

SpeedFit 2.0 Design Simulator™

**Welcome to
SpeedFit 2.0, the
industry's most
comprehensive
system-level
circuit simulator**

for silicon carbide power applications.

Accelerate the design process with simulation results you can trust. SpeedFit 2.0 quickly calculates losses and estimates junction temperature for power devices based on lab data for common topologies ranging from simple buck and boost converters to a fully bi-directional totem pole PFC with resonant DC/DC converter.

Using SpeedFit 2.0, you can quickly determine:

- The right product for an application
- Comparative performance for different devices
- How the performance with varies Rg
- How many devices need to be paralleled



Learn more at
[wolfspeed.com](https://www.wolfspeed.com)

	Variant 1	Variant 2
Circuit	CLLC - charging	CLLC - charging
Input voltage	380 V	380 V
Output voltage	280 V	280 V
Rated power	3.400 kVA	3.400 kVA
Switching frequency	500 kHz	500 kHz
Deadtime	100.00 ns	100.00 ns

	Variant 1	Variant 2
MOSFET	C3M0030090K Request Sample	C3M0060065K Request Sample
Second MOSFET (CLLC)	C3M0030090K	C3M0060065K
Diode		
Module		
Second Module (CLLC)		
Turn-on gate resistance	2.500	2.500
Turn-off gate resistance	2.500	2.500
Combined Primary MOSFET conduction losses	10.56 W	19.16 W
Combined Primary MOSFET switching losses	35.14 W	11.18 W
Combined Primary MOSFET total losses	45.70 W	30.34 W
Combined Secondary MOSFET conduction losses	10.50 W	22.67 W
Combined Secondary MOSFET switching losses	0 W	0 W
Combined Secondary MOSFET total losses	10.50 W	22.67 W
Combined diode conduction losses	—	—
Combined diode switching total losses	—	—

	Variant 1	Variant 2
Combined diode losses	—	—
Total converter losses	56.20 W	53.01 W
Efficiency	98.35 %	98.43 %
Primary MOSFET junction temperature	62.8 °C	61.3 °C
Secondary MOSFET junction temperature	52.9 °C	58.5 °C
Diode junction temperature	—	—



Simulation powered by PLECS using WebSIM® patented technology



I would like a sales representative to contact me