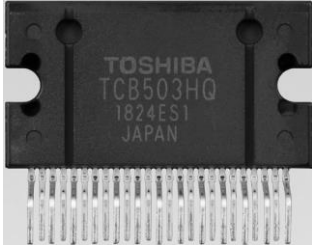


## 4 ch Power Amplifier IC for Car Audio



New 4-channel power amplifier “TCB503HQ,” for car audio is launched and the mass production will start in the first quarter of 2019. Based on our proven development of ICs for car audio, the new product achieves the high strength in power supply surge, and the higher reliability is also realized by using the analog fine process. It also supports 6V operations that are suitable for vehicles equipped with idling reduction systems, which have become popular in recent years. In addition, in order to improve the tolerance against the external high-frequency noise, a dedicated filter is implemented.

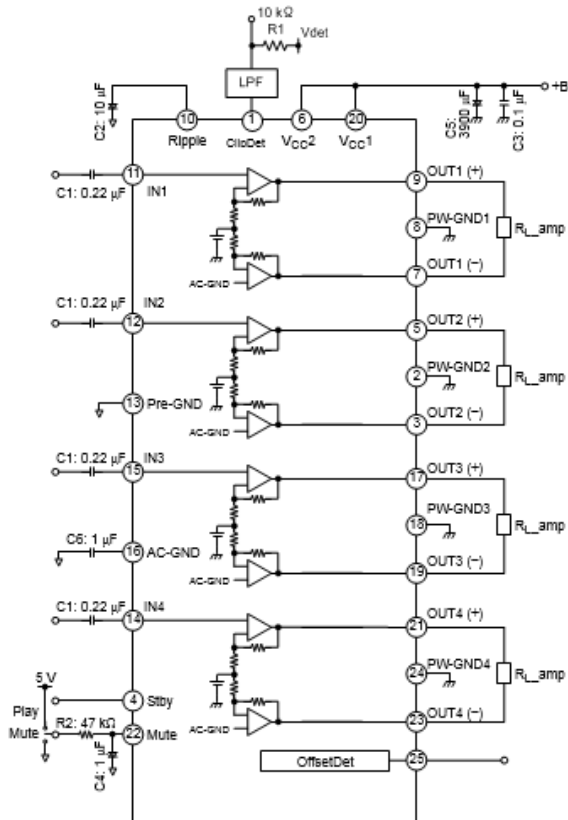
### Features

- 6V operations: Pop-sound control system at changing supply voltage is implemented to support vehicles with engine idling reduction capability
- Improving external high-frequency noise immunity: This product uses Toshiba Electronic Devices & Storage Corporation’s original filtering technology to detect and suppress high frequency noise from sources as diverse as electric door mirrors.
- Built-in clip detection function: The sound quality as sets is improved by controlling the volume and tone control circuit with the clip detection signal.

### Applications

- Power amplifier for car audios

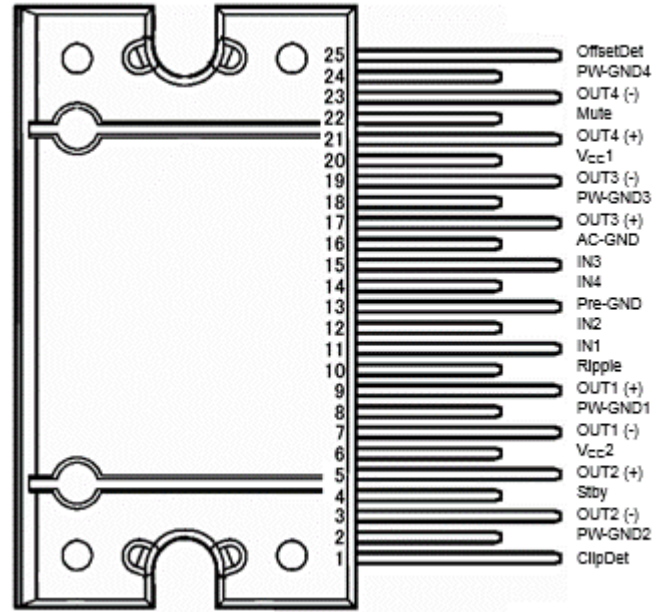
### Block Diagram



Note: Some of the functional blocks, circuits, or constants in the block diagram may be omitted or simplified for explanatory purposes.

