



# THE DATASHEET OF IPA65R650CEXKSA1





## Product Brief

# CoolMOS™ CE

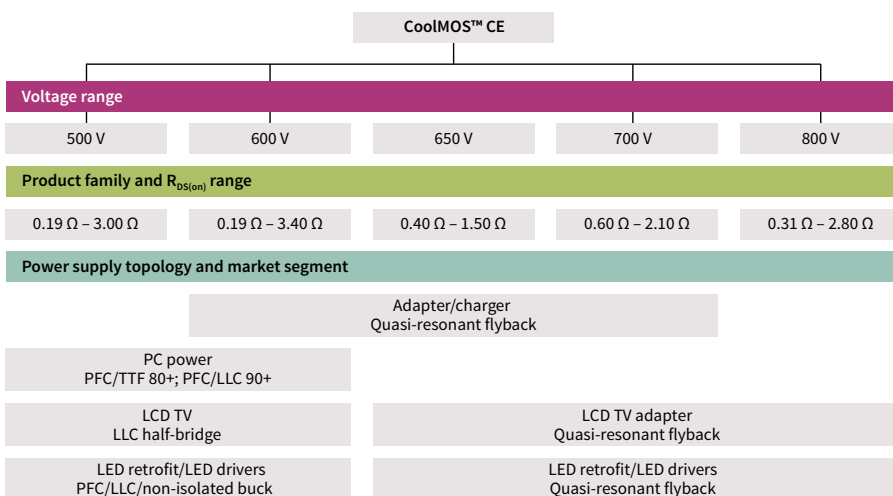
Best price/performance SJ for consumer and lighting applications

CoolMOS™ CE is a technology platform of Infineon's market leading high voltage power MOSFET designed according to the superjunction principle (SJ) and conceived to fulfill consumer requirements. With the extended family, Infineon offers now 500 V, 600 V, 650 V, 700 V and 800 V devices targeting low power chargers for mobile devices and power tools, LCD, LED TV and LED lighting applications.

This series of CoolMOS™ is cost optimized to meet typical requirements in consumer with no compromise on proven CoolMOS™ quality and reliability while still price attractive.

CoolMOS™ CE is suitable for hard and soft switching applications and as modern SJ, it delivers low conduction and switching losses improving efficiency and ultimately reduces power consumption. CoolMOS™ CE ease-of-use enables customers to reduce the design-in cycle and compete in dynamic markets.

### CoolMOS™ CE targets a broad range of consumer and lighting applications



### Main features

#### Thermal behavior

- >  $\leq 90^\circ\text{C}$  on device, open case
- >  $\leq 50^\circ\text{C}/70^\circ\text{C}$  close case temperature
- > EMI within EN55022B standard
- > Ease-of-use and fast design-in

### Key benefits

- > Low conduction losses from large margin between  $R_{DS(on)}$  typical to nominal
- > Low switching losses from optimized output capacitance ( $E_{oss}$ )
- > Optimized EMI to balance switching speed and EMI behavior
- > Good controllability given the integrated  $R_G$

### Applications

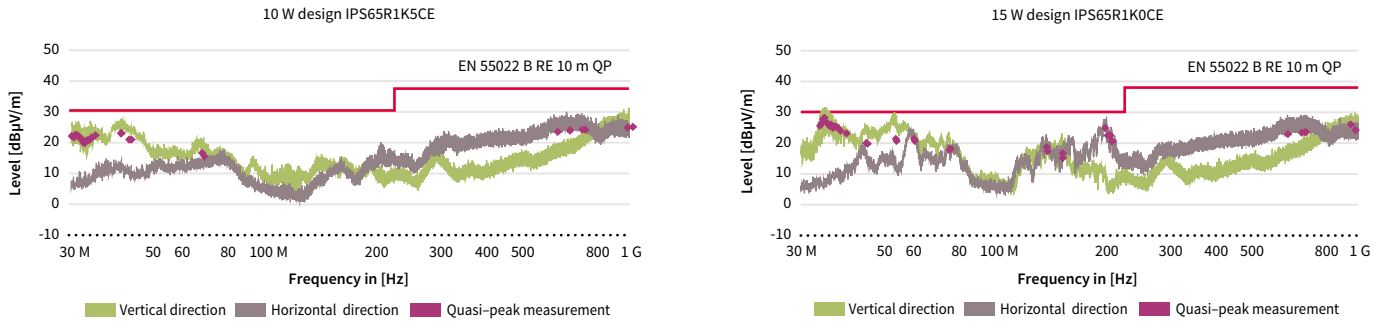
- > Low power chargers
- > Adapters
- > PC power
- > LCD TV
- > LED retrofit
- > LED drivers



# CoolMOS™ CE

Best price/performance SJ for consumer and lighting applications

## CoolMOS™ CE EMI performance in low power chargers for mobile devices



CoolMOS™ CE meets the EMI quasi-peak requirement in both 10 W and 15 W chargers

## Product portfolio

$R_{DS(on)}$ [mΩ]	TO-220 FullPAK	TO-220	TO-252 DPAK	TO-251 IPAK	TO-247	SOT-223	TO-220 FullPAK Narrow Lead
3000			IPD50R3K0CE	IPU50R3K0CE		IPN50R3K0CE	
2000			IPD50R2K0CE	IPU50R2K0CE		IPN50R2K0CE	
1400			IPD50R1K4CE	IPU50R1K4CE		IPN50R1K4CE	
950	IPA50R950CE		IPD50R950CE	IPU50R950CE		IPN50R950CE	
800	IPA50R800CE		IPD50R800CE			IPN50R800CE	
650	IPA50R650CE		IPD50R650CE			IPN50R650CE	
500	IPA50R500CE	IPP50R500CE	IPD50R500CE				IPAN50R500CE
380	IPA50R380CE	IPP50R380CE	IPD50R380CE				
280	IPA50R280CE	IPP50R280CE	IPD50R280CE		IPW50R280CE		
190	IPA50R190CE	IPP50R190CE			IPW50R190CE		

