



Be smart. Prototype online.

IPOSIM Getting Started

<https://iposim.infineon.com>

2018-10-01



Start on our new Landing Page

<https://www.infineon.com/cms/en/tools/landing/iposim.html>



> Home > Tools > Infineon Tools



Download Getting Started Iposim Guide
01_00 | Apr 19, 2018 | PDF | 1.7 mb

Welcome to New Infineon IPOSIM

Thank you for using IPOSIM, the online power simulation program for loss and thermal calculation of Infineon power modules and disk devices. It supports you in

- selecting the right product for a given application topology
- simulating the switching and conduction losses including assessment of the thermal performance based on your given cooling conditions
- comparing the performance of various products and input specifications and saving the results

3

Step 1: register first

Please register here to myInfineon. Important: your old IPOSIM account will not work.

Step 2: login & select

Login and select your target application including the preferred circuit topology.

Step 3: define your input

In this step you define the input requirements for steady-state or load cycle simulation.

Step 4: choose your device

Step 5: simulate & compare

Step 6: learn & get support

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Why to use Infineon IPOSIM



> Why to use Infineon IPOSIM

Book - IGBT modules



1. myInfineon Registration

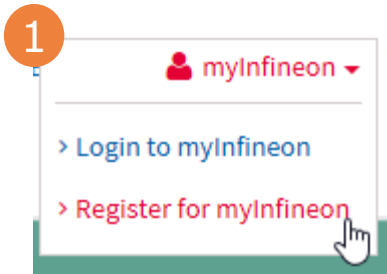
- Customers: need new account since old Transim accounts will not be transferred

2. Getting Started

- Documents
- Videos

3. Steps by step guide with hyperlinks

Registration myInfineon add URL



2

myInfineon registration

Register now and enjoy the benefits of myInfineon

Valuable Content Integrated Services Personalized Experience

E-mail

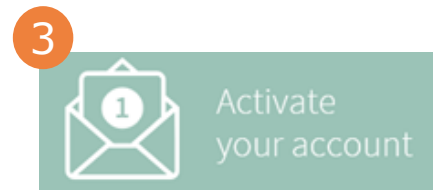
Please enter your business e-mail address to benefit from all myInfineon offerings.

Country / Territory

Please enter the country /territory you work in currently.

☐ I agree to the processing of my personal data according to the [privacy policy](#).

Already registered? [Login](#)



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myInfineon account activation

Dear test1@mindfulgaming.org
Please complete your profile information to activate your account.

First name

Last name

Company

☐ I am not affiliated to any company

Password

☐ Stay informed: ☐ I agree - Infineon providing me newsletters and further marketing information about Infineon products, services & events by email and/or telephone and transmitting my data to its licensed distributors & partners exclusively for sales support purposes. I can withdraw my consent at any time.

Your myInfineon benefits in a nutshell

Valuable Content Integrated Services Personalized Experience

1. Click on icon on top of the page: "Register for myInfineon"
2. An overlay will pop-up to enter Email & company
3. An Email will be sent out (Double Opt-in) to activate your account
4. Click on link in Email and finalize registration

IPOSIM Step by Step Guide

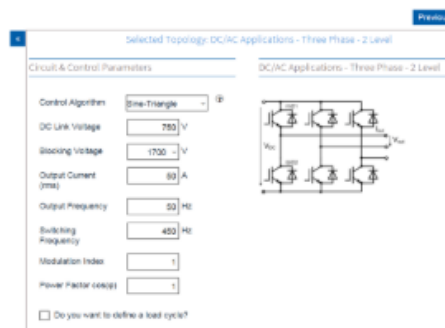
1

Step 1: select your topology



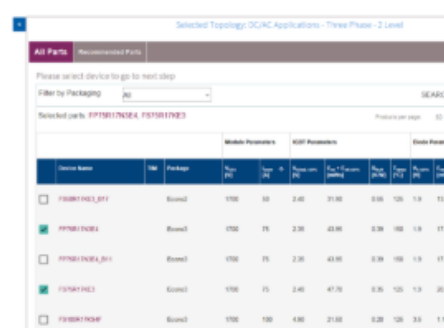
2

Step 2: define your input



3

Step 3: select your device



Here you select your target application and preferred circuit topology

In this step you define the input requirements for steady-state or load cycle simulation

Based on your input the tool will provide the best suited products in a tabular form

4

Step 4: simulate thermally



Check the simulation results. Click on the diagrams to zoom in and assess the details

