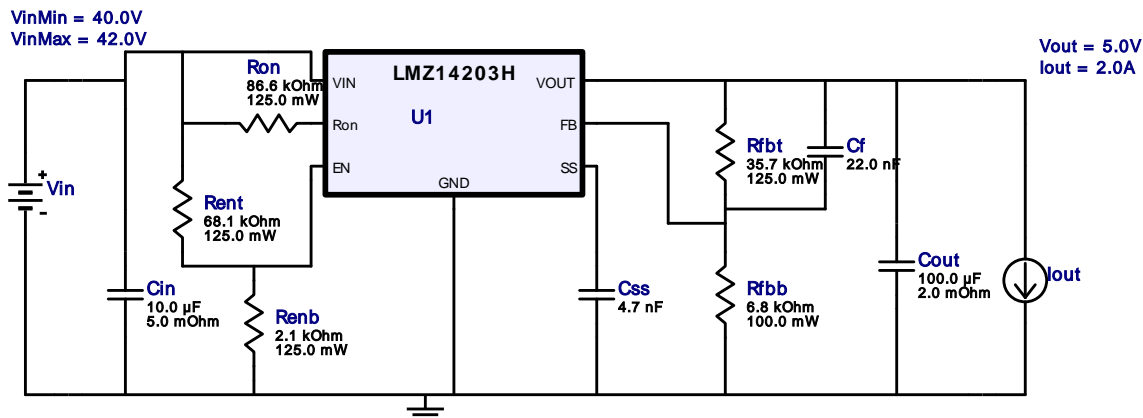


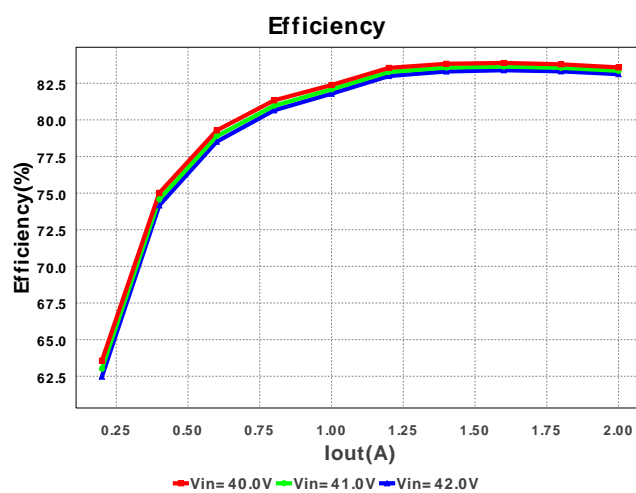
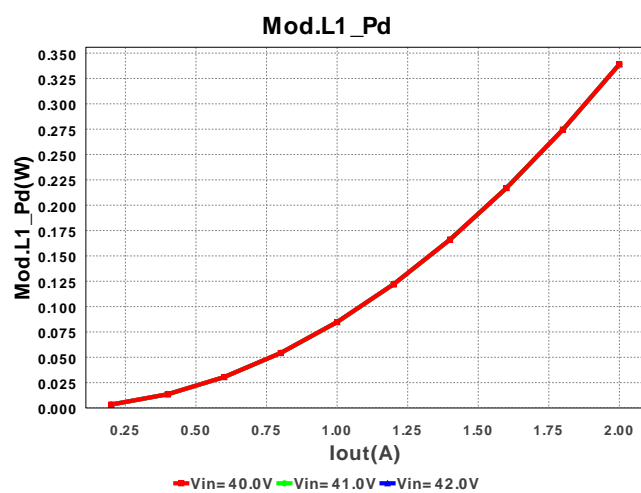
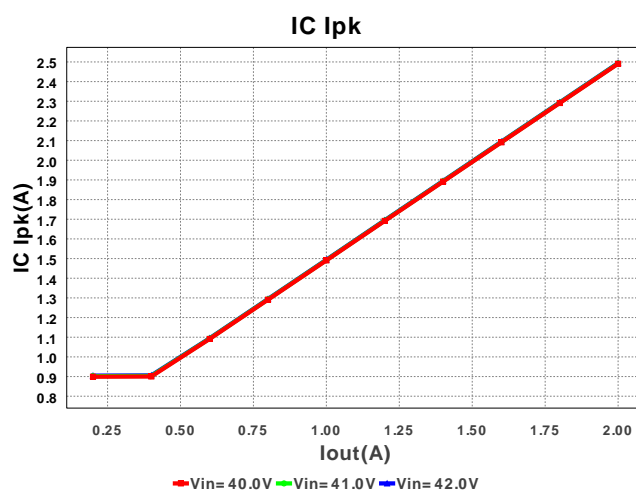
