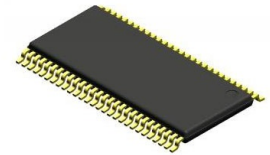


Audio Amp Speaker 2-CH Stereo/4-CH Stereo 80W Class-D Automotive 56-Pin HSSOP EP T/R



Images are for reference only

Manufacturer: [Texas Instruments, Inc](#)

Package/Case: HSSOP56

Product Type: Amplifier ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

[Inquiry](#)

General Description

The TAS6424L-Q1 device is a four-channel digital-input Class-D audio amplifier designed for use in automotive head units and external amplifier modules. The device provides four channels at 27 W into 4 at 10% THD+N and 27 W into 2 at 10% THD+N from a 14.4 V supply . The Class-D topology dramatically improves efficiency over traditional linear amplifier solutions. The output switching frequency can be set either above the AM band, which eliminates the AM-band interference and reduces output filtering and cost, or below AM band to optimize efficiency.

The wide supply-voltage range from 4.5 V to 18 V helps minimize audio artefacts in start-stop applications

The device incorporates all the functionality required to perform in the demanding OEM applications area. The device has a built-in load diagnostic function for detecting and diagnosing misconnected outputs as well as detection AC-coupled tweeters to help to reduce test time during the manufacturing process.

The device is offered in a 56-pin HSSOP PowerPAD package with the exposed thermal pad up.

For a pin compatible two-channel devices see the TAS6422-Q1 device.

Key Features

Qualified for Automotive Applications

Audio Inputs

4 Channel I²S or 4/8-Channel TDM Input

Input Sample Rates: 44.1 kHz, 48 kHz, 96 kHz

Input Formats: 16-bit to 32-bit I²S, and TDM

Audio Outputs

Four-Channel Bridge-Tied Load (BTL), With Option of Parallel BTL (PBTL)

Up to 2.1 MHz Output Switching Frequency

27 W, 10% THD Into 4 at 14.4 V

27 W, 10% THD Into 2 at 14.4 V

80 W, 10% THD Into 2 at 18 V PBTL

Audio Performance Into 4 at 14.4 V

THD+N < 0.03% at 1 W

42 μ V_{RMS} Output Noise

-90 dB Crosstalk

Load Diagnostics

Output Open and Shorted Load

Output-to-Battery or Ground Shorts

Line Output Detection Up to 6 k

Runs Without Input Clocks

AC Diagnostic for Tweeter detection

Protection

Output Current Limiting

Output Short Protection

40 V Load Dump

Open Ground and Power Tolerant

DC Offset

Overtemperature

Undervoltage and Overvoltage

General Operation

EVM Passes CISPR25-L5 EMC Specification

4.5 V to 18 V Supply voltage

I²C Control With 4 Address Options

Clip Detection and Thermal Warning

Recommended For You

TAS5142DKD

Texas Instruments, Inc
HSSOP36

TAS5717PHPR

Texas Instruments, Inc
HTQFP48

TAS5411QPWPRQ1

Texas Instruments, Inc
HTSSOP16

TAS5342ADDVR

Texas Instruments, Inc
HTSSOP44

TAS5707PHPR

Texas Instruments, Inc
HTQFP48

TAS5760MDAPR

Texas Instruments, Inc
HTSSOP32

TAS5760MDCAR

Texas Instruments, Inc
HTSSOP48

TAS5414CTPHDRQ1

Texas Instruments, Inc
HTQFP-64

TAS2505IRGET

Texas Instruments, Inc
VQFN24

TAS2505IRGER

Texas Instruments, Inc
VQFN-24

TAS5086DBTR

Texas Instruments, Inc
TSSOP38

TAS3004PFB

Texas Instruments, Inc
QFP

TAS3004PFBR

Texas Instruments, Inc
TQFP-48

TAS5076PFC

Texas Instruments, Inc
QFP

TAS3108DCP

Texas Instruments, Inc
HTSSOP38