5

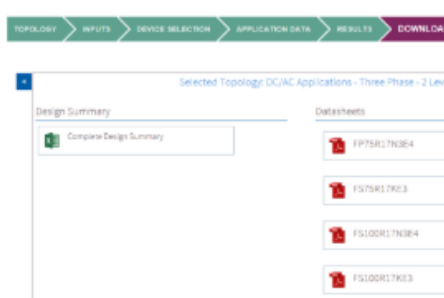
Step 5: compare results

Simulation Results		Simulation Results	
Maximum Junction Temperature		Maximum Junction Temperature	
Switch	50.13 °C	Switch	50.25 °C
Diode	50 °C	Diode	50.01 °C
Switching Losses		Switching Losses	
Switch	0.37 W	Switch	0.73 W
Diode	0 W	Diode	0 W
Conduction Losses		Conduction Losses	
Switch	0 W	Switch	0 W
Diode	0 W	Diode	0 W
Total Losses		Total Losses	
Switch	0.37 W	Switch	0.73 W
Diode	0 W	Diode	0 W
FP75R17N3E4		FS75R17KE3	

Here you compare the losses and calculated temperature of the selected products

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Step 6: download results



Download your simulation results in a easy to re-use tabular

Step 1: select your topology



AC/DC Applications

Single Phase

B2U - Two-pulse bridge uncontrolled

B2C - Two-pulse bridge fully controlled

Three Phase

B6U - Six-pulse bridge uncontrolled

B6C - Six-pulse bridge fully controlled

M3.2U - Double three-pulse star uncontrolled (coming soon)

M3.2C - Double three-pulse star fully controlled (coming soon)

M6U - Six-pulse star uncontrolled (coming soon)

M6C - Six-pulse star fully controlled (coming soon)

DC/DC Application

Boost

Buck

AC/AC Applications

Single Phase

W1C - phase control

Three Phase

W3C - phase control

Example: Inverter topologies



DC/AC Applications

Single Phase

Three Phase - 2 Level

Three Phase - 2 Level (Stack solution)

Three Phase - 3 Level NPC1

Three Phase - 3 Level NPC2

Step 2: define your input criteria

[Previous](#)
[Next](#)

«

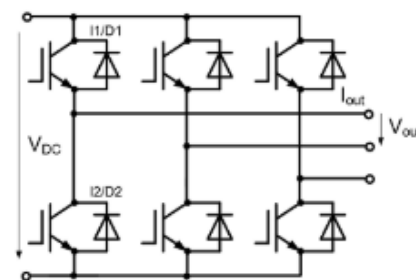
Selected Topology: DC/AC Applications - Three Phase - 2 Level

Circuit & Control Parameters

Control Algorithm	Sine-Triangle
DC Link Voltage	750 V
Blocking Voltage	1700 V
Output Current (rms)	50 A
Output Frequency	50 Hz
Switching Frequency	2000 Hz
Modulation Index	1
Power Factor $\cos(\varphi)$	0.8



DC/AC Applications - Three Phase - 2 Level



2
Circuit

1
Set operation parameters

☐ Do you want to define a load cycle (coming soon)?

Step 3: select your device

PreviousNext

«

Selected Topology: DC/AC Applications - Three Phase - 2 Level

1 Filter & Search

Please select device to go to next step

Filter by PackagingAll

SEARCH:

Products per page: 50 1-50 of 158 <>

Selected parts: FS100R17N3E4 x FS100R17PE4 x

Clear all

2 Product List

	Device Name	TIM	Package	Module Parameters			IGBT Parameters			Diode Parameters		
				V _{CEs} [V]	I _{enom} [A]	↑	V _{CEsat} , 125°C [V]	E _{on} + E _{off} , 125°C [mWs]	R _{th,JH} [K/W]	T _{vjmax} [°C]	V _F , 125°C [V]	E _{rec} , 125°C [mWs]
<input type="checkbox"/>	FS50R17KE3_B17		Econo2	1700	50		2.40	31.90	0.55	125	1.9	13.60
<input type="checkbox"/>	FP75R17N3E4		Econo3	1700	75		2.35	43.95	0.39	150	1.9	17.20
<input type="checkbox"/>	FP75R17N3E4_B11		Econo3	1700	75		2.35	43.95	0.39	150	1.9	17.20
<input type="checkbox"/>	FS75R17KE3		Econo3	1700	75		2.40	47.70	0.35	125	1.9	20.50
<input type="checkbox"/>	FS100R17KS4F		Econo3	1700	100		4.90	21.50	0.20	125	3.5	1.10
<input checked="" type="checkbox"/>	FS100R17N3E4		Econo3	1700	100		2.35	48.00	0.32	150	1.9	20.00
<input type="checkbox"/>	FS100R17N3E4_B11		Econo3	1700	100		2.35	48.00	0.32	150	1.9	20.00
<input checked="" type="checkbox"/>	FS100R17PE4		Econo3	1700	100		2.35	48.00	0.33	150	1.9	23.00

