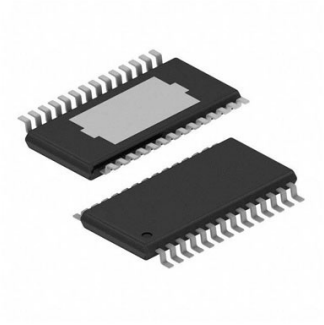
TPA3111D1QPWPRQ1

Audio Amp Speaker 1-CH Mono 10W Class-D Automotive 28-Pin HTSSOP EP T/R

Manufacturer:	Texas Instruments, Inc
Package/Case:	HTSSOP28
Product Type:	Amplifier ICs
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active



Images are for reference only

Inquiry

General Description

The TPA3111D1-Q1 device is a 10-W efficient, Class-D audio power amplifier for driving a bridge tied speaker. Advanced EMI suppression technology enables the use of inexpensive ferrite bead filters at the outputs while meeting EMC requirements. SpeakerGuard protection circuitry includes an adjustable power limiter and a DC detection circuit. The adjustable power limiter allows the user to set a virtual voltage rail lower than the chip supply to limit the amount of current through the speaker. The DC-detect circuit measures the frequency and amplitude of the PWM signal and shuts off the output stage if the input capacitors are damaged or shorts exist on the inputs.

The TPA3111D1-Q1 device can drive a mono speaker as low as 4 . The high efficiency of the TPA3111D1-Q1 device, > 90%, eliminates the need for an external heat sink when playing music.

The outputs are fully protected against shorts to GND, V_{CC}, and output-to-output. The short-circuit protection and thermal protection includes an auto-recovery feature.

For all available packages, see the orderable addendum at the end of the data sheet.

Key Features

Qualified for Automotive Applications

AEC-Q100 Qualified with the Following Results:
Device Temperature Grade 1: –40°C to 125°C Ambient Operating Temperature Range

Device HBM ESD Classification Level H2

Device CDM ESD Classification Level C2

10-W into an 8- Load at 10% THD+N from a 12-V Supply

7-W into a 4- Load at 10% THD+N from an 8-V Supply

94% Efficient Class-D Operation into 8- Load Eliminates Need for Heat Sinks

Wide Supply Voltage Range Allows Operation from 8 to 26 V

Filter-Free Operation

SpeakerGuard Speaker Protection Includes Adjustable Power Limiter Plus DC Protection

Flow Through Pin Out Facilitates Easy Board Layout

Robust Pin-to-Pin Short-Circuit Protection and Thermal Protection with Auto-Recovery Option

Excellent THD+N and Pop Free Performance

Four Selectable Fixed Gain Settings

Differential Inputs

Recommended For You

TPA3125D2N

Texas Instruments, Inc

DIP20

TPA6111A2DR

Texas Instruments, Inc

SOP8

TPA2012D2RTJR

Texas Instruments, Inc

QFN20

TPA6132A2RTER

Texas Instruments, Inc

QFN

TPA2013D1RGPR

Texas Instruments, Inc

QFN20

TPA2010D1YZFR

Texas Instruments, Inc

DSBGA9

TPA3118D2QDAPRQ1

Texas Instruments, Inc

HTSSOP-32

TPA6211A1TDGNRQ1

Texas Instruments, Inc

MSOP8

TAS5414CTPHDRQ1

Texas Instruments, Inc

HTQFP-64

PCM1681TPWPRQ1

Texas Instruments, Inc

HTSSOP28

TPA3131D2RHBR

Texas Instruments, Inc

VQFN32

TPA3100D2PHP

Texas Instruments, Inc

QFP

TPA3244DDWR

Texas Instruments, Inc

HTSSOP-44

TPA6017A2PWP

Texas Instruments, Inc

HTSSOP20

TPA4861D

Texas Instruments, Inc

SOP8