

Product brief

30 V to 100 V planar MOSFET family

Ideally suited to large SOA and linear-mode applications

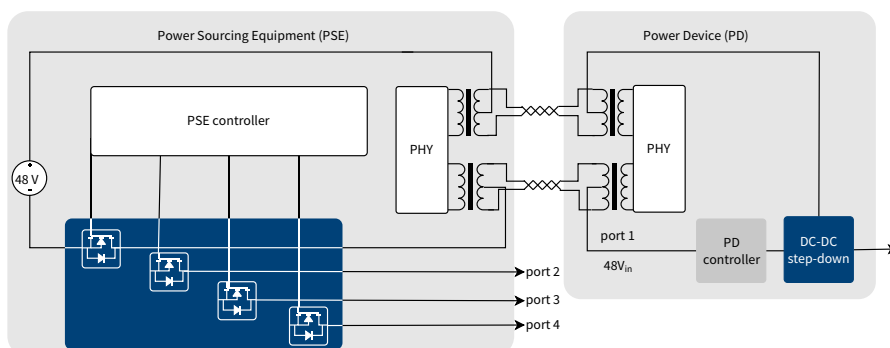
Infineon's IR MOSFET™ portfolio of planar devices complements its successful trench-based StrongIRFET™ and OptiMOS™ technologies by offering a range of 30 V to 100 V devices tailored to large Safe Operating Area (SOA) and linear-mode applications. Typical applications include Power over Ethernet+ (PoE+), LED power, DC fan, industrial SMPS, Uninterruptible Power Supplies (UPS) and servo motors.

Modern trench MOSFETs strive for the lowest $R_{DS(on)}$, Q_g and Q_{gd} to meet today's high-speed switching applications, whereas planar devices sacrifice die size and $R_{DS(on)}$ in order to achieve high current-carrying capability and a large SOA.

The IRFHM3911 is specifically targeted at PoE+ applications where small size, large SOA and high current are key customer requirements. The maximum SOA for this device is 2.5 A at 50 V, 1 ms. This is a 280 percent improvement over a similarly specified trench-based device!

For large SOA telecom hot-swap applications, see Infineon's OptiMOS™ [Linear FET](#) solutions.

Typical application – PoE+ for power sourcing equipment



Key features

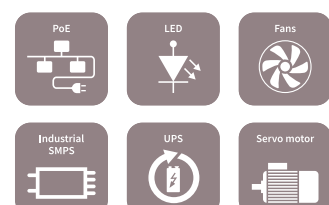
- > Breakdown voltages from 30 V to 100 V
- > Large Safe Operating Area (SOA) and high current-carrying capability
- > Available in both standard and logic-level gate drive
- > Industry standard PQFN 3.3 x 3.3, DPAK, D²PAK, TO-220 and TO-247 packages
- > Product validation according to JEDEC standard
- > Optimized for broadest availability from distribution partners

Benefits

- > Supports a wide variety of applications
- > Increased ruggedness
- > Gate-drive flexibility
- > Multi-vendor compatibility

Applications

- > Power over Ethernet+ (PoE+)
- > LED power
- > DC fan
- > Industrial SMPS
- > Uninterruptible Power Supply (UPS)
- > Servo motor



30 V to 100 V planar IR MOSFET™ devices

| Product | V _{DS} [V] | R _{DS(on)} max at V _{GS} = 10 V [mΩ] | Q _g [nC] | I _D [A] | V _{GS(th)} | Package |
|----------------|------------------------|--|------------------------|-----------------------|---------------------|--------------------|
| IRL3713STRLPBF | 30 | 3.0 | 75.0 | 260 | LL | D ² PAK |
| IRF1404STRLPBF | 40 | 4.0 | 160.0 | 162 | NL | D ² PAK |
| IRL1404STRLPBF | 40 | 4.0 | 93.3 | 160 | LL | D ² PAK |
| IRF1404PBF | 40 | 4.0 | 131.0 | 202 | NL | TO-220 |
| IRF2805STRLPBF | 55 | 4.7 | 150.0 | 135 | NL | D ² PAK |
| IRF1405STRLPBF | 55 | 5.3 | 170.0 | 131 | NL | D ² PAK |
| IRL2505STRLPBF | 55 | 8.0 | 160.0 | 104 | LL | D ² PAK |
| IRF1405PBF | 55 | 5.3 | 170.0 | 169 | NL | TO-220 |
| IRFP1405PBF | 55 | 5.3 | 120.0 | 160 | NL | TO-247 |
| IRF3808STRLPBF | 75 | 7.0 | 150.0 | 106 | NL | D ² PAK |
| IRFR2407TRLPBF | 75 | 26.0 | 74.0 | 42 | NL | DPAK |
| IRFP2907PBF | 75 | 4.5 | 410.0 | 209 | NL | TO-247 |
| IRF3610STRLPBF | 100 | 11.6 | 100.0 | 103 | NL | D ² PAK |
| IRF8010STRLPBF | 100 | 15.0 | 81.0 | 80 | NL | D ² PAK |
| IRFR3411TRPBF | 100 | 44.0 | 48.0 | 32 | NL | DPAK |
| IRLR3410TRLPBF | 100 | 105.0 | 22.7 | 17 | LL | DPAK |
| IRFHM3911TRPBF | 100 | 115.0 | 17.0 | 20 | NL | PQFN 3.3x3.3 |
| IRFP3710PBF | 100 | 25.0 | 66.7 | 57 | NL | TO-247 |

*V_{GS(th)}: NL = 10 V, LL = 4.5 V

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