Step 3.1: set other application data

Previous Next

«
Selected Topology: DC/AC Applications - Three Phase - 2 Level

Cooling Condition

Advanced Parameters

Load Cycle

Need help defining heatsinks? ?

1. Heatsink model
2. Heatsink parameter

FS100R17N3E4

☐ Predefined Heatsink
☐ User Defined Heatsink
☒ Fixed Heatsink Temperature

T_{heatsink}

50

 °C

FS100R17PE4

☐ Predefined Heatsink
☐ User Defined Heatsink
☒ Fixed Heatsink Temperature

T_{heatsink}

50

 °C

2 Set advanced parameters

1 Set cooling condition

Step 4: simulate electrical & thermal (PLECS)

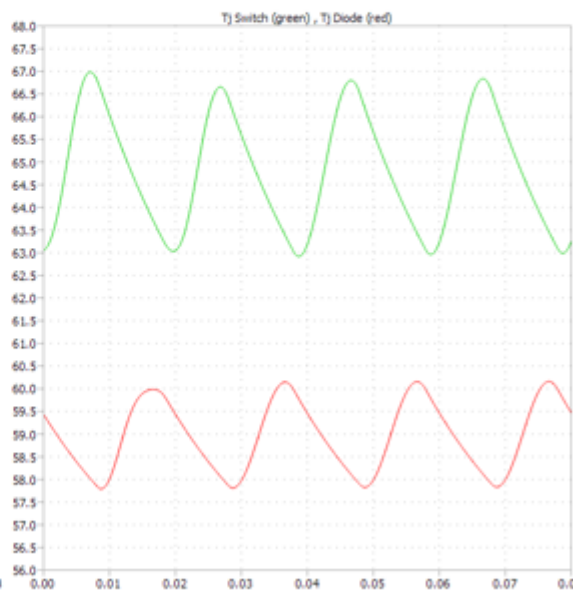
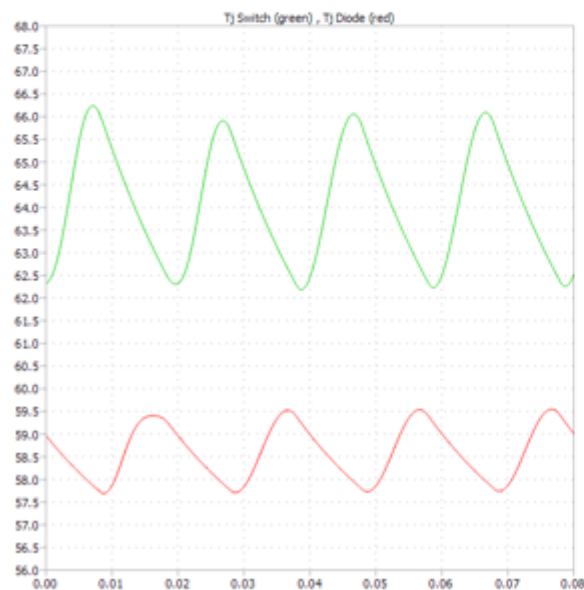
Simulation Graphics

