

A-6. PFC CCM Synchro $V_{in}=200V$ $I_{in}=2.5A$

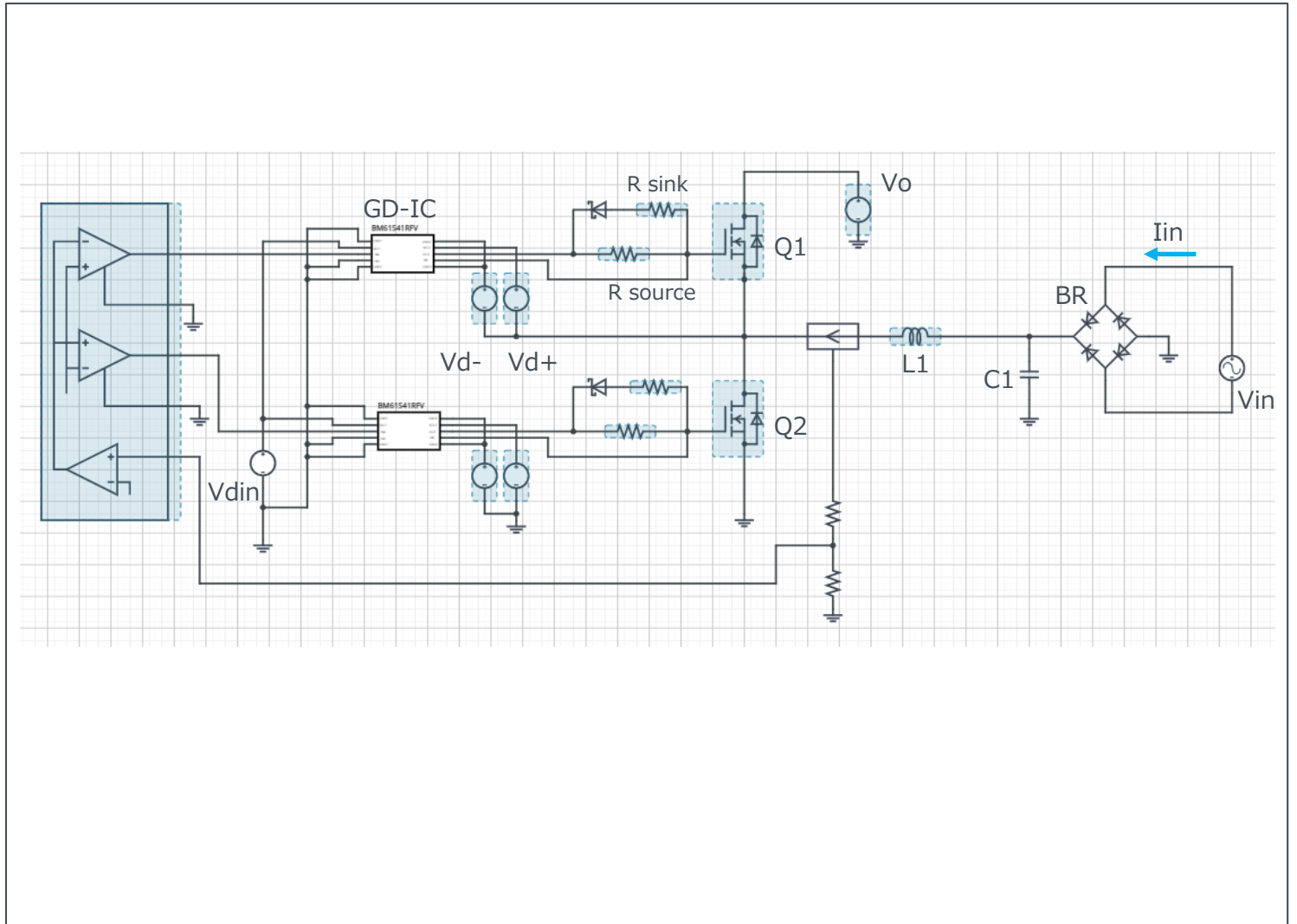
Simulation Parameters

Component name	Component	Default	Simulation Setting Range
Vin	Input voltage	200Vac 50Hz	
Iin	Input current	2.5Aac	
Vo	Output voltage	500Vdc	300 – 500Vdc
fsw	Switching frequency	100kHz	10k – 300k
Tj	Temperature	100°C	
Vd+	Gate Drive voltage H	18V	10 – 20V
Vd-	Gate Drive voltage L	-4V	-4 – 0V
Vdin	Signal voltage level	5V	

Devices

Component name	Component	Default	Simulation Setting Range
Q1, Q2	SiC MOSFET	Selectable	
GD-IC	Gate Driver	BM61S41RFV-C	
R sink	Resistor for sink	2Ω	0.1 -
R source	Resistor for source	5Ω	0.1 -
L1	Inductor	1mH	10μH - 2mH
C1	Capacitor	100nF	
BR	Bridge Diode	600V 10A ideal diode	

