

# HTT2801

Active-CMF for Vehicle network

## Wide-Band Active Common-mode Canceller for CAN

### General Description

HTT2801 using 0.35 $\mu$ m CMOS process is active common mode cancellation IC with 5.0V power supply, which is compatible with automotive LANs, such as CAN. This IC will be able to ensure more than 30dB CMRR of the up to 100M Hz from DC 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 it. And so, this IC can cancel imbalance of the differential data signal and a phase error as well. That will eliminate the errors by connection of equipment or by subtle difference of length of the transmission line on the substrate. This will lead to the simplification of the design of EMC and provision of equalizer function to raise the purity of the signal. The active CMF can be used at lower frequencies and it can contribute to the miniaturization and low-profile of components.

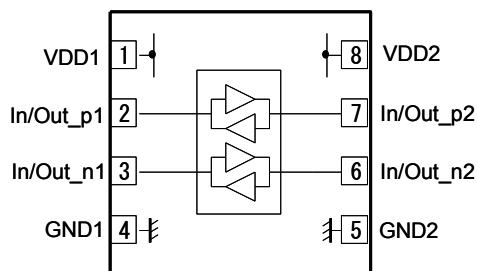
For this IC, a cascade architecture is suitable. So, if it is A[dB] in CMRR per one IC, you can get 2\*A[dB] in CMRR by the cascade of the 2 steps.

Bidirectional driver is built in this IC and it is free for drive-impedance. So, this IC is prepared for 50 $\Omega$ , 60 $\Omega$  and other impedance. Achieved: HBM > 6000V

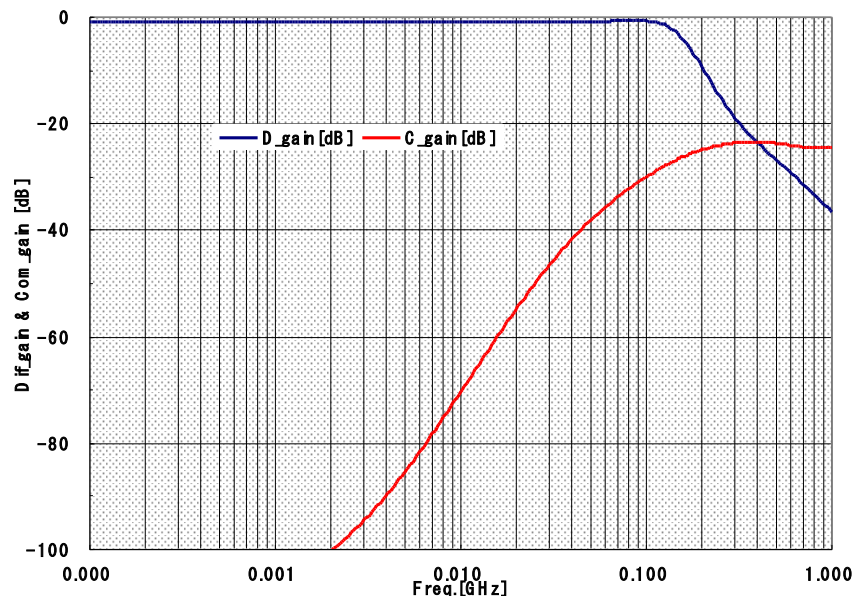
### Features

- power consumption 210mW (TYP.) (  $V_{DD}=5.0V$ ,  $I_{DD}=42.0mA$ , @ No signal, @ $T_a=50^{\circ}C$  )
- Operating temperature range :  $-40^{\circ}C \sim +125^{\circ}C$ , Storage temperature range :  $-55^{\circ}C \sim +125^{\circ}C$
- Output & impedance : free
- input & output return loss : >20dB (@ 50MHz)
- -3dB point : 150MHz • CMRR : > 30 dB ( 0 ~ 100 MHz ) • HBM > 6000V
- Output level : >1.8Vpp (@ $R_{in}=R_{out}=60\Omega$ , @ $V_{DD}=5.0V$ ) • PKG : SOP08

### Pin & name



### Frequency characteristics



### Application Note

