Class-D Audio Selector Guide

Part Number Package	Channels	Output Power (W)	Min Load (Ω)	VDD / PVDD Range (V)	THD + N @ 1kHz	IQQ (mA)	ISD (µA)	Enable	Mute	De-Pop	Gain (dB)	Description
INTEGRATED AMPLIFIER												
LX1701 MLPQ-16 (4mm²)	Mono	2	2	1.8 ~ 6.0	0.08%	2	<1	Yes	No	Yes	14 / 8	Mono, filterless, Class-D Low EMI, de-pop
LX1702 MLPQ-16 (4mm²)	Stereo	1	8	2.5 ~ 5.5	0.10%	2.5	1	Yes	No	Yes	20	Stereo, filterless, Class-D Low EMI, de-pop
LX1704 MLPQ-16 (4mm²)	Stereo	2	4	2.5 ~ 5.5	0.10%	2.5	1	Yes	No	Yes	20	Stereo, filterless, Class-D Low EMI, de-pop
LX1705 MLPQ-32 (5mm²)	Stereo	15	8	5 ~ 15	0.15%	12	1	Yes	Yes	Yes	26	Stereo, filterless, Class-D All in one, de-pop
LX1708 MLPQ-32 (7mm²)	Stereo	8	4	5 ~ 15	0.15%	12	1	Yes	Yes	Yes	26	Stereo, filterless, Class-D All in one, de-pop
LX1725 MLPQ-32 (7mm²)	Stereo	15	4	12 ~ 30 or ±6 ~ ±15	0.10%	15	100	Yes	Yes	Yes	14 / 20 / 26	Stereo, Single-ended output, High-power, Class-D, de-pop, All in one

1W - 2W Filterless Stereo Class-D Amplifiers

The Microsemi LX1702™ and LX1704™ represent a new generation of fully integrated stereo audio Class-D amplifiers.

This CMOS stereo Class-D amplifier series is optimized for low voltage, low power operation and minimum system cost. These products are ideal for use in battery powered applications where low power consumption is desirable such as cell phones, PDAs, web tablets, and other portable devices and lower power systems.

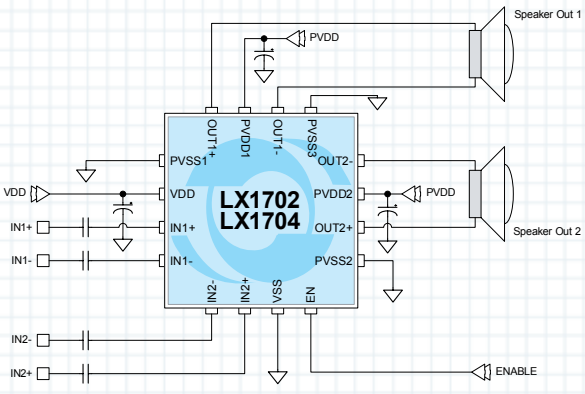
The LX1702 and LX1704 are offered in a small footprint, low profile 4mm2 surface mountable 15 pin MLPQ.

Key Features

- No Output Filter Required
- Low EMI Design
- Low Quiescent Current: 4mA
- Low Shutdown Current: 1µA
- Low and Wide Supply Voltage Range: 2.5 – 5.5V
- 1W Output Power into 8Ω Load with THD<1% @ 5.0V- LX1702 & LX1703
- 2W Output Power into 4Ω Load with THD<1% @ 5.0V – LX1704
- THD+N as Low as 0.1%
- Small Form Factor: 16 Pin MLP Package: 4mm2
- Built-in Clock Frequency
- Built-in Feedback Loop, Keep High Audio Fidelity
- Fixed 26dB Gain
- Full 20Hz to 20kHz Audio Bandwidth
- Shutdown Function
- Internal Thermal Shutdown
- High Efficiency: 80% Through Modulation Scheme and Class-D Operation
- Built-in De-pop Circuit, “POP” Free

Applications

- Cell Phones
- PDAs
- Portable Devices
- Portable Speakers
- Portable DVD
- PMP / PMC



8W + 8W and 15W + 15W Stereo Filterless Class-D Amplifier

The LX1705™ and LX1708™ are part of a new generation of fully integrated stereo class-D amplifiers from Microsemi. These CMOS audio amplifiers are optimized for highly efficient operation and minimal system cost. The stereo/ BTL (Bridge Tied Load) configuration uses 3-level PWM modulation. This allows eliminating the LC filter to reduce the system cost and simplify the system design. The LX1705 outputs 8W and the LX1708 outputs 15W into each of the two channels with better than 85% efficiency.

The part features on-board H-Bridge output stages with low RDSon. External bootstrap capacitors are all that is required to provide the gate drive to the all-NFET output stage since on-board bootstrap diodes are provided.

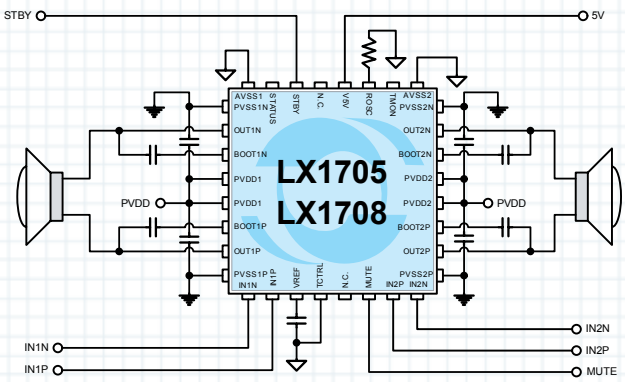
The LX1705 and LX1708 also feature mute and standby modes, over-current protection, POP-free turn-on and turn-off, under voltage lockout, over-voltage protection, and over-temperature protection.

The LX1705 is offered in a small footprint, low profile surface mountable 32-pin MLPQ package in 5mm2.

The LX1708 is offered in a small footprint, low profile surface mountable 32-pin MLPQ in 7mm2.

Applications

- LCD TV
- Car Navigation
- Computer
- Portable Sound Systems



Key Features

- Filter Free Operation
- 8W+8W Output Power @ 8Ω load: THD+N < 1% - LX1705
- 15W + 15W Output Power @ 4Ω Load: THD+N < 1% - LX 1708
- High Efficiency > 85%
- Full Audio Bandwidth: 20Hz to 20kHz
- Low distortion < 0.1% @ 1kHz, 50% of Maximum Power, 8Ω - LX 1705, 4Ω - LX1708
- Low distortion <0.2% @ 20Hz-20kHz, 1W, 8Ω - LX1705, 4Ω - LX1708
- High Signal-to-Noise Ratio: 90dB
- Single Power Supply
- Wide Supply Voltage Range: 5V ~ 15V
- Low Quiescent Current < 30mA
- Turn ON/OFF POP Free
- Standby/ Mute Feature
- Built-In Under Voltage Lockout
- Thermal Protection