IPOSIM Steady-State Calculation Report

Report number: 1a1cf5ea-9a63-471e-97bb-6fdd420f5d24

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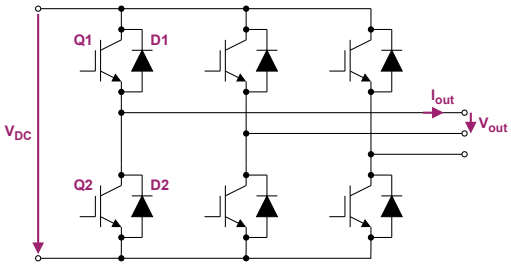
Circuit & Control

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(ϕ)	**-0.8**
Output voltage V_{out}	**557 V**
Reactive power type	**Inductive load (lagging) V**



INDUSTRIAL MODULES

Three Phase - 2 Level

SWITCH

FF650R17IE4

IGBT parameters

V_{CEsat}	**2.35 V**
$E_{on} + E_{off}$	**503.00 mWs**
T_{vjmax}	**150.00 °C**
R_{thJC}	**0.04 K/W**
R_{thCH}	**0.01 K/W**

Diode parameters

V_F	**1.95 V**
E_{rec}	**135.00 mWs**
T_{vjmax}	**150.00 °C**
R_{thJC}	**0.07 K/W**
R_{thCH}	**0.03 K/W**

System parameters

Slew-rate gate control	**Deactivated**
Switch Q1: R_{Gon}	**1.80 Ω**
Switch Q1: R_{Goff}	**2.70 Ω**

Cooling conditions

Heatsink model	**User defined heatsink**
Ambient temperature T_a	**40.00 °C**

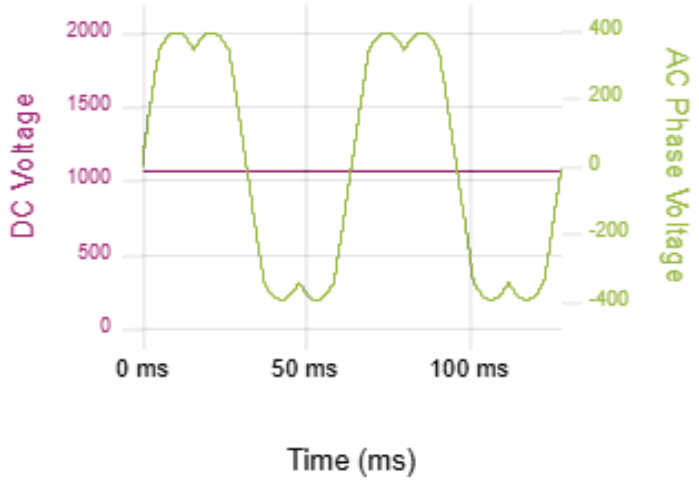
Heatsink parameters

$R_{th,h}$ [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	123.50 °C	67.60 W	583.50 W	651.10 W
DIODE D1	141.10 °C	206.30 W	225.10 W	431.40 W

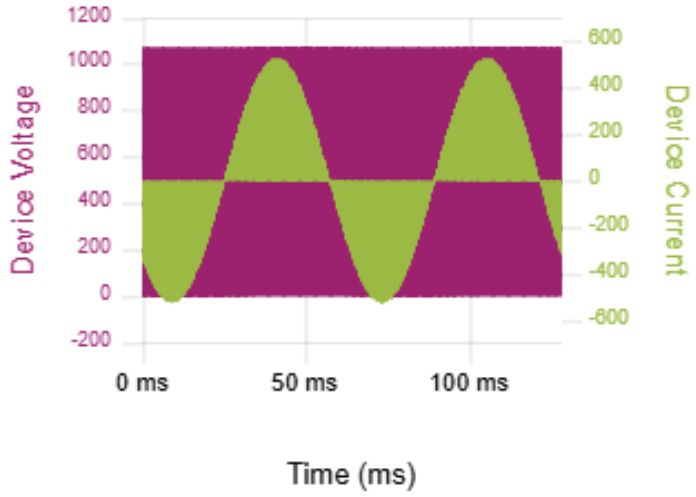
System Electrical

System Voltage



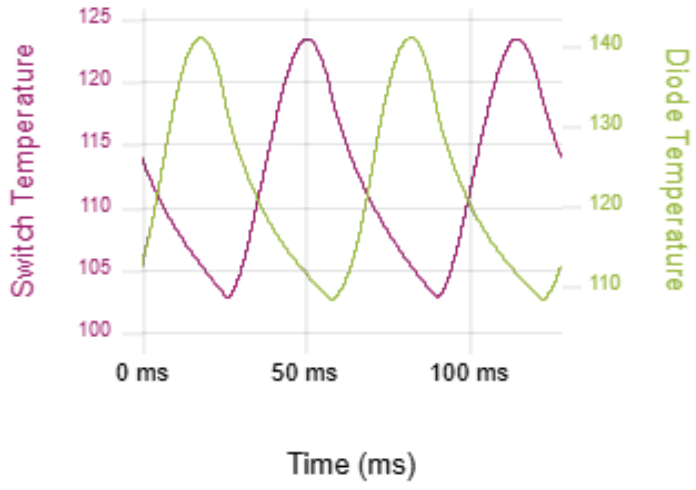
Device Electrical

Device Q1 Voltage and Current



Device Thermal

Device Q1 Temperature Ripple



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