# Product Specifications

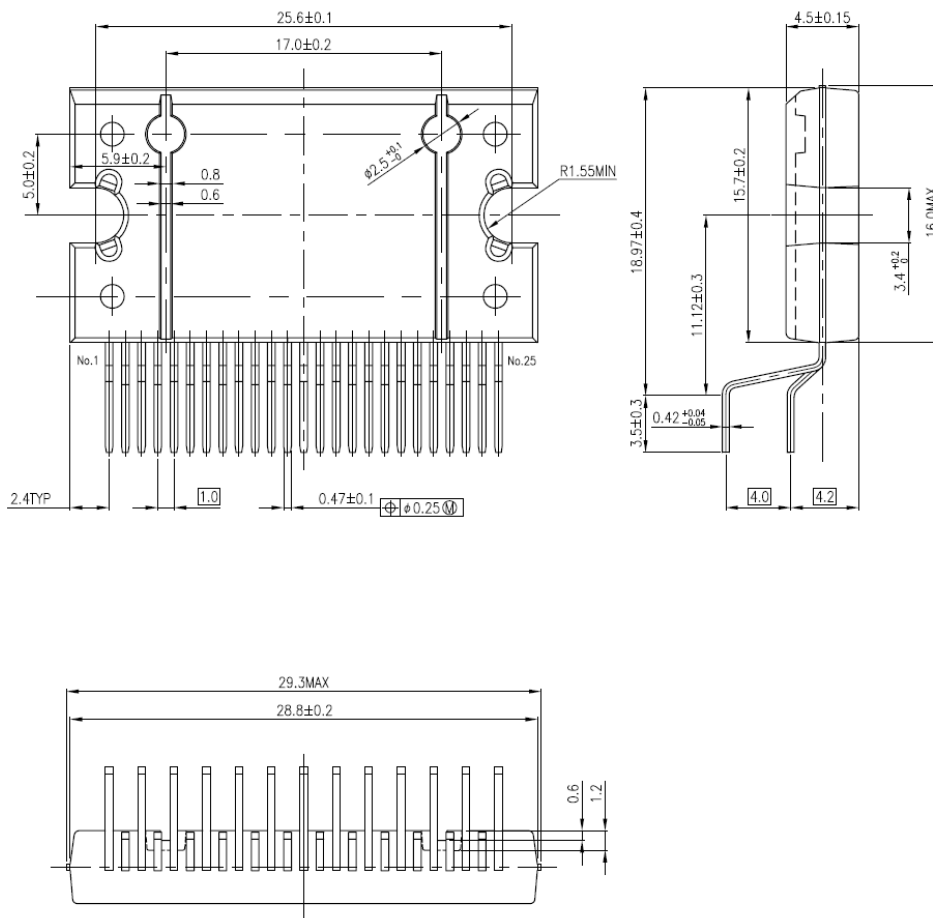
Item	Specifications
Maximum output power	50W×4ch (Vcc=15.2V,RL=4Ω,MaxPower)
Total harmonic distortion (THD)	0.01% (Pout=4W)
Operating voltage	6V to 18V
Standby current	0.02μA (typ.)
Output noise voltage	45μVrms (BW=DIN AUDIO)
Package	HZIP25-P-1.00F
Operating temperature range	-40 to 85°C



Pin assignment (Top View)

# Package Dimensions

unit: mm



# Information of Technology and Characteristics

## TCB503HQ High sound quality/High-reliability amplifier (Class AB)

**NEW**

### 50W Class x 4ch Audio Power Amplifier

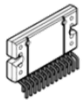
#### Features

- High output/High sound quality design
- Idling stop (ECO friendly car) /6V operations
- Improving high-frequency noise immunity
- Feature comparison with conventional products  
Pin compatible except 1 pin and 25 pin

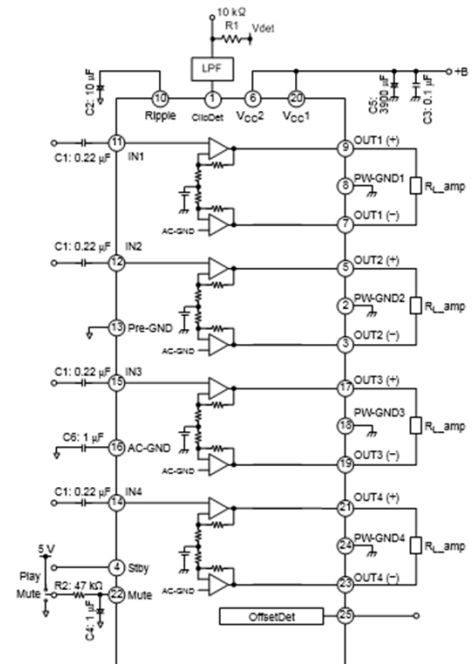
	1 pin	25 pin
TCB501HQ	OffsetDet (Full time)	H-SW
TCB503HQ	ClipDet	OffsetDet
TCB502HQ	NC	OffsetDet (Full time)
TCB001HQ	NC	OffsetDet

- Schedule Engineering Sample : Now  
Mass Production: 1Q/2019

#### Package



HZIP25



This product is under development as of the release date of this document. Please note that the development may stop or change without any prior notice for any reason. At this time, we are unable to provide samples or sell mass production versions of this product. Due to the ongoing development of the product, the product descriptions listed herein may differ from the specifications of sample or mass production versions of this product that may be released. In particular, we neither guarantee any of the characteristics, features and performance data outlined in this document nor shall any deviation between the information contained in this document and the final specifications of the product entitle you to any compensation claim. Please contact our sales representatives for details of development progress and the latest versions of relevant product information.

Before creating and producing designs and using, customers must also refer to and comply with the latest versions of all relevant information of this document and the instructions for the application that Product will be used with or for.