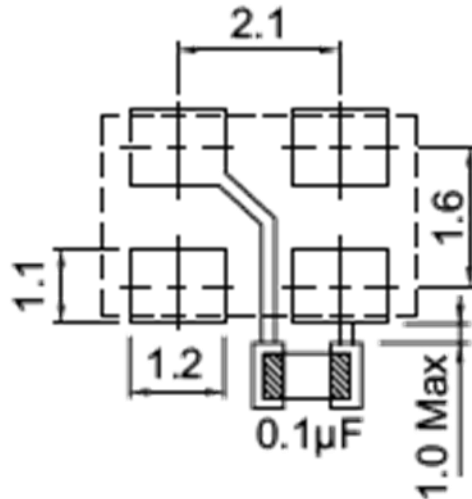
Because there is an internal pull-up resistance. So you can connect Tri-State pin to V_{DD} or let Tri-State pin be floating if you do not need Tri-State function.

Taitien recommends to connect Tri-State to V_{DD} .



Recommended Soldering Pattern

A bypass capacitor shall be placed within 1mm of GND or V_{DD} pins.



Recommended soldering pattern



Thank You for Your Attention

For more Information,
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Our Performance, Your Reputation

