

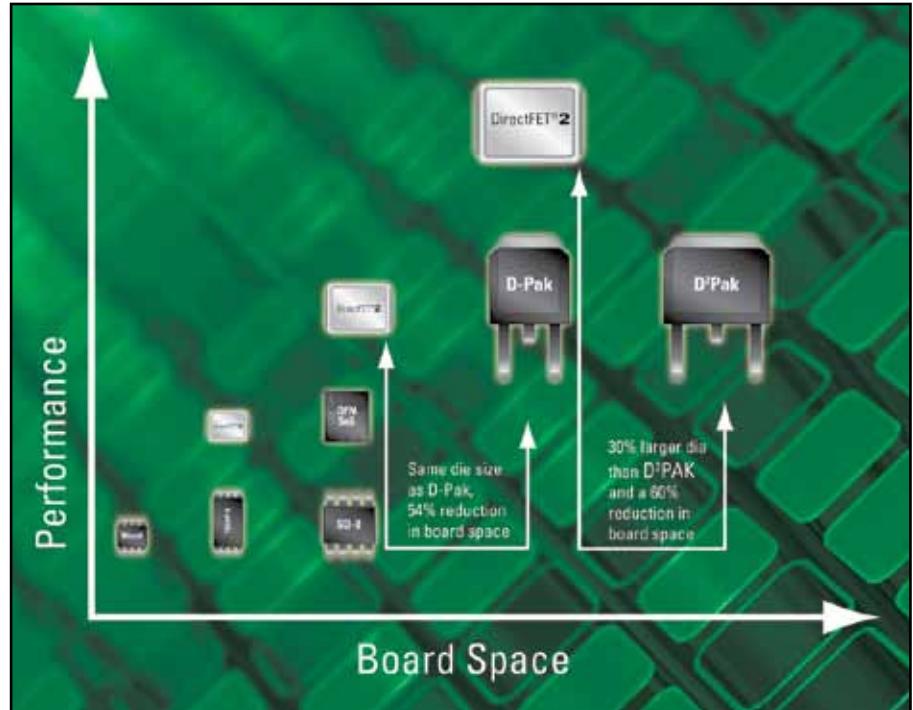
Automotive DirectFET[®]2 Product Platform

Features:

- Automotive Qualified to AEC Q101
- Exceptional power density
- Low parasitic inductance
- Double-sided cooling
- Autoclave capable
- MSL1 Rated
- New large can: 60% area reduction, with improved $R_{DS(on)}$ compared to best-in-class D²Pak
- Voltage ratings up to 250V
- Standardized pad outlines allowing for easy system scalability

Applications:

- Injection
- DC-DC
- Motor Drive
- Battery Switch
- Class D
- Steering Systems



Improve Performance and Efficiency; Reduce System Size and Part Count

In 2002, International Rectifier introduced its unique power semiconductor packaging technology with the launch of the DirectFET[®] product line. The DirectFET concept yielded a power package with vastly improved performance when compared to traditional plastic power packages. Since that time IR has undertaken extensive research and development to produce the DirectFET[®]2 platform, specifically aimed at Automotive applications. The new Automotive DirectFET[®]2 product platform combines the outstanding performance of the DirectFET packaging technology with IR's latest trench silicon which can be optimized by application for next-generation vehicle platforms for ultra-low on-state resistance ($R_{DS(on)}$), gate charge (Q_g) or logic level operation.