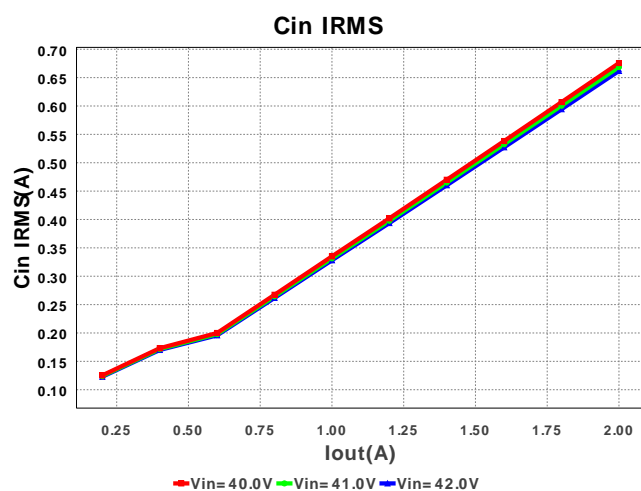
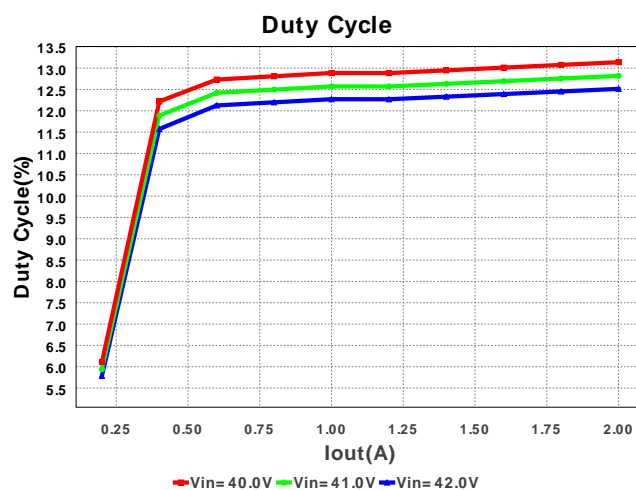
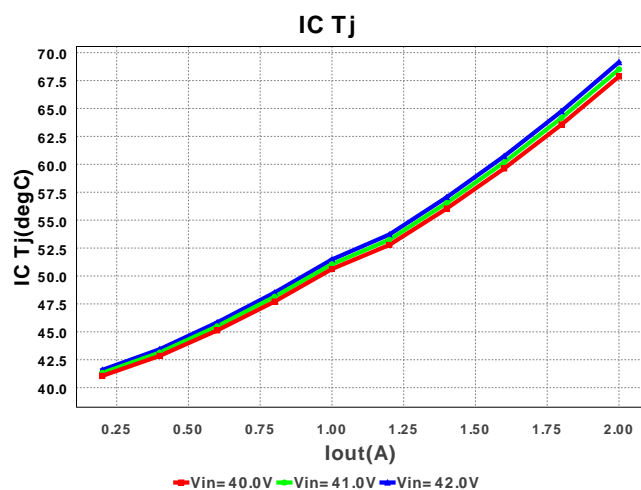
WEBENCH[®] Design Report

