



产品简介

600 V CoolMOS™ CFD7 SJ MOSFET

英飞凌对谐振高功率拓扑结构的解答

600 V CoolMOS™ CFD7是英飞凌最新的高压超级结MOSFET技术,它集成了快速体二极管,补全了CoolMOS™ 7系列。它是 高功率SMPS应用(如服务器、电信 和EV充电站)中的谐振拓扑结构的理想选择。

新的CoolMOS™ CFD7是CoolMOS™ CFD2系列的后继产品。与竞争对手相比, CoolMOS™ CFD7 降低了门极电荷(Q_g),改善了关断行为,反向恢复 电荷(Q_{rr})降低了高达69%,而且 反向恢复时间(t_{rr})在业内上是最短的。由于这些特性, CoolMOS™ CFD7 在诸如LLC和ZVS相移全桥之类的软开关拓扑中提供了最高的效率和 一流的可靠性。此外,由于优化了的 $R_{DS(on)}$, CoolMOS™ CFD7可实现更高的功率密度。

所有这些最新的快速体二极管系列 通过将快速开关技术的优点与卓越的换向稳健性结合在一起,并保持在设计过程中的易实现性,所以与竞争对手产品相比,具有明显的优势。

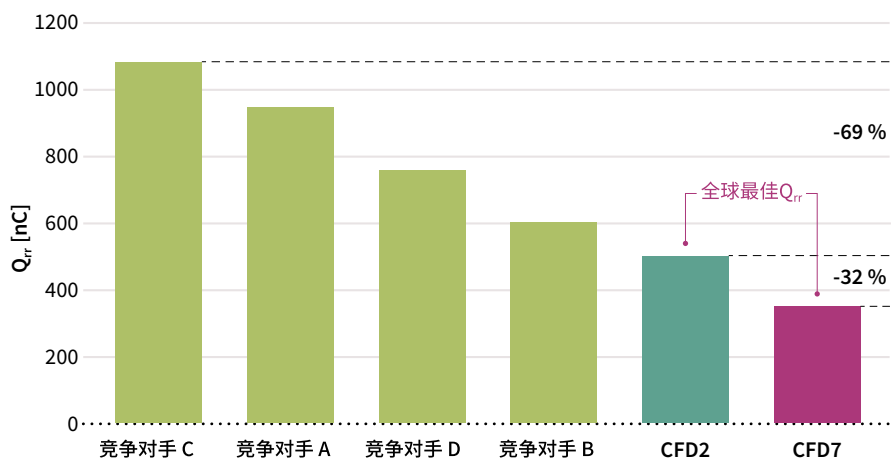
主要特性

- > 超快速体二极管
- > 一流的反向恢复 电荷(Q_{rr})
- > 改进的反向二极管dv/dt和 dif/dt 耐久性
- > 极低的FOM $R_{DS(on)} \times Q_g$ 和 E_{oss}
- > 一流的 $R_{DS(on)}$ /封装 结合

主要优势

- > 一流的硬换向 稳健性
- > 在于谐振拓扑结构中具有最高 可靠性
- > 高效率与杰出的易用性 /性能的平衡
- > 提升的功率密度 解决方案

170 mΩ CFD与190 mΩ范围内的竞争对手产品的 Q_{rr} 比较*



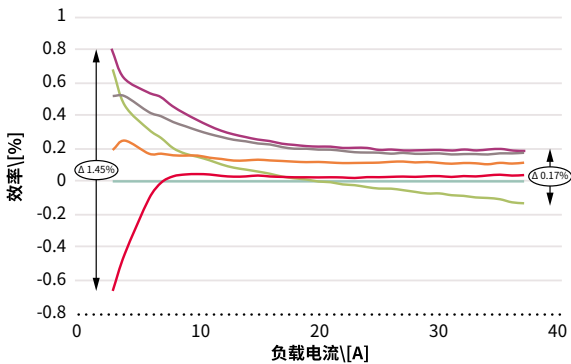
*基于数据表中值的对比

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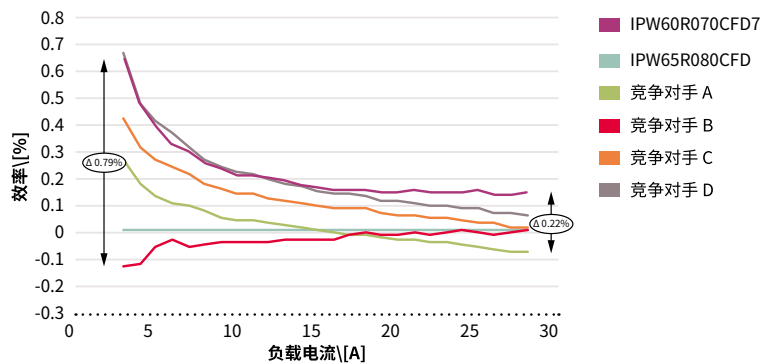
英飞凌对谐振高功率拓扑结构的解答

以下显示的应用测量结果表明,最新的CoolMOS™ CFD7系列功能在谐振开关拓扑结构中可显著提高效率。CoolMOS™ CFD7与市场的主要竞争对手相比,能效可增加高达1.45%,而且超出目标应用的要求。

CFD7与CFD2及竞争对手在2 kW ZVS中的效率比较



CFD7与CFD2及竞争对手在3 kW LLC中的效率比较



600 V CoolMOS™ CFD7产品系列

$R_{DS(on)}$ max. [mΩ]	TO-263 D ² PAK	TO-252 DPAK	ThinPAK 8x8	TO-220	TO-220 FullPAK	TO-247
360	IPB60R360CFD7	IPD60R360CFD7		IPP60R360CFD7	IPA60R360CFD7	
280	IPB60R280CFD7	IPD60R280CFD7		IPP60R280CFD7	IPA60R280CFD7	
210/215	IPB60R210CFD7	IPD60R210CFD7	IPL60R215CFD7	IPP60R210CFD7	IPA60R210CFD7	
170/185	IPB60R170CFD7	IPD60R170CFD7	IPL60R185CFD7	IPP60R170CFD7	IPA60R170CFD7	IPW60R170CFD7
145/160	IPB60R145CFD7	IPD60R145CFD7	IPL60R160CFD7	IPP60R145CFD7	IPA60R145CFD7	IPW60R145CFD7
125/140	IPB60R125CFD7		IPL60R140CFD7	IPP60R125CFD7	IPA60R125CFD7	IPW60R125CFD7
105/115	IPB60R105CFD7		IPL60R115CFD7	IPP60R105CFD7		IPW60R105CFD7
90/95	IPB60R090CFD7		IPL60R095CFD7	IPP60R090CFD7		IPW60R090CFD7
70/75	IPB60R070CFD7		IPL60R075CFD7	IPP60R070CFD7		IPW60R070CFD7
55/60			IPL60R060CFD7			IPW60R055CFD7
40						IPW60R040CFD7
31						IPW60R031CFD7
24						IPW60R024CFD7
18						IPW60R018CFD7

■ 生产中 ■ 即将推出

通过将600 V CoolMOS™ CFD7与2EDN EiceDRIVER™系列相结合,英飞凌为高功率设计提供了优化的系统解决方案。有关更多信息,请访问:www.infineon.com/edn



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