Small Can



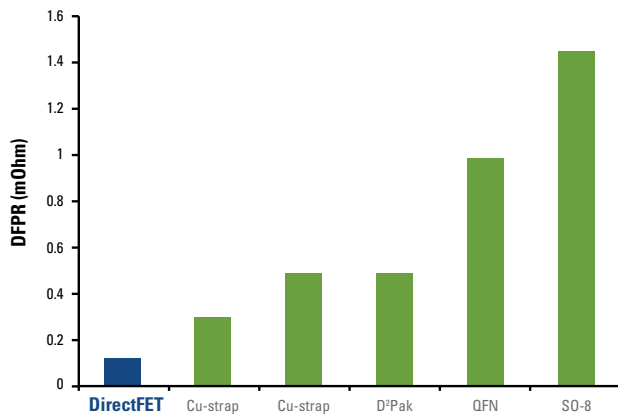
Medium Can



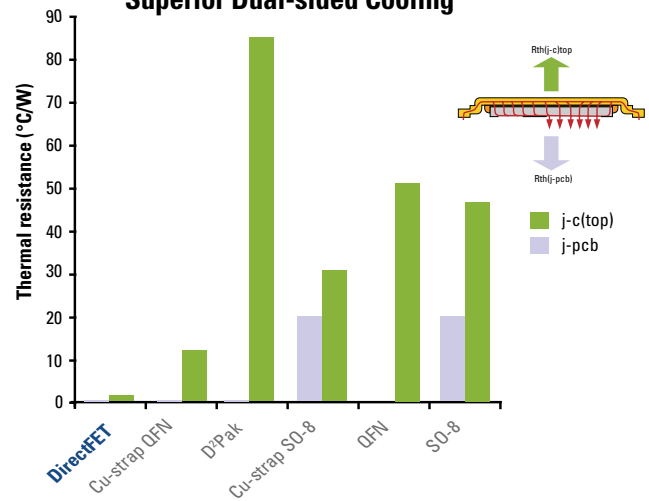
Large Can

Improve Performance and Efficiency; Reduce System Size and Part Count

Lowest Die Free Package Resistance

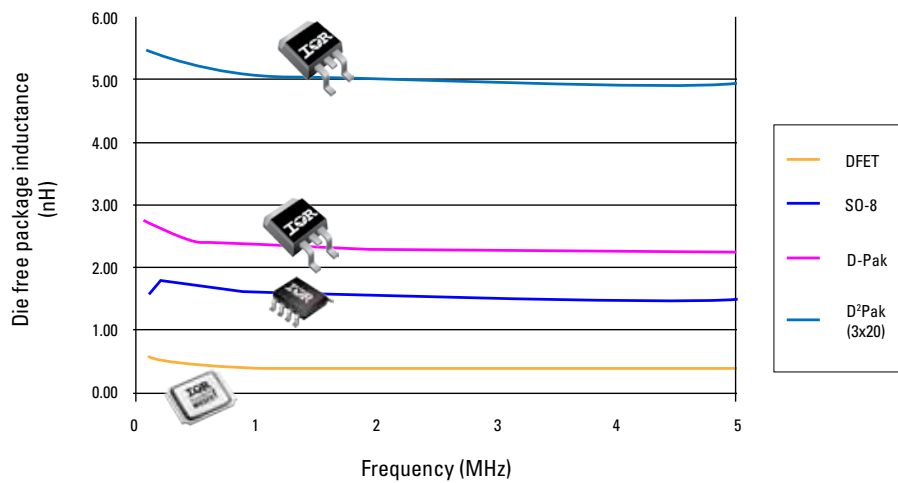


Superior Dual-sided Cooling

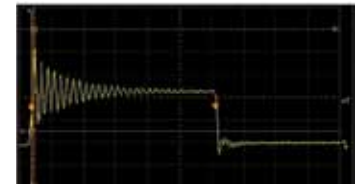


Reduced parasitic inductance and ringing for improved EMI performance

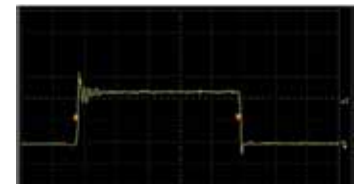
Die free package inductance versus frequency



SO-8



DirectFET®2



$V_{(BRIDSS)}$ (V)	$R_{DS(on)}$ Max. @ 10V _{GS} (mOhm)	$R_{DS(on)}$ Max. @ 4.5V _{GS} (mOhm)	I_D Max @ TC = 25°C (A)	Q_g Typ. @ 10V _{GS} (nC)	Q_g Typ. @ 4.5V _{GS} (nC)	Pad Outline	Optimized Feature	Package		
								Small Can	Medium Can	Large Can
40	1.0		270	220		L8	Low $R_{DS(on)}$			AUIRF7739L2
40	1.6		210	147		L6	Low $R_{DS(on)}$			AUIRF7738L2
40	1.9		156	89		L6	Low $R_{DS(on)}$			AUIRF7737L2
40	3.0		108	72		M4	Low $R_{DS(on)}$			AUIRF7736M2
40	4.1	2.9	143		59	M4	Low $R_{DS(on)}$			AUIRL7736M2
40	9.9	6.4	65		24	SC	Low $R_{DS(on)}$	AUIRL7732S2		
60	7.0		68	35		M4	Low Q_g			AUIRF7648M2
60	36.0		21	7		SB	Low Q_g	AUIRF7640S2		
75	1.8		160	200		L8	Low $R_{DS(on)}$			AUIRF7759L2
100	4.4		114	81		L8	Low Q_g			AUIRF7669L2
100	10.0	10.5	51		44	M4	Low $R_{DS(on)}$			AUIRL7766M2
100	31.0		24	14		SC	Low Q_g	AUIRF7647S2		
100	62.0		14	8		SB	Low Q_g	AUIRF7665S2		
150	56.0		18	21		M2	Low Q_g			AUIRF7675M2
250	32.0		35	110		L8	Low $R_{DS(on)}$			AUIRF7799L2