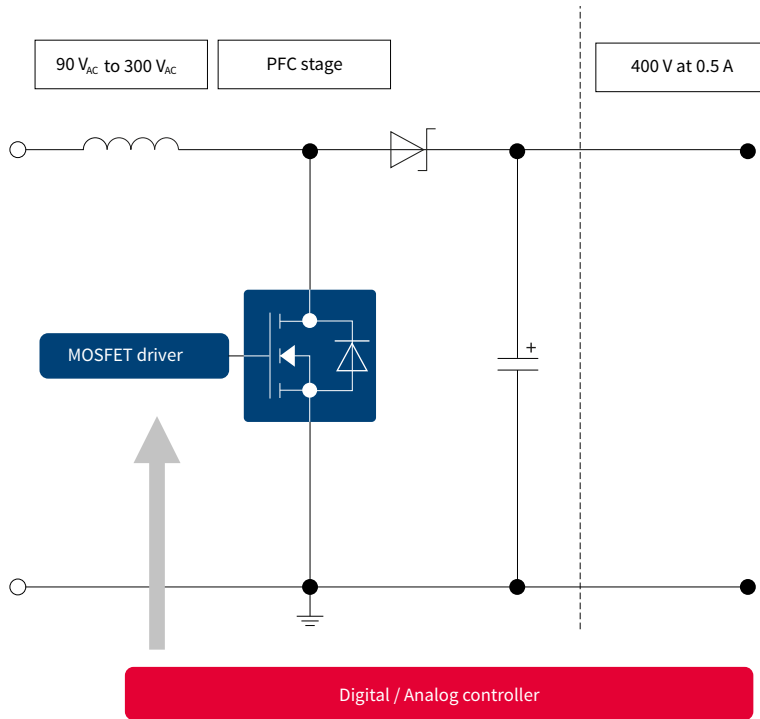


CoolMOS™ CE – target topologies

Single switch topologies – Boost/PFC

Typically used in high power adapter, PC power, TV power supply front-end



Design equations for MOSFET selection
$V_{DS} = V_{out}$
$I_D = I_{out} * 1 / (1-D)$
$V_{DS_FET} = 1.5 * V_{DS}$ (with derating for all variables on board)
$R_{DS(on)}$ max. 25°C for acceptable power dissipation in MOSFET package $= (1.5 * P_{device}) / (I_{pk}^2 * D)$. I_{pk} is derated value of I_D to cover all worst case operation conditions. $I_{pk} = 1.5 * I_D$
$P_{device} = (T_j - T_a) / R_{thJA}$

Output power [W]	Input voltage [V]	PFC output load current at 400 V output voltage [A]	CoolMOS™ CE device options
200	85 V _{AC} ...265 V _{AC}	0.60	IPx60R400CE*
150	85 V _{AC} ...265 V _{AC}	0.40	IPx60R460CE
100	85 V _{AC} ...265 V _{AC}	0.30	IPx60R650CE
75	85 V _{AC} ...265 V _{AC}	0.20	IPx60R800CE

* Two in parallel