



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。

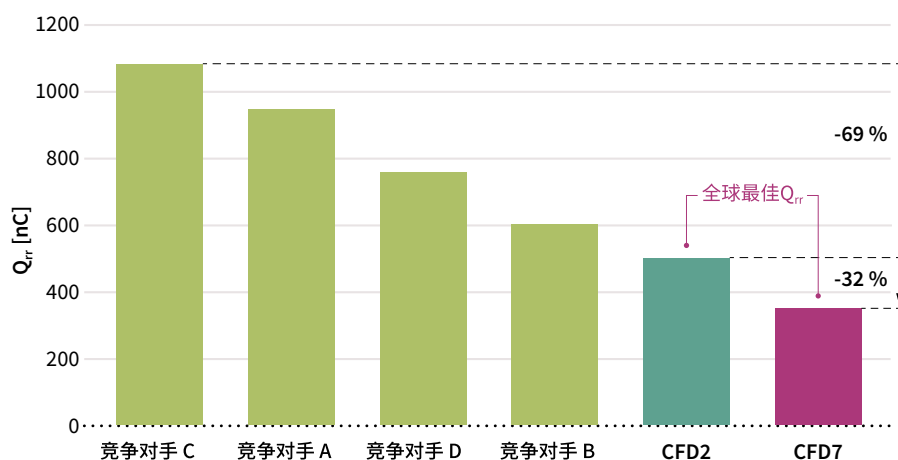
主要特性

- > 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dI/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*



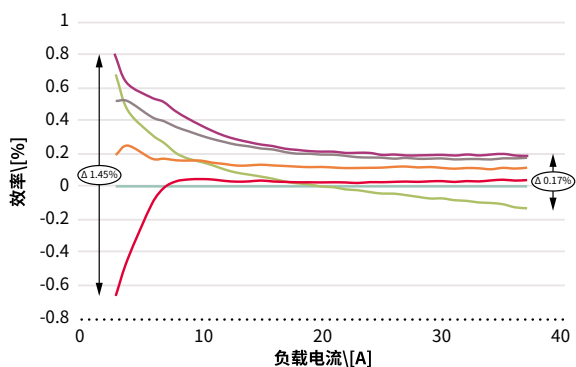
*基于数据表中值的对比

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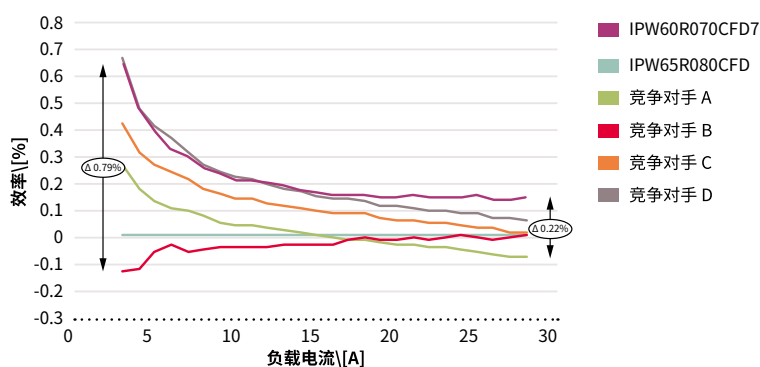
英飞凌对谐振高功率拓扑结构的解答

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	
210/225	IPB60R210CFD7	IPD60R210CFD7	IPL60R225CFD7	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	IPB60R055CFD7		IPL60R060CFD7			IPW60R055CFD7
40	IPB60R040CFD7					IPW60R040CFD7
31						IPW60R031CFD7
24						IPW60R024CFD7
18						IPW60R018CFD7

■ 可用的 ■ 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



Published by
Infineon Technologies Austria AG
9500 Villach, Austria

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