



产品简介

700 V CoolMOS™ P7系列

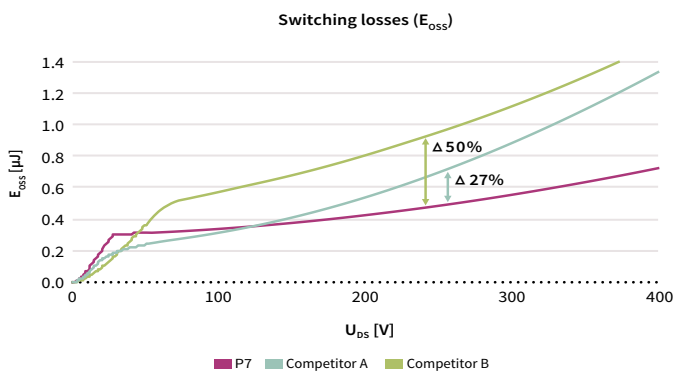
英飞凌对反激式拓扑结构的解答

专门针对当前以及未来的反激式拓扑结构趋势而研发 – 新型700 V CoolMOS™ P7系列旨在主攻手机充电器或和笔记本电脑适配器等低功耗SMPS市场, 与当今使用的超级结技术相比, 它可提供显著的性能提升。

通过结合客户反馈和20多年的超级结MOSFET经验, 700 V CoolMOS™ P7在以下方面有着显著的优点:

- › 效率和散热
- › 易用性
- › EMI行为

与竞争产品相比, 新型CoolMOS™ P7将开关损耗(E_{oss})降低27%到50%, 效率提升3.9%, 更令人印象深刻的是将器件温度降低16 K。与以前的650 V CoolMOS™ C6相比, 在基于反激式的充电器应用中, 如果系统的开关速度为140 kHz, P7将效率提升2.4%并将器件温度降低12 K。



为了将抵抗ESD能力提升到HBM 2级, 700 V CoolMOS™ P7自身集成Zener二极管。有助于提高组装良率, 减少生产相关的故障并最终节省制造成本。

英飞凌在开发过程中始终牢记易用性, 因此该技术采用优异的3 V $V_{GS(th)}$ 和±0.5 V偏差。使得P7很容易实现设计导入并且可以使用较低的栅源电压, 这使得P7更容易驱动并且减小待机损耗。

主要特性

- › 极低的FOM $R_{DS(on)} \times E_{oss}$; 较低的 Q_g , E_o 和 E_{off}
- › 高性能技术
 - 低开关损耗(E_{oss})
 - 高效
 - 杰出的散热性
- › 允许高速开关
- › 集成Zener二极管
- › 优化的3V $V_{GS(th)}$, ±0.5 V的偏差
- › 精细的产品组合

主要优势

- › 富有成本竞争力的技术
- › 与C6技术相比, 效率提升高达2.4%, 且器件温度降低12 K
- › 在较高的开关速度下, 效率进一步提升
- › 支持更小的磁性器件尺寸从而降低成本
- › 抗ESD能力高达HBM 2级水平
- › 容易驱动和设计导入
- › 可以实现小体积和高功率密度设计
- › 容易选择最合适的产品

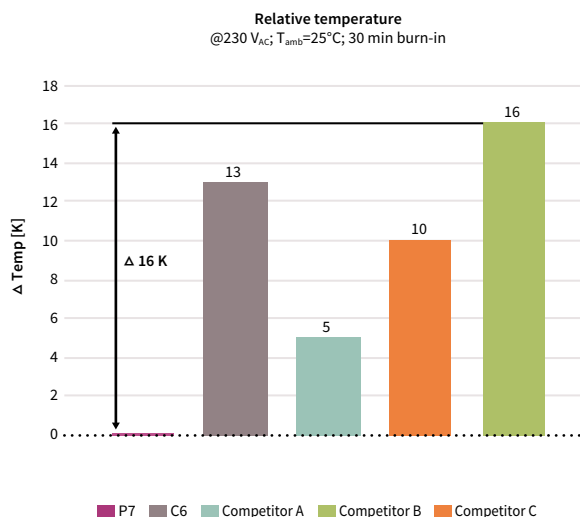
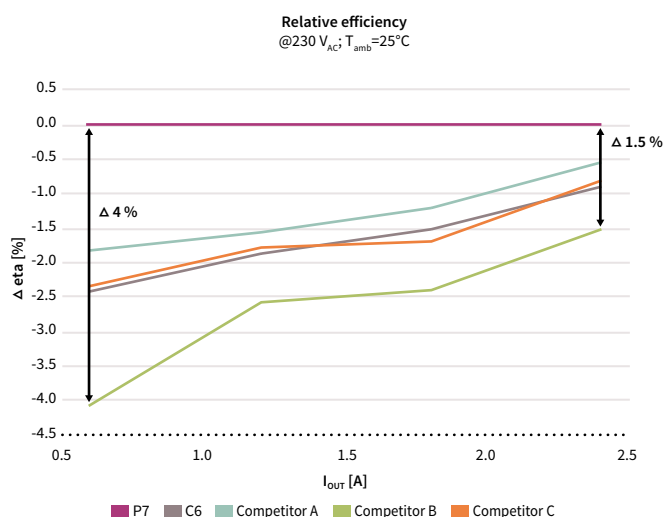


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在高端12 W充电器上即插即用对比

与竞争对手产品相比, 700 V CoolMOS™ P7可将效率提升高达4%, 器件温度降低最多16 K。



这些测量数据有力的证明700 V CoolMOS™ P7是高功率和小体积设计的正确选择。它能实现最佳的产品性能, 并且在高频下效果更明显。

700 V CoolMOS™ P7细分组合

| ESD class | | R _{DS(on)} [mΩ] | TO-220 FullPAK | TO-220 FullPAK Narrow Lead | TO-252 DPAK | TO-251 IPAK Short Lead | TO-251 IPAK Short Lead with ISO Standoff | SOT-223 |
|-------------------|--------------------|--------------------------|----------------|----------------------------|--------------|------------------------|--|--------------|
| CDM | HBM | | | | | | | |
| Class C3 ≥1 kV | Class 1C 1-2 kV | 2000 | | | | | IPSA70R2K0P7S | IPN70R2K0P7S |
| | | 1400 | | | IPD70R1K4P7S | IPS70R1K4P7S | IPSA70R1K4P7S | IPN70R1K4P7S |
| | | 1200 | | | | | IPSA70R1K2P7S | IPN70R1K2P7S |
| | | 900 | IPA70R900P7S | IPAN70R900P7S | IPD70R900P7S | IPS70R900P7S | IPSA70R900P7S | IPN70R900P7S |
| | Class 2 2-4 kV | 750 | IPA70R750P7S | IPAN70R750P7S | | | IPSA70R750P7S | IPN70R750P7S |
| | | 600 | IPA70R600P7S | IPAN70R600P7S | IPD70R600P7S | IPS70R600P7S | IPSA70R600P7S | IPN70R600P7S |
| | | 450 | IPA70R450P7S | IPAN70R450P7S | | | IPSA70R450P7S | IPN70R450P7S |
| | | 360 | IPA70R360P7S | IPAN70R360P7S | IPD70R360P7S | IPS70R360P7S | IPSA70R360P7S | IPN70R360P7S |
| 生产中 | | 下一波* | | | | | | |

*即将即将

Published by
Infineon Technologies Austria AG
9500 Villach, Austria

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