



## Product Brief

# OptiMOS™ Linear FET

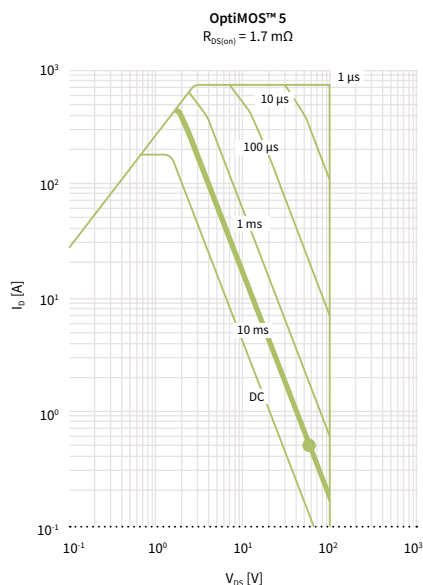
Combining a low  $R_{DS(on)}$  with a wide safe operating area (SOA)

OptiMOS™ Linear FET is a revolutionary approach to avoid the trade-off between on-state resistance ( $R_{DS(on)}$ ) and linear mode capability – operation in the saturation region of an enhanced mode MOSFET. It offers the state-of-the-art  $R_{DS(on)}$  of a trench MOSFET together with the wide safe operating area of a classic planar MOSFET.

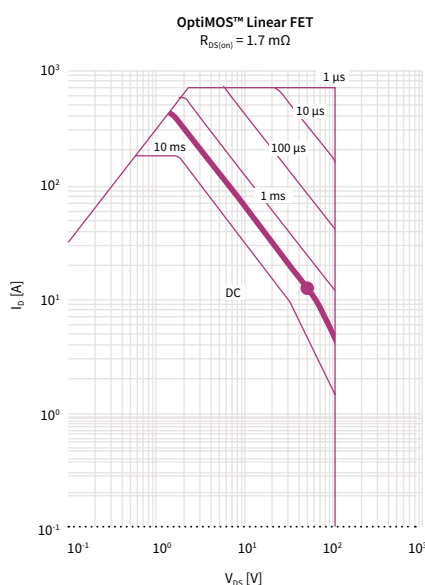
This product is the perfect fit for hot-swap and e-fuse applications commonly found in telecom and battery management systems. OptiMOS™ Linear FET prevents damage at the load by limiting high in-rush currents.

### Safe operating area (SOA) comparison

Whilst the OptiMOS™ 5 100 V, 1.7 mΩ power MOSFET has a safe operating area of 0.5 A, the OptiMOS™ Linear FET version at the same  $R_{DS(on)}$  offers a much wider SOA of 11.5 A (@ 54 V, 10 ms).



0.5 A in OptiMOS™ 5  
@ 54 V,  $t_{pulse} = 10\text{ ms}$



11.5 A in OptiMOS™ Linear FET  
@ 54 V,  $t_{pulse} = 10\text{ ms}$

### Key features

- > Combination of low  $R_{DS(on)}$  and wide safe operating area (SOA)
- > High max. pulse current
- > High continuous pulse current

### Key benefits

- > Rugged linear mode operation
- > Low conduction losses
- > Higher in-rush current enabled for faster start-up and shorter down time

### Applications

- > Telecom
- > Battery management

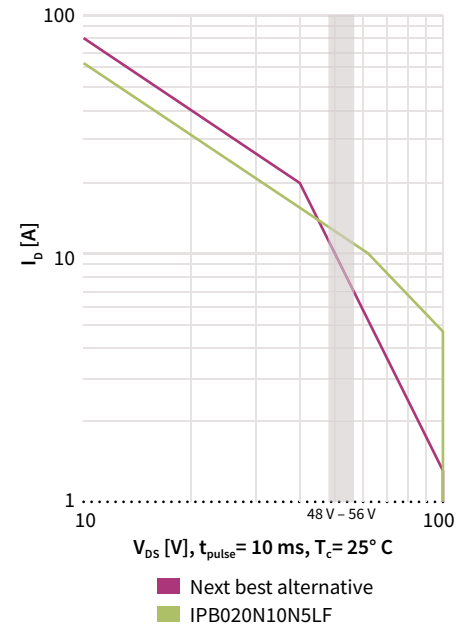
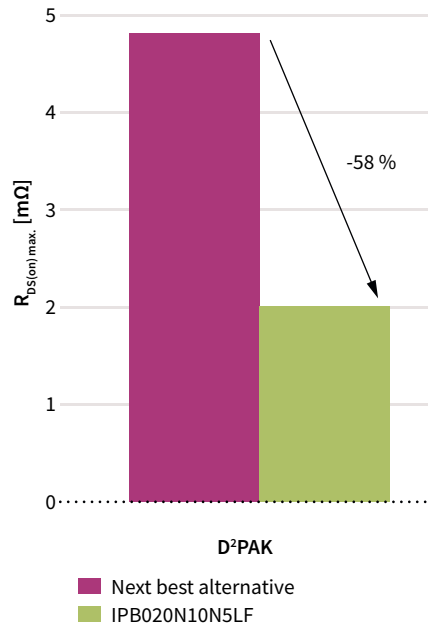


# OptiMOS™ Linear FET

Combining a low  $R_{DS(on)}$  with a wide safe operating area (SOA)

OptiMOS™ Linear FET 100 V shows an  $R_{DS(on)}$  reduction of up to 58% when compared to the next best alternative. Furthermore, a wider SOA measured at 48 V to 56 V – a typical output voltage range of telecom systems – is achieved.

OptiMOS™ Linear FET is available in three voltage classes – 100 V, 150 V, and 200 V – in either D<sup>2</sup>PAK or D<sup>2</sup>PAK 7pin package.



## Product portfolio

Voltage class [V]	Package	Product type	$R_{DS(on)}$ (max.) @ $V_{GS} = 10$ V [mΩ]	SOA @ 56 V, 10 ms [A]
100	D <sup>2</sup> PAK 7pin	IPB017N10N5LF	1.7	10.2
	D <sup>2</sup> PAK	IPB020N10N5LF	2.0	10.2
	D <sup>2</sup> PAK	IPB033N10N5LF	3.3	7.0
150	D <sup>2</sup> PAK	IPB048N15N5LF	4.8	10.8
	D <sup>2</sup> PAK	IPB083N15N5LF	8.3	5.6
200	D <sup>2</sup> PAK	IPB110N20N3LF	11.0	8.7

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