Simulation Circuit



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Selectable Devices

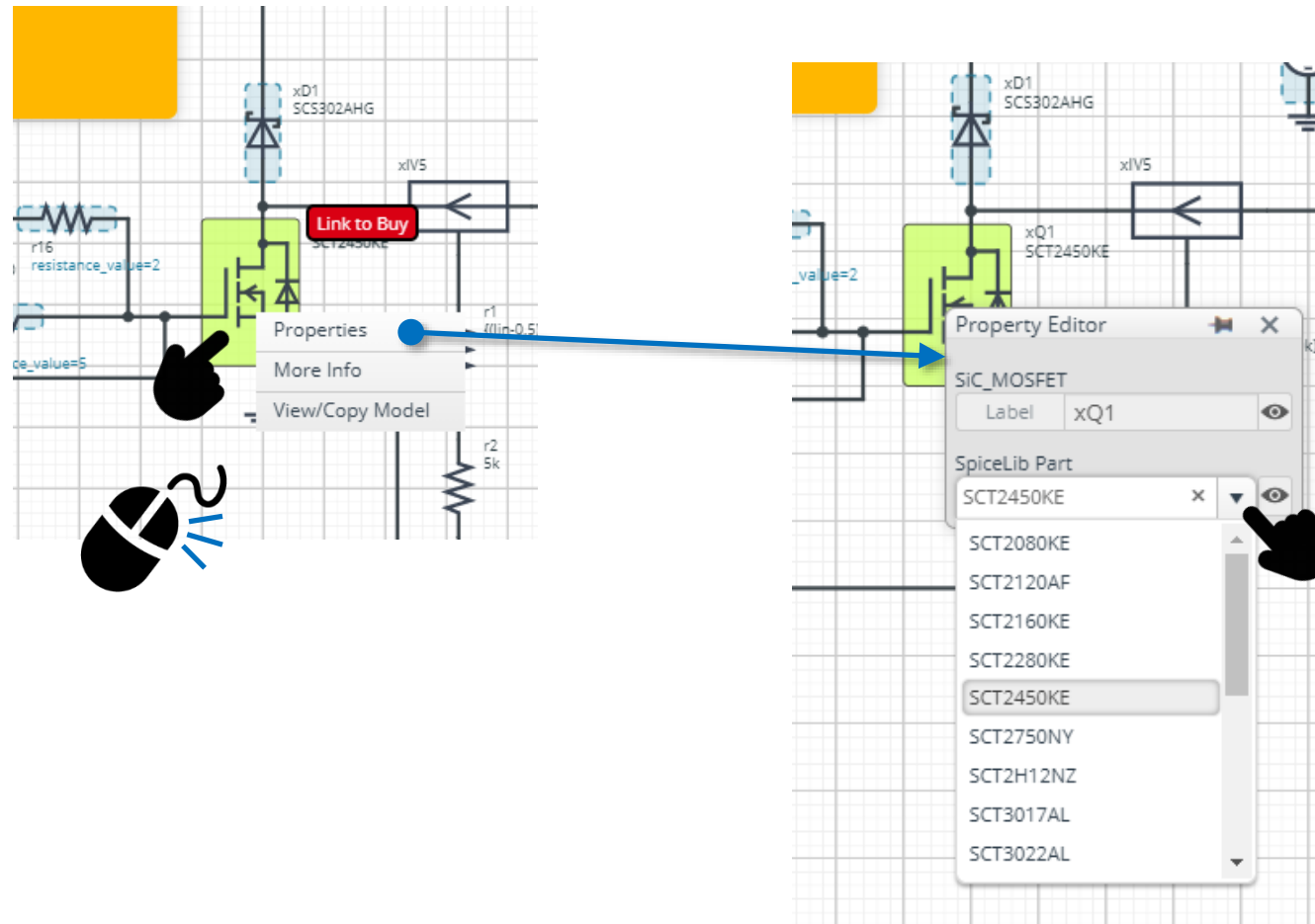
Component name	Component	Product No.	feature
Q1, Q2	SiC MSFET	SCT2080KE	1200V, 80mΩ, 40A
		SCT2120AF	650V, 120mΩ, 29A
		SCT2160KE	1200V, 160mΩ, 22A
		SCT2280KE	1200V, 280mΩ, 14A
		SCT2450KE (*)	1200V, 450mΩ, 10A
		SCT2750NY	1700V, 750mΩ, 6A
		SCT2H12NZ	1700V, 1150mΩ, 3.7A
		SCT3017AL	650V, 17mΩ, 118A
		SCT3022AL	650V, 22mΩ, 93A
		SCT3022KL	1200V, 22mΩ, 95A
		SCT3030AL	650V, 30mΩ, 70A
		SCT3030KL	1200V, 30mΩ, 72A
		SCT3040KL	1200V, 40mΩ, 55A
		SCT3060AL	650V, 60mΩ, 39A
		SCT3080AL	650V, 80mΩ, 30A
		SCT3080KL	1200V, 80mΩ, 31A
		SCT3105KL	1200V, 105mΩ, 24A
		SCT3120AL	650V, 120mΩ, 21A
		SCT3160KL	1200V, 160mΩ, 17A

* Default device

How to choose a product to simulate

You can select a part number from the product line-ups available in the pull down.

At the simulation page,
Right-click on the device Select "Properties" Pull down "SpiceLib Part" Select the product



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