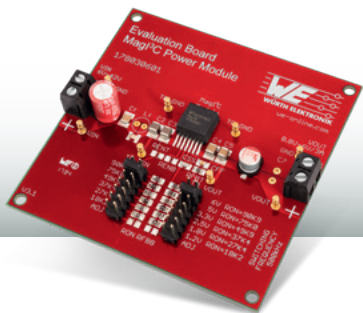




Quick Start Guide

MagI³C Power Module Evaluation Board
for 171030601 T0263-7EP

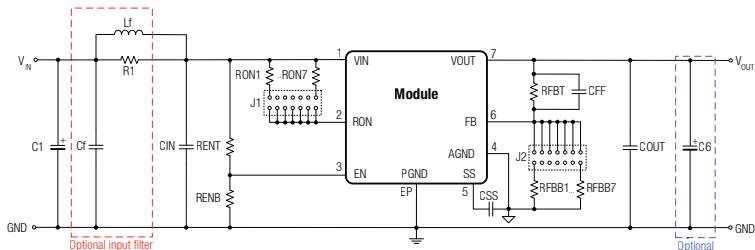


Evaluation Board
178030601

Version 3.1

Schematic

Features



The additional aluminium electrolytic capacitor C1 is only for evaluation board protection purposes. It is mounted at the termination of the supply line and provides slight damping of possible oscillations of the series resonance circuit represented by the inductance of the supply line and the input capacitance. It is not essential for operation. The switching frequency of the module can be adjusted by changing the position of jumper J1.

For accurate V_{IN} and V_{OUT} voltage measurements it is recommended to measure directly at the input and output capacitors CIN and COUT. It is **not** recommended to use this evaluation board with input and output wire lengths longer than 1 m.

For the datasheet of the power module visit us at: <https://www.we-online.de/katalog/de/MAGIC-VDRM>



This product is highly sensitive to electrostatic discharge (ESD). As such, always use proper ESD precautions when handling. Failing to follow the aforementioned recommendations can result in severe damage to the part.



WARNING! – Before operating read the attached IMPORTANT NOTICE document!



Ref.Des.	Description (Order Code)
U1	Mag ³ C Power Module (171030601)
C1	Aluminum electrolytic capacitor 100 µF/50V (860010674014)
CIN	2 x Ceramic chip capacitor 10 µF/50V
CSS	Ceramic chip capacitor 4.7 nF/50V (885012007067)
CFF	Ceramic chip capacitor 22 nF/50V (885012207094)
COUT	2 x Ceramic chip capacitor 47 µF/10V
C6	Through hole electrolytic capacitor (optional)
Cf	Ceramic chip capacitor 1 µF/50V (optional) (885012209047)
Lf	Filter inductor, 10 µH, PD2 (optional) (74477410)
R1	0Ω resistor bridge
RENT	not mounted
RENB	not mounted
RFBT	10 kΩ
J1	Jumper for switching frequency selection. Only one resistor should be selected at a time (61301421121)
J2	Jumper for output voltage selection. Only one resistor should be selected at a time (61301421121)

Ref.Des.	Description (Order Code)
RFBB	Set by jumper
	1.54 kΩ for V _{OUT} = 6V
	1.87 kΩ for V _{OUT} = 5V (default setting)
	3.16 kΩ for V _{OUT} = 3.3V
	4.64 kΩ for V _{OUT} = 2.5V
	7.87 kΩ for V _{OUT} = 1.8V
	20 kΩ for V _{OUT} = 1.2V
	To be soldered for adjustable output voltage
	$R_{FBB} = \frac{R_{FBT}}{\frac{V_{OUT}}{0.8V} - 1}$
RON	Set by jumper
	90.9 kΩ for V _{OUT} = 6V
	75 kΩ for V _{OUT} = 5V (default setting)
	49.9 kΩ for V _{OUT} = 3.3V
	37.4 kΩ for V _{OUT} = 2.5V
	27.4 kΩ for V _{OUT} = 1.8V
	18.2 kΩ for V _{OUT} = 1.2V
	To be soldered for adjustable frequency
	$R_{ON} = \frac{V_{OUT}}{1.3 \cdot 10^{-10} \cdot f_{sw(ccm)}}$

*Switching frequency in continuous conduction mode



For Layout, Gerber and STP files
visit us on: [www.we-online.com/
catalog/en/magic-vdrm](http://www.we-online.com/catalog/en/magic-vdrm)

