

IRF1407S
IRF1407L

Benefits

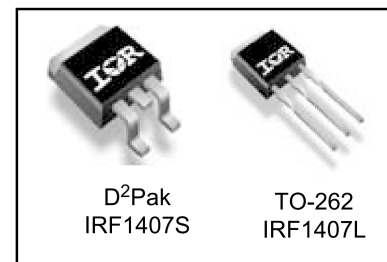
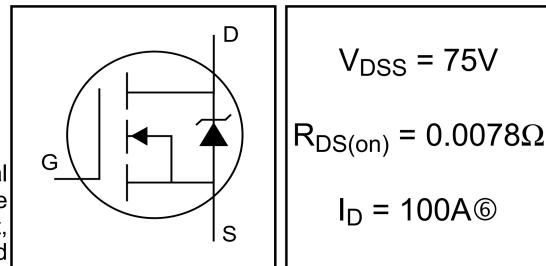
- Advanced Process Technology
- Ultra Low On-Resistance
- Dynamic dv/dt Rating
- 175°C Operating Temperature
- Fast Switching
- Repetitive Avalanche Allowed up to Tjmax

Description

Advanced HEXFET® Power MOSFETs from International Rectifier utilize advanced processing techniques to achieve extremely low on-resistance per silicon area. This benefit, combined with the fast switching speed and ruggedized device design that HEXFET power MOSFETs are well known for, provides the designer with an extremely efficient and reliable device for use in a wide variety of applications. The D²Pak is a surface mount power package capable of accommodating die sizes up to HEX-4. It provides the highest power capability and the lowest possible on-resistance in any existing surface mount package. The D²Pak is suitable for high current applications because of its low internal connection resistance and can dissipate up to 2.0W in a typical surface mount application.

The through-hole version (IRF1407L) is available for low-profile applications.

HEXFET® Power MOSFET



Absolute Maximum Ratings

| | Parameter | Max. | Units |
|---|--|--------------------------|-------|
| I _D @ T _C = 25°C | Continuous Drain Current, V _{GS} @ 10VⓄ | 100Ⓞ | A |
| I _D @ T _C = 100°C | Continuous Drain Current, V _{GS} @ 10VⓄ | 70Ⓞ | |
| I _{DM} | Pulsed Drain Current ①Ⓞ | 520 | |
| P _D @ T _A = 25°C | Power Dissipation | 3.8 | W |
| P _D @ T _C = 25°C | Power Dissipation | 200 | W |
| | Linear Derating Factor | 1.3 | W/°C |
| V _{GS} | Gate-to-Source Voltage | ± 20 | V |
| E _{AS} | Single Pulse Avalanche Energy②Ⓞ | 390 | mJ |
| I _{AR} | Avalanche Current① | See Fig.12a, 12b, 15, 16 | A |
| E _{AR} | Repetitive Avalanche Energy⑦ | | mJ |
| dv/dt | Peak Diode Recovery dv/dt ③Ⓞ | 4.6 | V/ns |
| T _J | Operating Junction and | -55 to + 175 | °C |
| T _{STG} | Storage Temperature Range Soldering Temperature, for 10 seconds | 300 (1.6mm from case) | |

Thermal Resistance

| | Parameter | Typ. | Max. | Units |
|------------------|--|------|------|-------|
| R _{θJC} | Junction-to-Case | — | 0.75 | °C/W |
| R _{θJA} | Junction-to-Ambient(PCB Mounted, steady-state)** | — | 40 | |

**When mounted on 1" square PCB (FR-4 or G-10 Material). For recommended footprint and soldering techniques refer to application note #AN-994.