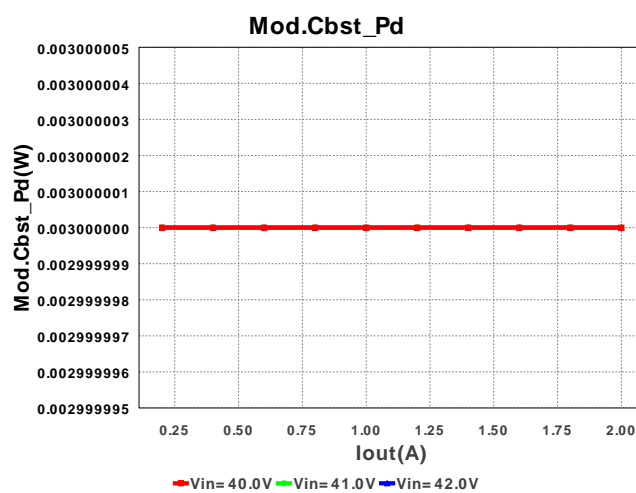
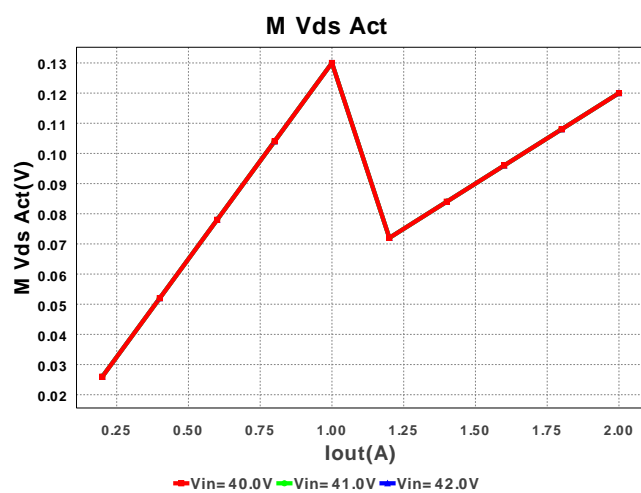
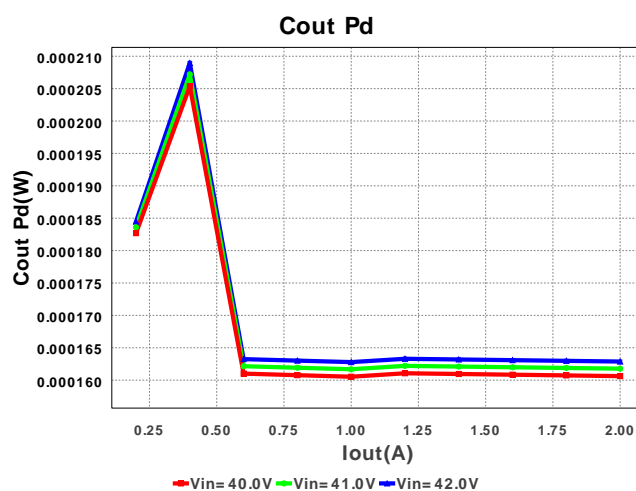
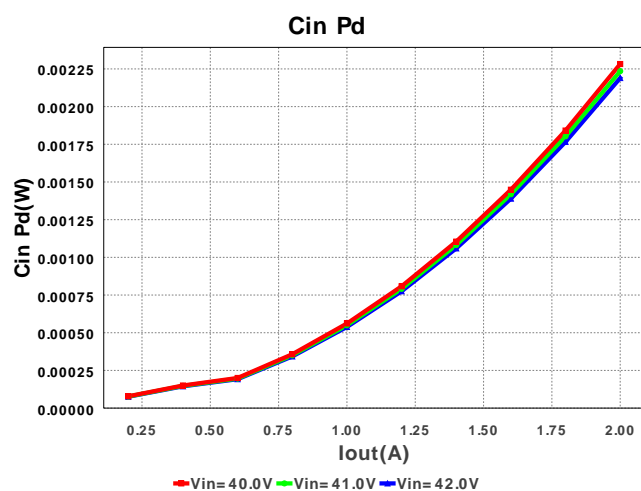
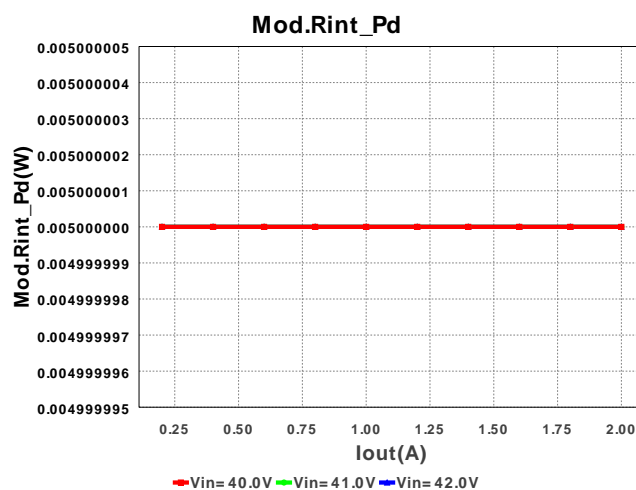
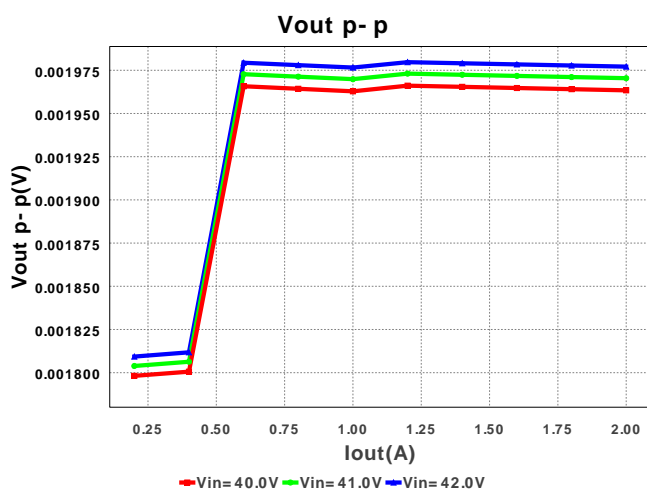
Design : 3601799/5 LMZ14203HTZ/NOPB
LMZ14203HTZ/NOPB 40.0V-42.0V to 5.0V @ 2.0A

