



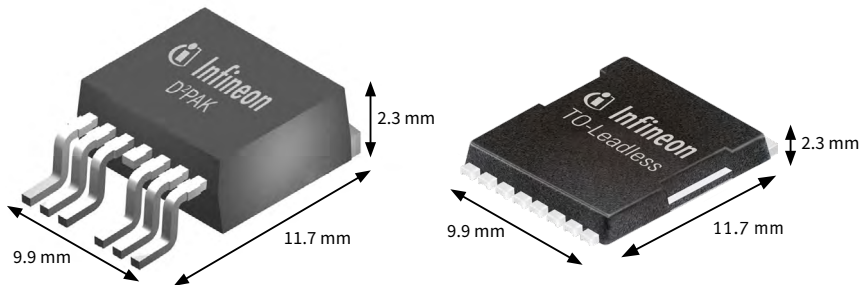
Product Brief

OptiMOS™ in TO-Leadless

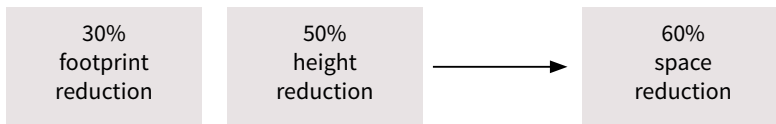
A package optimized for high power applications

Infineon's OptiMOS™ power MOSFET in TO-Leadless package is optimized for high current applications up to 300 A, such as forklifts, light electric vehicles (LEV), power tools, point-of-loads (POL), telecom and e-fuses. Furthermore, the 60 percent smaller package size enables a very compact design. Compared to D²PAK 7pin, TO-Leadless shows a substantial reduction in footprint of 30 percent. The 50 percent reduced height offers a significant advantage in narrow applications such as rack or blade servers.

TO-Leadless – a leadless package with 60 percent space reduction compared to D²PAK 7pin



Footprint: 150 mm² → Footprint: 115 mm²



Key features

- > Reduced footprint and space
- > Highest current capability up to 300 A
- > Very low package parasitics and inductances
- > Significantly reduced electromigration due to improved solder contact area

Key benefits

- > Highest efficiency and system cost reduction
- > Less paralleling and cooling required
- > Enabling compact design
- > Improved EMI
- > Highest reliability

Target applications

- > Forklift
- > Light electric vehicles (LEV) e.g. e-scooters, e-bikes or μ-cars
- > Point-of-loads (POL)
- > Telecom
- > e-fuse

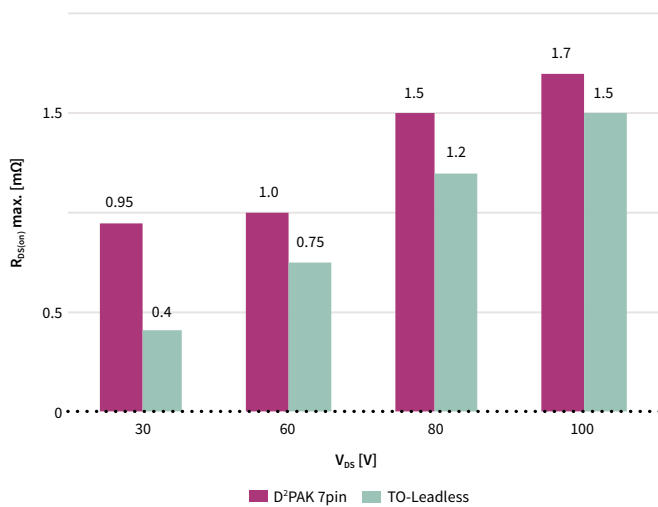


OptiMOS™ in TO-Leadless

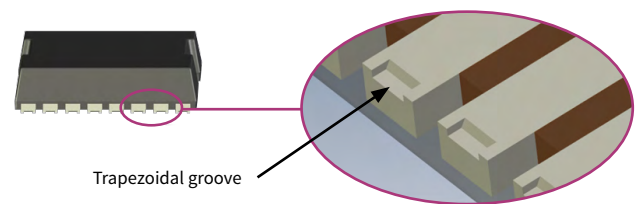
A package optimized for high power applications

TO-Leadless offers the industry's lowest $R_{DS(on)}$ in 30 V (0.4 mΩ) and 60 V (0.75 mΩ) devices. This enables a reduction in the number of paralleled MOSFETs in high power applications and increases power density. In addition, TO-Leadless comes with a 50 percent bigger solder contact area, which leads to lower current density, avoiding electromigration at high current levels and temperatures, resulting in improved reliability. TO-Leadless is a package without leads with the possibility of optical inspection due to tin plated grooved gate and source contacts.

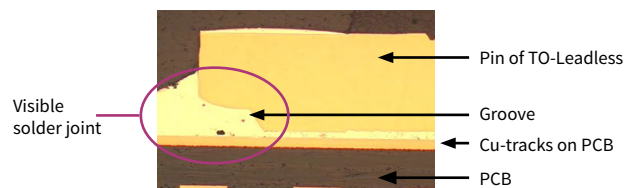
With TO-Leadless Infineon offers lowest $R_{DS(on)}$



Tinned trapezoidal grooves on the tips of gate and source contacts



Visible solder meniscus allows a simple and inexpensive automatic optical inspection



Product portfolio TO-Leadless

Voltage [V]	Type	$R_{DS(on)}$ max. [mΩ]
30	IPT004N03L	0.4
60	IPT007N06N	0.75
60	IPT012N06N	1.2
80	IPT012N08N5	1.2
80	IPT029N08N5	2.9
100	IPT015N10N5	1.5
100	IPT020N10N3	2.0
150	IPT059N15N3	5.9
200	IPT111N20NFD	11.1
250	IPT210N25NFD	21.0

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