

Product Brief

StrongIRFET™ in Medium Can DirectFET™ package

New Corner Gate pad

Infineon introduces a new family of Medium Can DirectFET™ package MOSFETs in the StrongIRFET™ family. The new family of DirectFET™ devices improves the gate layout by relocating the gate pad to the corner of the die. The new layout increases the source contact area resulting in lower thermal resistance to the PCB and increases the scalability of the design. The family products maintain the same characteristics of the StrongIRFET™ family which includes low $R_{DS(on)}$, high current carrying capability and rugged silicon.

The DirectFET™ features excellent top-side cooling for applications requiring thermal performance. The low package profile is ideal for designs requiring low package height and high current density. The DirectFET™ contains zero lead, which complies with current and future RoHS requirements.

Key features and benefits

- > Ultra-low $R_{DS(on)}$
- > High current rating
- > Rugged silicon
- > Lower thermal resistance to PCB
- > High current density
- > Scalability of designs
- > RoHS 6 compliant

Applications

- > Battery powered circuits
- > Brushed motor drive applications
- > BLDC motor drive applications

Significantly larger source solder area than existing Medium Can DirectFET™ package footprints

MN footprint



$$R_{THJ-PCB} = \sim 1.0^{\circ}\text{C/W}$$

ME footprint



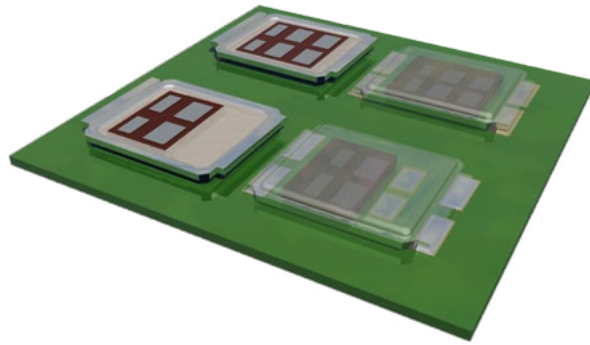
$$R_{THJ-PCB} = 0.75^{\circ}\text{C/W}$$



StrongIRFET™ in Medium Can DirectFET™ package

Medium Can for scalable designs

- › Single pad layout accommodates multiple footprints
- › Optimized $R_{DS(on)}$ for lowest possible losses



Product portfolio

| Part number | Package | Outline | V_{DS} [V] | $R_{DS(on)}$ Typ/max at 10 V [mΩ] | I_D [A] | Q_G [nC] | |
|---------------|-------------------------------|---------|-----------------|---|--------------|---------------|-----|
| IRF7480MTRPBF | Medium Can DirectFET™ package | ME | 40 | 0.9/1.2 | 217 | 123 | |
| IRF40DM229 | | MF | | 1.4/1.85 | 159 | 107 | |
| IRF7483MTRPBF | | | | 1.7/2.3 | 135 | 81 | |
| IRF60DM206 | | ME | 60 | 2.2/2.9 | 130 | 133 | |
| IRF7580MTRPBF | | | | | 2.9/3.6 | 114 | 120 |
| IRF7780MTRPBF | | | | | 75 | 4.5/5.7 | 89 |

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