

## 135-V And 150-V MOSFETs Enable Higher Efficiency In Drives And SMPSs

[Infineon Technologies](#) has added 135-V and 150-V product families to its OptiMOS 6 MOSFET portfolio to meet the requirements of drives and switched-mode power supply (SMPS) applications. These new devices complement the recently released OptiMOS 6 120-V MOSFETs. Part numbers and some key electrical specs are shown below in Tables 1 and 2.

Compared to the previous generation (OptiMOS 5 150 V MOSFETs), the OptiMOS 6 MOSFET families offer a reduction in on-state resistance  $R_{DS(ON)}$  of up to 50%, while the  $FOM_g$  is reduced by 20%. With the very low  $R_{DS(ON)}$ , their improved switching performance and excellent EMI behavior, both new families deliver unparalleled efficiency, power density, and reliability, says the vendor. A faster and softer body diode delivers an up to 59% lower  $Q_{RR}$ , less overshoot and ringing.

Lower switching losses benefit applications like server SMPS, solar optimizers, high-power USB chargers, and telecom. Improved conduction losses are highly beneficial for motor inverters in e-forklifts and light electric vehicles (LEVs).












The OptiMOS 6 135-V and 150-V MOSFETs are available in a variety of packages to provide customers with a range of options. This package portfolio includes TO-220, D<sup>2</sup>PAK 3-pin, D<sup>2</sup>PAK 7-pin, TOLL, TOLG, TOLT, SuperS08 5 x 6 and PQFN 3.3 x 3.3.

These MOSFETs can be ordered now. For more information, see the [OptiMOS 6 power MOSFET 135 V](#) and [OptiMOS 6 power MOSFET 150 V](#) pages.

Table 1. Key electrical specs for the 135-V OptiMOS 6 MOSFET family.

Product	OPN	Product Status	Order online	Package	Infineon Package name	$V_{BRSS\ max}$	$R_{DS(ON)}$ @10V max
D2PAK 7pin (TO-263 7pin)							
> <a href="#">IPF021N13NM6</a>	IPF021N13NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	D2PAK 7pin (TO-263 7pin)	> <a href="#">PG-TO263-7</a>	135 V	2.1 mΩ
> <a href="#">IPF031N13NM6</a>	IPF031N13NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	D2PAK 7pin (TO-263 7pin)	> <a href="#">PG-TO263-7</a>	135 V	3.1 mΩ
PQFN							
> <a href="#">ISZ143N13NM6</a>	ISZ143N13NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	PQFN 3.3 x 3.3 Fused Le...	> <a href="#">PG-TSDSON-8</a>	135 V	14.3 mΩ
SuperS08							
> <a href="#">ISC046N13NM6</a>	ISC046N13NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	SuperS08 5x6	> <a href="#">PG-TDSON-8</a>	135 V	4.6 mΩ
> <a href="#">ISC037N13NM6</a>	ISC037N13NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	SuperS08 5x6	> <a href="#">PG-TSON-8</a>	135 V	3.7 mΩ
TO-220							
> <a href="#">IPP073N13NM6</a>	IPP073N13NM6AKSA1	active and preferred	<a href="#">Buy Online</a>	TO-220	> <a href="#">PG-TO220-3</a>	135 V	7.3 mΩ
TO-Leadless (HSOF-8)							
> <a href="#">IPT020N13NM6</a>	IPT020N13NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	TOLL (HSOF-8)	> <a href="#">PG-HSOF-8</a>	135 V	2 mΩ
TOLG (HSOG-8)							
> <a href="#">IPTG029N13NM6</a>	IPTG029N13NM6ATM...	active and preferred	<a href="#">Buy Online</a>	TOLG (HSOG-8)	> <a href="#">PG-HSOG-8</a>	135 V	2.9 mΩ
> <a href="#">IPTG020N13NM6</a>	IPTG020N13NM6ATM...	active and preferred	<a href="#">Buy Online</a>	TOLG (HSOG-8)	> <a href="#">PG-HSOG-8</a>	135 V	2 mΩ
TOLT (HDSOP-16)							
> <a href="#">IPTC020N13NM6</a>	IPTC020N13NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	TOLT (HDSOP-16)	> <a href="#">PG-HDSOP-16</a>	135 V	2 mΩ

Table 2. Key electrical specs for the 150-V OptiMOS 6 MOSFET family.

Product	OPN	Product Status	Order online	Package	Infineon Package name	V <sub>BRSS</sub> max	R <sub>DS(on)</sub> @10V max
D2PAK (TO-263)							
> <a href="#">IPB029N15NM6</a>	 IPB029N15NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	D2PAK (TO-263)	> <a href="#">PG-TO263-3</a>	150 V	2.9 mΩ
D2PAK 7pin (TO-263 7pin)							
> <a href="#">IPF026N15NM6</a>	 IPF026N15NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	D2PAK 7pin (TO-263 7pin)	> <a href="#">PG-TO263-7</a>	150 V	2.6 mΩ
PQFN							
> <a href="#">ISZ173N15NM6</a>	 ISZ173N15NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	PQFN 3.3 x 3.3 Fused Le...	> <a href="#">PG-TSDSON-8</a>	150 V	17.3 mΩ
SuperSO8							
> <a href="#">ISC079N15NM6</a>	 ISC079N15NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	SuperSO8 5x6	PG-TDSON-8	150 V	7.9 mΩ
> <a href="#">ISC055N15NM6</a>	 ISC055N15NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	SuperSO8 5x6 FL	> <a href="#">PG-TDSON-8</a>	150 V	5.5 mΩ
> <a href="#">ISC044N15NM6</a>	 ISC044N15NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	SuperSO8 5x6	> <a href="#">PG-TSON-8</a>	150 V	4.4 mΩ
TO-220							
> <a href="#">IPP089N15NM6</a>	 IPP089N15NM6AKSA1	active and preferred	<a href="#">Buy Online</a>	TO-220	> <a href="#">PG-TO220-3</a>	150 V	8.9 mΩ
> <a href="#">IPP029N15NM6</a>	 IPP029N15NM6AKSA1	active and preferred	<a href="#">Buy Online</a>	TO-220	> <a href="#">PG-TO220-3</a>	150 V	2.9 mΩ
TO-Leadless (HSOF-8)							
> <a href="#">IPT025N15NM6</a>	 IPT025N15NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	TOLL (HSOF-8)	> <a href="#">PG-HSOF-8</a>	150 V	2.5 mΩ
TOLG (HSOG-8)							
> <a href="#">IPTG025N15NM6</a>	 IPTG025N15NM6ATM...	active and preferred	<a href="#">Buy Online</a>	TOLG (HSOG-8)	> <a href="#">PG-HSOG-8</a>	150 V	
TOLT (HDSOP-16)							
> <a href="#">IPTC025N15NM6</a>	 IPTC025N15NM6ATMA1	active and preferred	<a href="#">Buy Online</a>	TOLT (HDSOP-16)	> <a href="#">PG-HDSOP-16</a>	150 V	