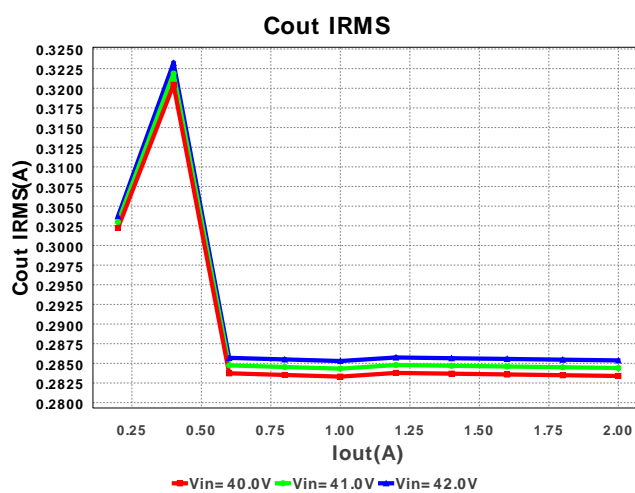
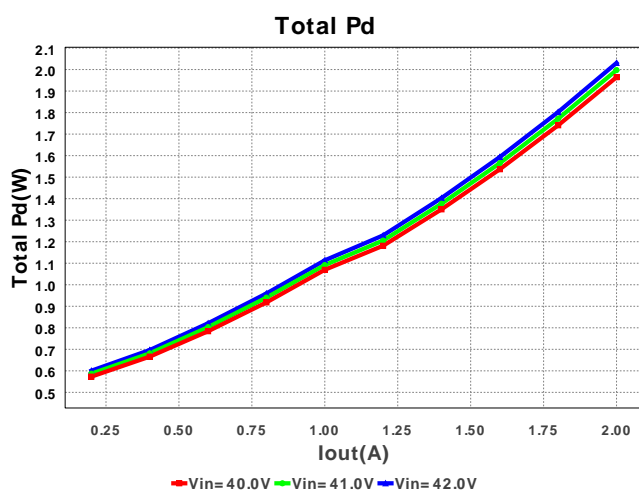
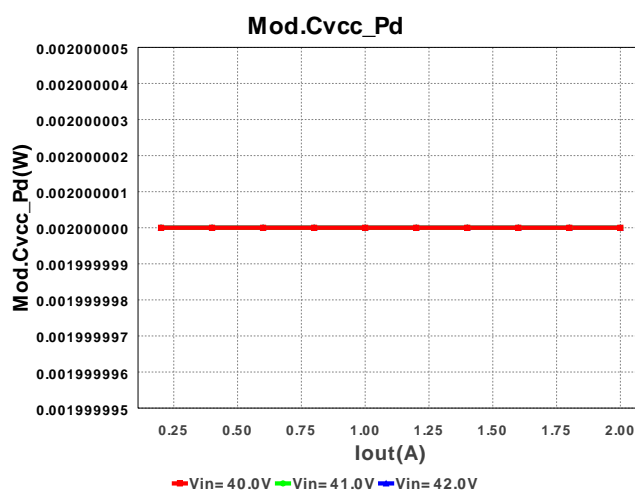
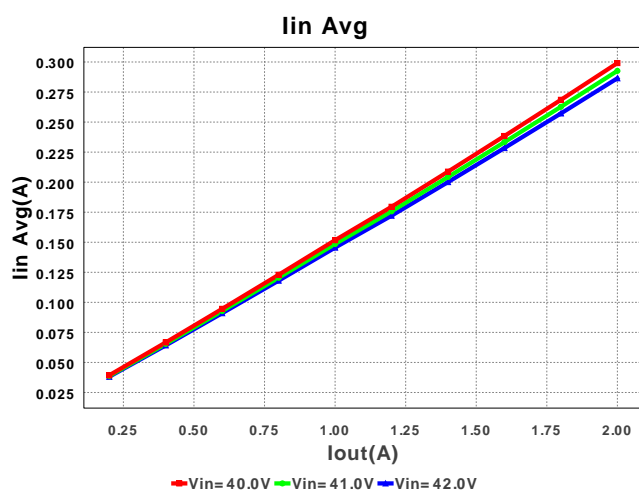
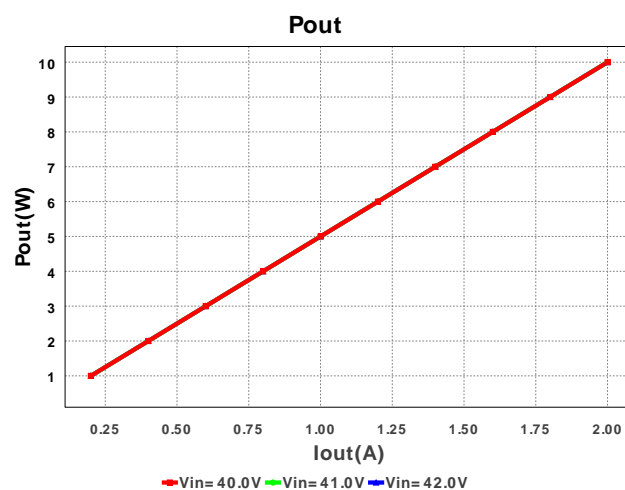
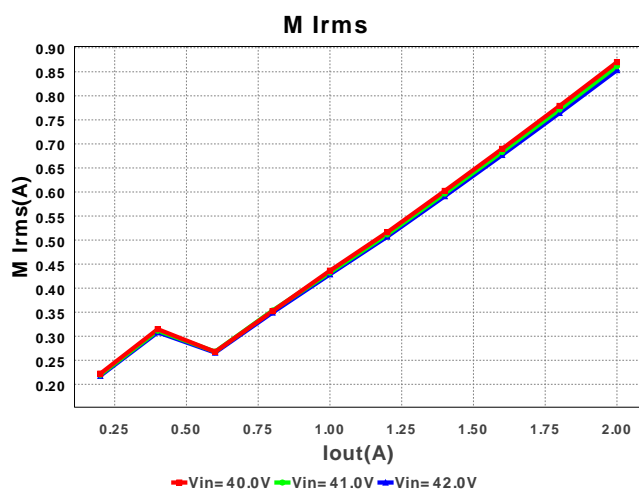


