

# HTT3201

## Wide-Band Active Common-mode Canceller for USB3.0

### General Description

HTT3201 is the active common mode cancellation IC for USB3.0 with power supply 3.3V using 0.18um CMOS process. This IC achieves CMRR more than 25dB at 3.0GHz by built in broadband common mode canceller.

It is possible to reduce the in-phase component at all frequencies, which conventional passive CMF cannot achieve. An error by the difference in length of the transmission line on apparatus connection and the board is in this way canceled. In addition, this IC can suppress the radiation by the aspect ingredient caused by the phase error of differential data. CMRR at around 2.5GHz is more than about 25dB. So, the interference caused by Bluetooth signals is reduced. As a result, the purity of the signal can be improved and the designing of EMC becomes very easy. In addition, it can extend a standard cable (3m) to 3-5 times because of high CMRR.

It is most suitable for a PC, a cell-phone, application to the USB3.0 connection including the digital camera. It can realize downsizing, a low profile from low frequency to high frequency as CMRR-IC unlike conventional passive model CMF and is useful for the reduction of a PCB area and the housing.

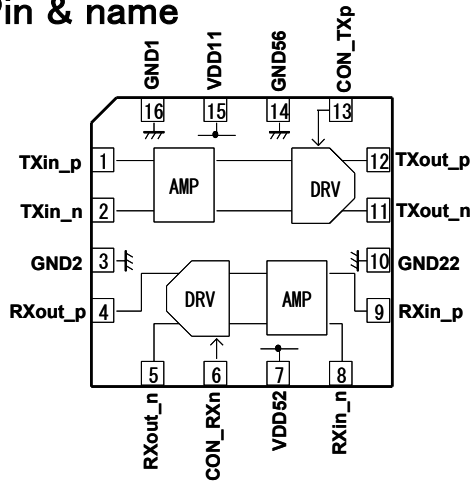
This IC built in 50ohm driver and transmission and reception (TX, RX). In a disconnect state, the power consumption is decreased by the detection of USB-connection.

In addition, this IC achieves HBM>6000V

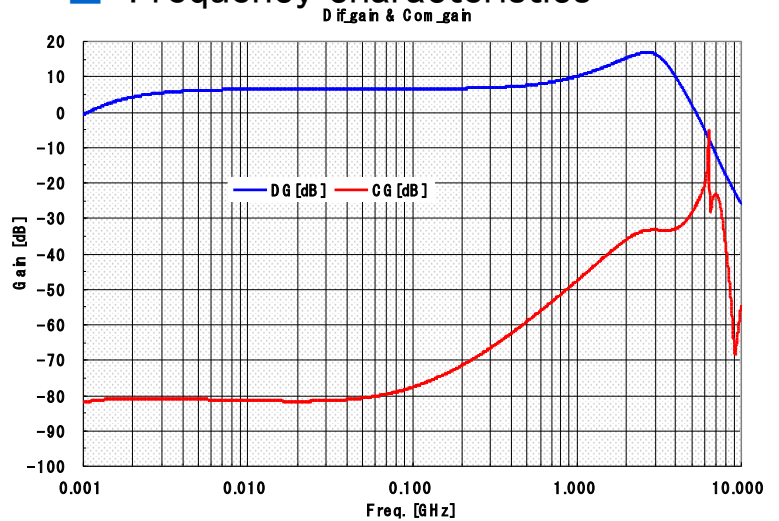
### Features

- power consumption (in connected state) : 142mW (TYP. Ta=25°C) (V<sub>DD</sub>=3.3V, I<sub>DD</sub>=43.0mA)
- Supply current (in disconnected state) : < 300uA
- Operating temperature range : -40°C ~ +105°C
- Output return-Loss : > 20dB (@2500MHz)
- Input return-Loss : > 20dB (@2500MHz)
- Differential Gain : 5.0dB (@ 100MHz)
- CMRR : > 25 dB (@2500MHz)
- HBM : > 6000V
- PKG: QFN16 ( 2.3mm×2.3mm )

### Pin & name



### Frequency characteristics



### Application Note

