

# CT20116

## 25MHz Low Jitter Low Power XTAL Oscillator with AGC

### Status

- Silicon Proven
- OnSemi ONC18 0.18 $\mu$ m HV-CMOS technology
- Easy portability

### Deliverables

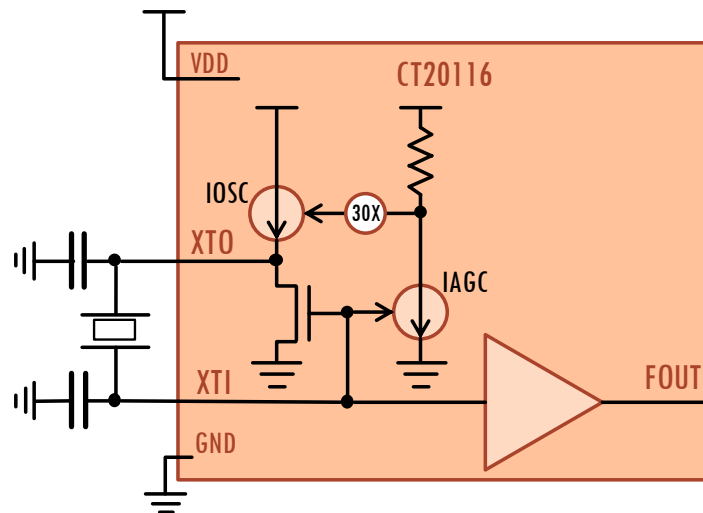
- Datasheet
- Integration guidelines
- GDS2 and LVS Netlist
- Footprint (.LEF)
- Test Specifications

### Applications

- Automotive Ethernet
- Baseband Telecom

### Features

- 25MHz clock output with  $\pm 100$ ppm accuracy
- Rise and Fall time <6ns with maximum capacitive load of 40pF
- Stabilization Time <9ms
- Jitter < 20ps (3.5ps typical)
- Maximum Current Consumption <0.65mA from 3.3V and <0.1mA from 1.8V
- Power Down Current < 100nA at T = 150°C



### Description

CT20116 is a crystal oscillator that generates a low jitter 25MHz clock by means of either an external crystal connected between pins XTALI/REFCLK\_IN and XTALO or an external reference 25/50MHz clock provided at the XTALI/REFCLK\_IN pin which will be divided internally as required and buffered to be made available as internal reference clock.

The oscillator circuit is designed to drive a parallel resonance AT cut crystal with a certain drive level; this drive level is dependent by the ESR parameter.

If a crystal is specified for a lower drive level (with respect to the drive level measured on the chosen crystal or simulated with a vendor-specific crystal model), a current limiting resistor should be placed in series between XTALO and the crystal.

CT20116 exhibits low jitter, high accuracy, fast rise and fall times and good driving capabilities while retaining a limited power consumption

# Tlc PHY SubSystem onsemi 180n

## Application Example Frequently-Asked Questions

### Application Example

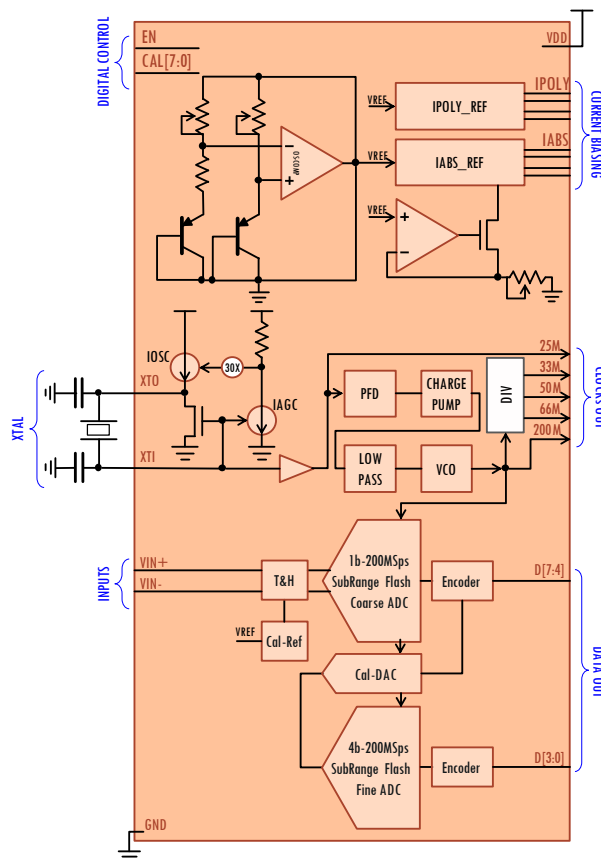
In this application example, the bundle of the CT20307, the CT20116, the CT20900 and the CT22501, constitutes the complete voltage, current and clock reference plus the signal conditioning and conversion section of a Telecom PHY product in onsemi 180n process (Silicon-Proven and in mass-production implementation).

The bundle provides to the Telecom PHY Product the following timing references:

- The low (< 20ps) jitter, 25MHz  $\pm$ 100ppm XTAL clock (CT20116)
- The 33MHz, 50MHz, 66MHz and the 200MHz low jitter (< 50ps) clock references (CT20900)
- 1.2V Voltage Reference with  $\pm$  2% accuracy
- 10uA current reference with  $\pm$  10% accuracy

The CT22501 is 8 bits, dual stage sub-ranging ADC which operates at 200MSps and clocked by the CT20900.

The CT22501 ADC has been designed to be used for wired telecommunication signals in the ranges of 25MHz-100MHz.



### FAQs

**Q: May I ask Canova Tech to migrate the IPs to a different manufacturing foundry and process?**

**A:** Yes, you can. Our business model includes porting of the IPs to your preferable silicon foundry supplier.

**Q: May I ask Canova Tech to develop custom and dedicated analog and/or digital on top of the IPs?**

**A:** Yes, you can. Our business model includes custom and dedicated Design Services to facilitate the integration of our IPs into your chip architecture. This business model includes the possibility for you to assign Canova the responsibility for design of a complete integrated circuit (GDS IP) based upon our IPs and your requirements.

**Q: Which options do I have for licensing the Canova Tech silicon IPs solution?**

**A:** You can have several licensing options which includes:

- single-use/multiple-use license: the IPs (single or in bundle) are delivered as object-code and licensed for the use on a well-defined product code (single-use) or for unlimited product codes (multiple-use).
- manufacturing license: here Canova Tech can develop your entire product, based upon our IPs (single or in bundle) and your product specifications. The GDS IP is licensed and delivered to you (including all necessary documentation and support) for you to manufacture your product and brand it.

**Q: What kind of Support and IP Maintenance will I get from Canova?**

**A:** You will get all required Support and IP Maintenance to ensure proper IP integration into your products for 12 months following the IP licensing. You can then subscribe, at your option, annual renewals of the Support and Maintenance agreement.