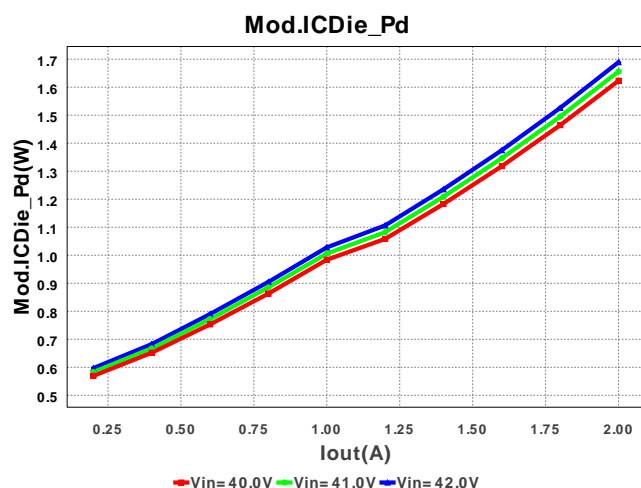
Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cf	Yageo America	CC0805KRX7R9BB223 Series= X7R	Cap= 22.0 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	 0805 13mm2
2.	Cin	TDK	C5750X7S2A106M Series= 479	Cap= 10.0 µF ESR= 5.0 mOhm VDC= 100.0 V IRMS= 6.45 A	1	\$0.84	 2220 60mm2
3.	Cout	TDK	C3225X5R0J107M Series= X5R	Cap= 100.0 µF ESR= 2.0 mOhm VDC= 6.3 V IRMS= 3.5 A	1	\$0.38	 1210 23mm2
4.	Css	Yageo America	CC0805KRX7R9BB472 Series= X7R	Cap= 4.7 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	 0805 13mm2
5.	Renb	Vishay-Dale	CRCW08052K10FKEA Series= CRCW..e3	Res= 2.1 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 13mm2
6.	Rent	Vishay-Dale	CRCW080568K1FKEA Series= CRCW..e3	Res= 68.1 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 13mm2
7.	Rfbb	Susumu Co Ltd	RR1220P-682-D Series= 264	Res= 6.8 kOhm Power= 100.0 mW Tolerance= 0.5%	1	\$0.01	 0805 13mm2
8.	Rfbb	Vishay-Dale	CRCW080535K7FKEA Series= CRCW..e3	Res= 35.7 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 13mm2
9.	Ron	Vishay-Dale	CRCW080586K6FKEA Series= CRCW..e3	Res= 86.6 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 13mm2
10.	U1	Texas Instruments	LMZ14203HTZ/NOPB	Switcher	1	\$8.50	 TZA07A 199mm2









