

650V CoolMOS™ C6/E6 Power MOSFET

Affordable Energy Efficient Power MOSFETs optimized for Adapter

The new 650V CoolMOS™ C6/E6 series combine our experience as the leading SJ MOSFET supplier with best-in-class innovation. Moreover, C6/E6 have the best price / performance ratio on today's market. The new C6/E6 devices provide all benefits of fast switching SJ MOSFETs while not sacrificing ease of use. C6/E6 achieve extremely low conduction and switching losses and can make switching applications more efficient, more compact, lighter and cooler. The C6 devices have been optimized for ease of use – the E6 devices have been optimized for highest efficiency in DCM applications.

Features

- Low area specific on-state resistance ($R_{on} * A$)
- Low energy storage in output capacitance (E_{oss})
- High body diode ruggedness
- Low reverse recovery charge (Q_{rr})

Benefits

- Easy control of switching behavior
- Better light load efficiency compared to C3
- Outstanding reliability with proven CoolMOS™ quality combined with high body diode ruggedness
- Lower price compared to previous CoolMOS™ generations
- More efficient, more compact, lighter and cooler

Applications

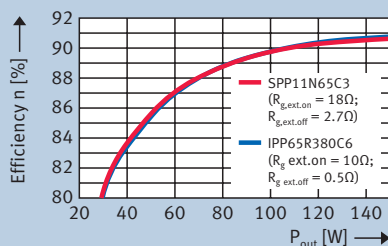
- Adapter
- PFC stages for Server & Telecom
- Solar

Efficiency comparison 650V CoolMOS™ C6 versus 650V CoolMOS™ C3:

DCM PFC stage, 150W, AC in 90V

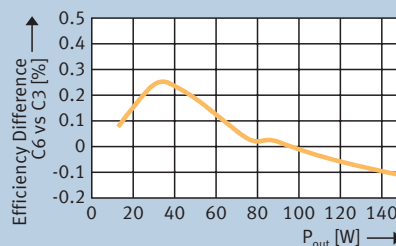
$R_{g, on} C3 = 18\Omega$ $R_{g, off} C3 = 2.7\Omega$

$R_{g, on} C6 = 10\Omega$ $R_{g, off} C6 = 0.5\Omega$



1x IPP65R380C6

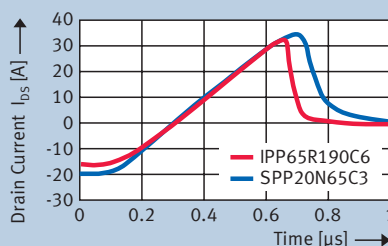
1x SPP11N65C3



Best price performance ratio, ease of use and good efficiency especially in light load conditions make 650V CoolMOS™ C6 the right choice for hard switching applications.

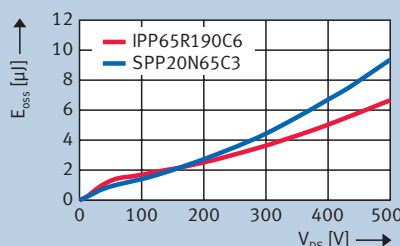
Hard commutation of body diode:

C6 shows less reverse recovery charge than C3



CoolMOS™ C6 shows

the best Figure-of-merit $R_{on} * E_{oss}$









Low energy stored in output capacitance and hard commutation ruggedness make CoolMOS™ C6 the right choice for resonant switching applications.

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650V CoolMOS™ C6 Portfolio

						
R _{DS(on)} [mΩ]	DPAK (TO-252)	I ² PAK (TO-262)	D ² PAK (TO-263)	TO-220	TO-220 FullPAK	TO-247
600	IPD65R600C6 ¹⁾	IPI65R600C6 ¹⁾	IPB65R600C6 ¹⁾	IPP65R600C6 ¹⁾	IPA65R600C6 ¹⁾	
380	IPD65R380C6 ¹⁾	IPI65R380C6 ¹⁾	IPB65R380C6 ¹⁾	IPP65R380C6 ¹⁾	IPA65R380C6 ¹⁾	
280		IPI65R280C6 ¹⁾	IPB65R280C6 ¹⁾	IPP65R280C6 ¹⁾	IPA65R280C6 ¹⁾	IPW65R280C6 ¹⁾
190		IPI65R190C6 ²⁾	IPB65R190C6 ²⁾	IPP65R190C6 ²⁾	IPA65R190C6 ²⁾	IPW65R190C6 ²⁾
99				IPP65R099C6 ³⁾	IPA65R099C6 ³⁾	IPW65R099C6 ³⁾
70						IPW65R070C6 ³⁾
37						IPW65R037C6 ³⁾

- 1) Available Q3 2010
- 2) Available Q4 2010
- 3) Available Q1 2011

650V CoolMOS™ E6 Portfolio

					
R _{DS(on)} [mΩ]	DPAK (TO-252)	TO-220	TO-220 FullPAK	TO-247	ThinPAK 8x8
600	IPD65R600E6 ¹⁾	IPP65R600E6 ¹⁾	IPA65R600E6 ¹⁾		IPL65R600E6 ³⁾
380	IPD65R380E6 ¹⁾	IPP65R380E6 ¹⁾	IPA65R380E6 ¹⁾		IPL65R380E6 ³⁾
280		IPP65R280E6 ¹⁾	IPA65R280E6 ¹⁾	IPW65R280E6 ¹⁾	IPL65R280E6 ³⁾
190		IPP65R190E6 ²⁾	IPA65R190E6 ²⁾	IPW65R190E6 ²⁾	IPL65R190E6 ³⁾

- 1) Available Q3 2010
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- 3) Available Q1 2011



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