

Compact PowlRaudio™ Modules for Class D Amplifier Design

Advantages:

- Over current protection
- Thermal shutdown
- Floating differential Input
- Clip detection
- Best-in-class power efficiency and audio performance
- Reduce component count, simplify design
- Compatible with single supply or split rail configuration



The PowlRaudio™ family of devices integrates PWM controller and digital audio power MOSFETs in a single package to offer a highly efficient, compact solution that reduces component count, shrinks PCB size up to 70 percent and simplifies Class D amplifier design.

The combination of an advanced audio controller IC with MOSFETs fully optimized for audio performance results in improved efficiency, THD, and EMI, allowing the IR43xxM PowlRaudio™ family to operate without a mechanical heatsink over a wide power supply range on either a single or split power supply. High voltage ratings and noise immunity ensure reliable operation over various environmental conditions.

The single channel IR4301M and IR4311M and dual channel IR4302M and IR4312M devices offer the flexibility and convenience of building stereo amplifier and multi-channel designs in various channel configurations, while the devices' 5x6 mm and 7x7 mm PQFN packages enhance the benefit of utilizing a smaller size of Class D topology.

IC SPECIFICATION:

Part Number	No. of channels	Power Supply Voltage	Peak Output Power (RMS per CH)	Package
IR4301MPbF	1	80V or +/-40V	130W	PQFN 5x6mm
IR4311MPbF	1	40V or +/-20V	35W	PQFN 5x6mm
IR4302MPbF	2	80V or +/-40V	70W	PQFN 7x7mm
IR4312MPbF	2	40V or +/-20V	35W	PQFN 7x7mm

REFERENCE DESIGNS:

Reference Design	Featured Part	Descriptions	Output Power
IRAUDAMP12	IR4301M	IR4301 split power supply	130W*2ch 40hms load/no heatsink
IRAUDAMP15	IR4311M	IR4311 single power supply	35W*2ch 40hms load/no heatsink
IRAUDAMP16	IR4302M	IR4302 split power supply	70W*2ch 40hms load/no heatsink
IRAUDAMP17	IR4302M	IR4302 single power supply	100W*2ch 40hms load/with heatsink
IRAUDAMP18	IR4312M	IR4312 single power supply	35W*2ch 40hms load/no heatsink
IRAUDAMP19	IR4301M	IR4301 single power supply	130W*2ch 40hms load/with heatsink
IRAUDPS3	IRS27952S	Audio AC/DC power supply	200W +/-30V



IRAUDAMP12



IRAUDAMP16



IRAUDAMP18



IRAUDAMP15



IRAUDAMP19



IRAUDAMP17



IRAUDPS3