

N-channel power MOSFET IRLB8721

Adafruit · MPN 355 · category: mosfet

Canonical record: <https://partsgraph.ai/catalog/parts/adafruit-irlb8721>

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ELECTRICAL

Continuous drain current @100°C (A): **44** · datasheet p.1
Pulsed drain current (A): **250** · datasheet p.1
Max power dissipation @25°C (W): **65** · datasheet p.1
Gate threshold voltage, max: **2.35 V** · vendor page
On-resistance (min spec): **8.7 milliohm** · vendor page
Gate-source voltage abs max (V): **± 20** · datasheet p.1
Max power dissipation @ TC=100°C (W): **33** · datasheet p.1
Linear derating factor (W/°C): **0.43** · datasheet p.1
RDS(on) max @ VGS=4.5V (mΩ): **16** · datasheet p.2
Gate threshold voltage, typ (V): **1.80** · datasheet p.2
IDSS drain-source leakage, max @ VDS=24V (μA): **1.0** · datasheet p.2
IGSS gate forward leakage, max (nA): **100** · datasheet p.2
Forward transconductance, min (S): **35** · datasheet p.2
RG gate resistance, max (Ω): **3.8** · datasheet p.2
EAS single-pulse avalanche energy, max (mJ): **98** · datasheet p.2
Body-diode forward voltage, max (V): **1.0** · datasheet p.2
Dissipation w/o heatsink, room temp (vendor): **2 Watts** · vendor page
Switchable current w/o heatsink (vendor): **15 Amperes** · vendor page
Channel polarity: **N-channel** · vendor page

PERFORMANCE

Total gate charge, typ (nC): **7.6** · datasheet p.2
Rise time, typ (ns): **93** · datasheet p.2
Input capacitance, typ (pF): **1077** · datasheet p.2

INTERFACE

Logic-level gate drive: **Yes** · vendor page

MECHANICAL

Package: **TO-220AB** · datasheet p.1

ENVIRONMENT

Junction / storage temperature (°C): **-55 to + 175** · datasheet p.1
Soldering temperature, 10 s (°C): **300** · datasheet p.1
RθJC junction-to-case, max (°C/W): **2.3** · datasheet p.1
RθJA junction-to-ambient, max (°C/W): **62** · datasheet p.1

COMPLIANCE

Lead-free (PbF): **Yes** · datasheet p.1

GENERAL

Drain-source voltage: **30 V** · datasheet p.1
Continuous drain current: **62** · datasheet p.1

INDICATIVE PRICES

Adafruit: \$2.25 USD · as of 2026-08-22 · <https://www.adafruit.com/product/355>

Prices are indicative and dated, captured only from vendors' machine-stated markup. Availability is never claimed.

SOURCES — THE AUTHORITATIVE DOCUMENTS

IRLB8721 datasheet: <https://cdn-shop.adafruit.com/datasheets/irlb8721pbf.pdf>

sha-256 efa4902a699cf1de1ce3c9e5f60c79093d7f47129053fa727720db677cf08d4f

Adafruit product page: <https://www.adafruit.com/product/355>

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