? FS100R17N3E4

? FS100R17PE4

Temperature Ripple

Temperature Ripple



1 IGBT module

Step 5: compare simulation results

Steady-State Analysis finished: Mon
Oct 1 13:59:25 2018

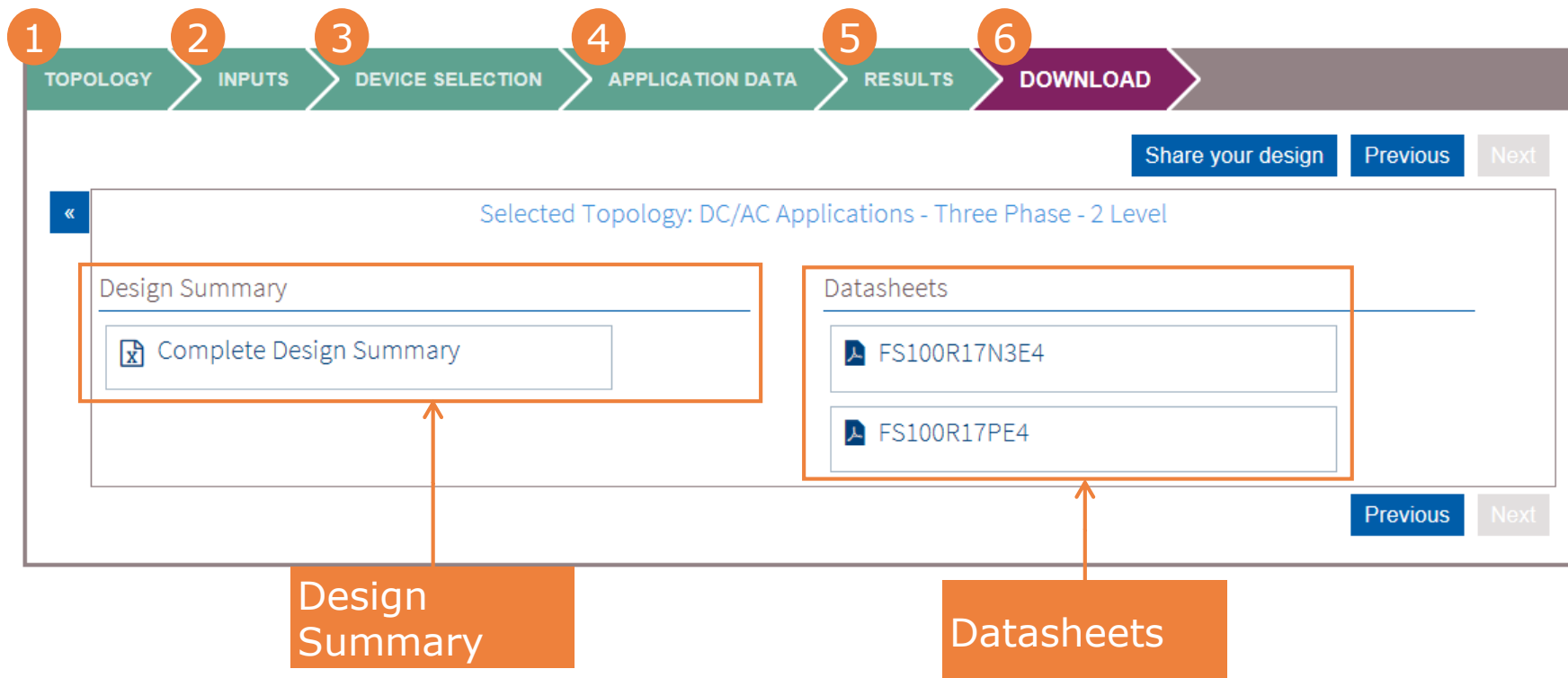
Steady-State Analysis finished: Mon
Oct 1 13:59:29 2018

FS100R17N3E4		FS100R17PE4	
Simulation Results		Simulation Results	
Maximum Junction Temperature		Maximum Junction Temperature	
Switch	66.1 °C	Switch	66.8 °C
Diode	59.5 °C	Diode	60.2 °C
Switching Losses		Switching Losses	
Switch	14.8 W	Switch	14.8 W
Diode	6.7 W	Diode	8.7 W
Conduction Losses		Conduction Losses	
Switch	29.7 W	Switch	29.8 W
Diode	6.2 W	Diode	6.2 W
Total Losses		Total Losses	
Switch	44.5 W	Switch	44.6 W
Diode	12.8 W	Diode	14.9 W
FS100R17N3E4		FS100R17PE4	

1
Junction
Temperature

2
Conduction &
Switching
Losses

Step 6: download results



Support

› www.infineon.com/support

Support Page

Support is available in English, German and Mandarin from our talented team of experts.

Live Chat Online
在线支持



› Start chat session with our support team

Technical Assistance Center
技术支持中心 (TAC)



› Get product support from our technical experts

Call us Toll Free
免费热线联系我们



› Call us toll-free 24/7

Find an answer to your question

Please state your question (with at least 3 words)

FAQ

1. Radar chips [CN] [DE]
2. Technical Support [CN] [DE]
3. Chip Card and Security Distis [CN] [DE]
4. Product Counterfeit Step 1 [CN] [DE]
5. Supplier Service, Supplier Page, page registration [CN] [DE]
6. Green Products [CN] [DE]



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