$R_{DS(on)}$ [mΩ]	TO-220 FullPAK	TO-252 DPAK	TO-251 IPAK Short Lead	TO-251 IPAK	SOT-223	TO-220 FullPAK Wide Creepage	TO-220 FullPAK Narrow Lead
3300		IPD60R3K4CE	IPS60R3K4CE	IPU60R3K4CE	IPN60R3K4CE		
2100		IPD60R2K1CE	IPS60R2K1CE	IPU60R2K1CE	IPN60R2K1CE		
1500	IPA60R1K5CE	IPD60R1K5CE	IPS60R1K5CE	IPU60R1K5CE	IPN60R1K5CE		
1000	IPA60R1K0CE	IPD60R1K0CE	IPS60R1K0CE	IPU60R1K0CE	IPN60R1K0CE		
800	IPA60R800CE	IPD60R800CE	IPS60R800CE				IPAN60R800CE
650/600	IPA60R650CE	IPD60R650CE	IPS60R650CE			IPAW60R600CE	IPAN60R650CE
460	IPA60R460CE	IPD60R460CE	IPS60R460CE				
400/380	IPA60R400CE	IPD60R400CE	IPS60R400CE			IPAW60R380CE	
280						IPAW60R280CE	
190						IPAW60R190CE	

$R_{DS(on)}$ [mΩ]	TO-220 FullPAK	TO-252 DPAK	TO-251 IPAK Short Lead	SOT-223	TO-251 IPAK Short Lead with ISO Standoff	TO-220 FullPAK Wide Creepage
2000/2100		IPD70R2K0CE	IPS70R2K0CE	IPN70R2K0CE	IPSA70R2K0CE	
1400/1500		IPD70R1K4CE	IPS70R1K4CE	IPN70R1K4CE	IPSA70R1K4CE	
1000				IPN70R1K0CE		
950	IPi70R950CE	IPD70R950CE	IPS70R950CE		IPSA70R950CE	IPAW70R950CE
600		IPD70R600CE	IPS70R600CE		IPSA70R600CE	IPAW70R600CE

$R_{DS(on)}$ [mΩ]	TO-220 FullPAK	TO-252 DPAK	TO-251 IPAK Short Lead	SOT-223	TO-220 FullPAK Narrow Lead
1500	IPA65R1K5CE	IPD65R1K5CE	IPS65R1K5CE	IPN65R1K5CE	
1000	IPA65R1K0CE	IPD65R1K0CE	IPS65R1K0CE		
650	IPA65R650CE	IPD65R650CE	IPS65R650CE		IPAN65R650CE
400	IPA65R400CE	IPD65R400CE	IPS65R400CE		

$R_{DS(on)}$ [mΩ]	TO-220 FullPAK	TO-252 DPAK	TO-251 IPAK
2800		IPD80R2K8CE	IPU80R2K8CE
1400	IPA80R1K4CE	IPD80R1K4CE	IPU80R1K4CE
1000	IPA80R1K0CE	IPD80R1K0CE	IPU80R1K0CE
650	IPA80R650CE		
460	IPA80R460CE		
310	IPA80R310CE		

Published by  
Infineon Technologies Austria AG  
9500 Villach, Austria

© 2017 Infineon Technologies AG.  
All Rights Reserved.

### Please note!

THIS DOCUMENT IS FOR INFORMATION PURPOSES ONLY AND ANY INFORMATION GIVEN HEREIN SHALL IN NO EVENT BE REGARDED AS A WARRANTY, GUARANTEE OR DESCRIPTION OF ANY FUNCTIONALITY, CONDITIONS AND/OR QUALITY OF OUR PRODUCTS OR ANY SUITABILITY FOR A PARTICULAR PURPOSE. WITH REGARD TO THE TECHNICAL SPECIFICATIONS OF OUR PRODUCTS, WE KINDLY ASK YOU TO REFER TO THE RELEVANT PRODUCT DATA SHEETS PROVIDED BY US. OUR CUSTOMERS AND THEIR TECHNICAL DEPARTMENTS ARE REQUIRED TO EVALUATE THE SUITABILITY OF OUR PRODUCTS FOR THE INTENDED APPLICATION.

WE RESERVE THE RIGHT TO CHANGE THIS DOCUMENT AND/OR THE INFORMATION GIVEN HEREIN AT ANY TIME.

### Additional information

For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices please contact your nearest Infineon Technologies office ([www.infineon.com](http://www.infineon.com)).

### Warnings

Due to technical requirements, our products may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any life endangering applications, including but not limited to medical, nuclear, military, life critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- ⊖ [View IPA65R650CEXKSA1 on WIN SOURCE](#)
- ⊖ [Infineon Technologies Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management