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	661.74 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	285.373 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	2.494 A	Current	Peak switch current in IC
4.	Iin Avg	286.44 mA	Current	Average input current
5.	M1 Irms	853.406 mA	Current	Q lavg
6.	BOM Count	10	General	Total Design BOM count
7.	FootPrint	373.0 mm2	General	Total Foot Print Area of BOM components
8.	Frequency	466.832 kHz	General	Switching frequency
9.	IC Tolerance	20.0 mV	General	IC Feedback Tolerance
10.	M Vds Act	120.0 mV	General	Voltage drop across the MosFET
11.	Mode	CCM	General	Conduction Mode
12.	Pout	10.0 W	General	Total output power
13.	Total BOM	\$9.79	General	Total BOM Cost
14.	Vout OP	5.0 V	Op_Point	Operational Output Voltage
15.	Duty Cycle	12.513 %	Op_point	Duty cycle
16.	Efficiency	83.121 %	Op_point	Steady state efficiency
17.	IC Tj	69.146 degC	Op_point	IC junction temperature
18.	ICThetaJA	19.3 degC/W	Op_point	IC junction-to-ambient thermal resistance
19.	IOUT_OP	2.0 A	Op_point	Iout operating point
20.	VIN_OP	42.0 V	Op_point	Vin operating point
21.	Vout p-p	1.977 mV	Op_point	Peak-to-peak output ripple voltage
22.	Cin Pd	2.189 mW	Power	Input capacitor power dissipation
23.	Cout Pd	162.875 μ W	Power	Output capacitor power dissipation
24.	Total Pd	2.031 W	Power	Total Power Dissipation

Design Inputs

#	Name	Value	Description
1.	Iout	2.0 A	Maximum Output Current
2.	Iout1	2.0 Amps	Output Current #1
3.	VinMax	42.0 V	Maximum input voltage
4.	VinMin	40.0 V	Minimum input voltage
5.	Vout	5.0 V	Output Voltage
6.	Vout1	5.0 Volt	Output Voltage #1
7.	base_pn	LMZ14203H	Base Product Number
8.	source	DC	Input Source Type
9.	Ta	30.0 degC	Ambient temperature

Design Assistance

1. **LMZ14203H** Product Folder : <http://www.ti.com/product/lmz14203h> : contains the data sheet and other resources.

Texas Instruments' WEBENCH simulation tools attempt to recreate the performance of a substantially equivalent physical implementation of the design. Simulations are created using Texas Instruments' published specifications as well as the published specifications of other device manufacturers. While Texas Instruments does update this information periodically, this information may not be current at the time the simulation is built. Texas Instruments does not warrant the accuracy or completeness of the specifications or any information contained therein. Texas Instruments does not warrant that any designs or recommended parts will meet the specifications you entered, will be suitable for your application or fit for any particular purpose, or will operate as shown in the simulation in a physical implementation. Texas Instruments does not warrant that the designs are production worthy.

You should completely validate and test your design implementation to confirm the system functionality for your application prior to production.

Use of Texas Instruments' WEBENCH simulation tools is subject to [Texas Instruments' Site Terms and Conditions of Use](#). Prototype boards based on WEBENCH created designs are provided AS IS without warranty of any kind for evaluation and testing purposes and are subject to the terms of the [Evaluation License Agreement](#).