

Power MOSFETs Optimized for Class D Applications



International Rectifier, a world leader in power management technology, announced the introduction of a family of automotive DirectFET2 power MOSFETs for high frequency switching applications including the output stage for Class D Audio systems.

The AURF7640S2, AURF7647S2 and AURF7675M2 devices expand IR's portfolio of automotive DirectFET2 power MOSFETs for Class D Audio systems, and are optimized with low gate charge (Qg) to improve Total Harmonic Distortion (THD) and efficiency, while low Diode Reverse Recovery Charge (Qrr) further improves THD and lowers EMI.

With a footprint smaller than an SO-8, the AURF7640S2 and AURF7647S2 Small Can devices are capable of delivering 100W per channel into an 8 Ohm load with no heat sink to offer an exceptionally compact class D solution ideal for saving PCB space where multiple channels are required. The Medium Can AURF7675M2 device, which features a footprint 54 percent smaller than a DPAK is capable of delivering 250 W per channel into a 4 Ohm load with no heat sink making it well suited for the sub-woofer output stage of class D audio systems.

"The new DirectFET2 devices complement the previously released AURF7665S2 to offer designers alternative voltage and RDS(on) ratings for different power levels in Class D Audio systems," said Benjamin Jackson, product manager, IR's Automotive Products Business Unit.

As with all DirectFET products, the new devices offer minimal thermal impedance and parasitic package resistance and inductance to deliver excellent power density and efficiency facilitated by dual-sided cooling.

The devices are qualified according to AEC-Q101 standards, feature an environmentally friendly, lead-free and RoHS compliant bill of materials, and are part of IR's automotive quality initiative targeting zero defects.

Specifications

Part Number	Package	Vds	Rds(on) typ	Rds(on) max	Rg (typ)	Qrr (typ)
AURF7640S2	SF2 S Can	60V	27mOhm	66mOhm	2.50nS	7.3nC
AURF7647S2	SF2 S Can	80V	26mOhm	31mOhm	2.60nS	4nC

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Published on Electronic Component News (<http://www.ecnmag.com>)

AURF7675M2	3F2 M Can	50V	77mOhm	60mOhm	200m	1mC
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Datasheets, application notes and qualification standards are available on the International Rectifier website at www.irf.com [1]. Spice and saber models are available on request.

Availability and Pricing

Pricing begins at US \$0.37 each for the AURF7648S2 and US \$0.54 each for the AURF7647S2 respectively in 100,000-unit quantities, while pricing for the AURF7675M2 begins at US \$0.68 each in 100,000-unit quantities. Prices are subject to change.

Source URL (retrieved on 05/29/2015 - 4:17pm):

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Links:

[1] <http://www.irf.com/>