

DirectFET® MOSFETs for Switching Applications

Features:

- Industry lowest on-resistance in their respective footprints
- Extremely low package resistance to minimize conduction losses
- Highly efficient dual-sided cooling significantly improves power density, cost and reliability
- Low profile of only 0.7mm
- Devices in small and medium cans optimized for high frequency switching
- L-Can optimized for DC switch applications with improved thermal performance than PQFN in a smaller footprint than a DPAK/D²PAK
- Excellent reliability, RDA rates of only 0.8 ppm
- RoHS compliant, containing no lead or bromide

IR Advantage:

- DirectFET – In production for 7 years
- Industry leader in MOSFET Si technology
- Ultra low R_g and low charge minimizes switching losses
- Integrated monolithic schottky for reduced body-diode related loss

Applications:

- VRM Modules for Servers
- Workstations and mainframes
- Desktops, graphic Cards
- Notebook PCs
- DC Switch Applications(ORing & hot swap)

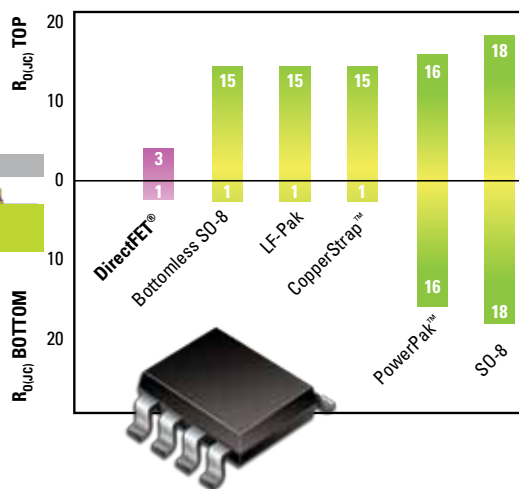
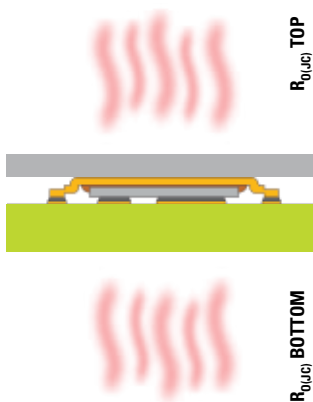
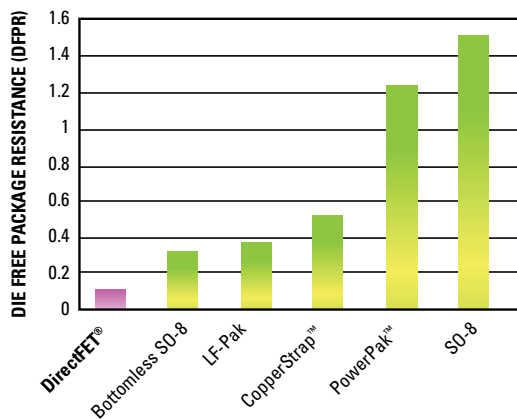


Improve Performance and Efficiency; Reduce System Size and Part Count

IR's DirectFET® MOSFETs are increasingly the preferred solution to reduce energy losses while shrinking the design footprint in advanced switching applications.

The DirectFET® power package is a ground-breaking surface-mount power MOSFET packaging technology. Compared to standard plastic discrete packages, DirectFET's metal can construction enables dual-sided cooling to effectively double the current handling capacity as well as efficiency of high frequency DC-DC buck converters in an S0-8 footprint or smaller.

Moreover, the DirectFET® family features IR's latest generation silicon technology to deliver extremely low R_{DS(on)} and charge to significantly reduce conduction and switching losses and dramatically improve the efficiency of the entire system.



DirectFET – The Optimal Package for DC-DC Applications

- Lowest Die Free Package Resistance for highest efficiency
- Lowest top-side thermal impedance for maximum power density
- Lowest package inductance for minimal parasitic ringing
- No lead frame, no wire bonding, no molding for robust and reliable design

25V DirectFET®s

Part Number	R _{DS(on)} @ 4.5V Typ. (mΩ)	R _{DS(on)} @ 10V Typ. (mΩ)	V _{GS} Max. (V)	Q _G Typ. (nC)	Q _{GD} Typ. (nC)	R _g Typ. (Ω)	AN-1035 Layout Code
IRF6718L2PBF	1.4	0.7	±20	64	20	0.9	L6
IRF6717MTRPBF	1.6	0.95	±20	46	14.0	1.3	MX
IRF6715MTRPBF	2.1	1.3	±20	39	12.0	1.1	MX
IRF6714MTRPBF	2.6	1.6	±20	29	8	1.2	MX
IRF6713STRPBF	3.5	2.2	±20	21	6.3	0.4	SQ
IRF6711STRPBF	5.2	3.0	±20	13	4.4	0.4	SQ
IRF6712STRPBF	6.7	3.8	±20	12	4.0	1.7	SQ
IRF6710S2TRPBF	9	4.5	±20	8.8	3.0	0.3	S1
IRF6709S2TRPBF	10.1	5.9	±20	8.1	2.8	3.2	S1

25V DirectFETKY®

Part Number	R _{DS(on)} @ 4.5V Typ. (mΩ)	R _{DS(on)} @ 10V Typ. (mΩ)	V _{GS} Max. (V)	Q _G Typ. (nC)	Q _{GD} Typ. (nC)	R _g Typ. (Ω)	AN-1035 Layout Code
IRF6798MTRPBF	1.6	0.95	±20	50	16	0.3	MX
IRF6797MTRPBF	1.8	1.1	±20	45	13	1.3	MX
IRF6795MTRPBF	2.4	1.4	±20	35	10	1.3	MX

30V DirectFET®s

Part Number	Function	R _{DS(on)} @ 4.5V Typ. (mΩ)	R _{DS(on)} @ 10V Typ. (mΩ)	V _{GS} Max. (V)	Q _G Typ. (nC)	Q _{GD} Typ. (nC)	Q _{SW} (nC)	Pad Outline Code
IRF6723M2D	Dual Q1	11.0	8.6	±20	9	3.3	4.5	MA
IRF6720S2	Q1	12.8	9.8	±20	7.9	2.8	3.7	S1
IRF6721S	Q1	10.9	8.5	±20	11	3.7	4.9	SQ
IRF6729M	FetKY Q2	2.7	2.2	±20	42	14	19	MX
IRF6727M	Q2	2.4	1.8	±20	49	16	21	MX
IRF6725M	Q2	3.2	2.4	±20	36	11	15	MX