IPOSIM Steady-State Calculation Report
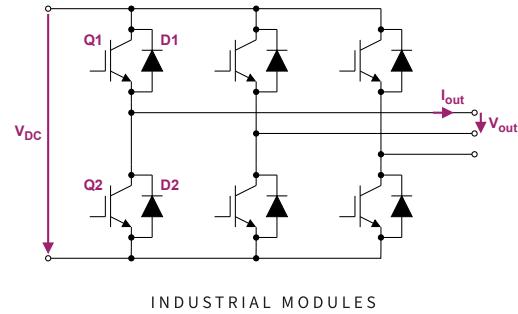
Infineon

Report number: 7d721091-98cb-47cb-9d17-50e4ca88516a

User: davide.bagnara@leitner.com   Feb 3, 2026

Circuit & Control

Modulation algorithm	SVPWM
DC link voltage V_{DC}	1070 V
Output current I_{out}	370 Arms
Output frequency	15.6 Hz
Switching frequency	4000 Hz
Modulation index	0.85
Power factor $\cos(\phi)$	0.8
Output voltage V_{out}	557 V
Reactive power type	Inductive load (lagging) V

INDUSTRIAL MODULES

Three Phase - 2 Level

SWITCH

FF1200R17IP5

IGBT parameters

V_{CEsat}	2.14 V
$E_{on} + E_{off}$	797.90 mWs
T_{vjmax}	175.00 °C
R_{thJC}	0.02 K/W
R_{thCH}	0.02 K/W

Diode parameters

V_F	1.74 V
E_{rec}	244.00 mWs
T_{vjmax}	175.00 °C
R_{thJC}	0.04 K/W
R_{thCH}	0.02 K/W

System parameters

Slew-rate gate control	Deactivated
Switch Q1: R_{Gon}	1.20 Ω
Switch Q1: R_{Goff}	1.20 Ω

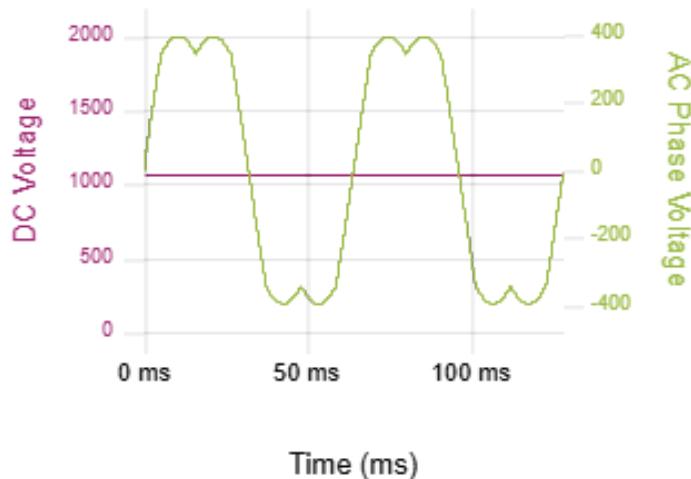#### Cooling conditions

Heatsink model	User defined heatsink	
Ambient temperature T_a	40.00 °C	
Heatsink parameters	$R_{th,h}$ [K/W]	$\tau_{th,h}$ [s]
	0.036	1
	0	1
	0	1
	0	1
	0	1

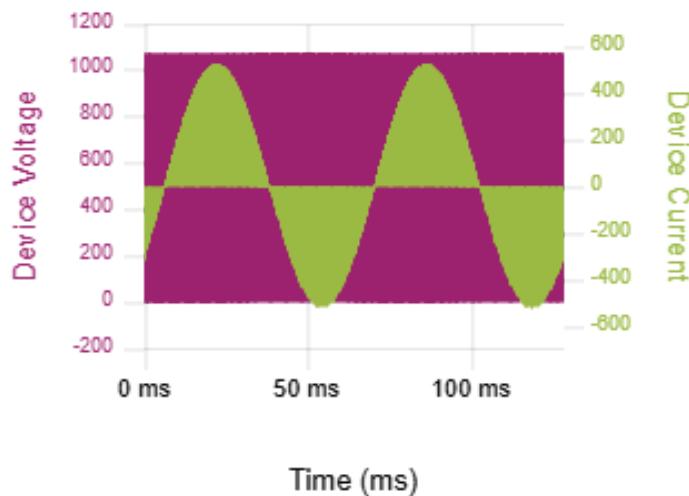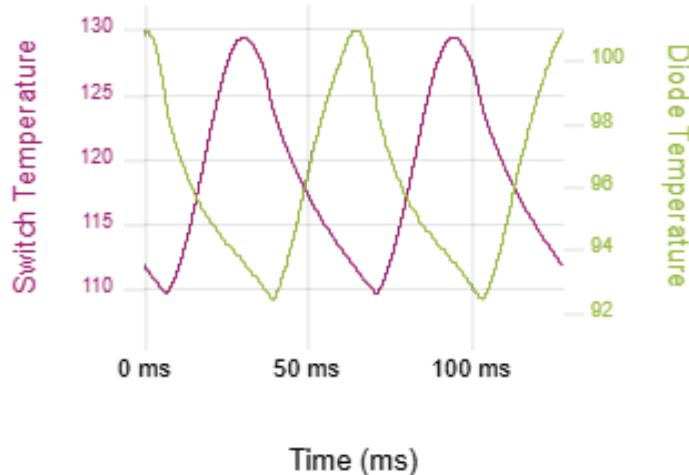|	MAXIMUM JUNCTION TEMPERATURE	CONDUCTION LOSSES	SWITCHING LOSSES	TOTAL LOSSES
SWITCH Q1	129.40 °C	171.30 W	699.20 W	870.50 W
DIODE D1	100.90 °C	43.70 W	188.20 W	231.90 W

System Electrical

System Voltage

Device Electrical

Device Q1 Voltage and Current

Device Thermal

Device Q1 Temperature Ripple

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