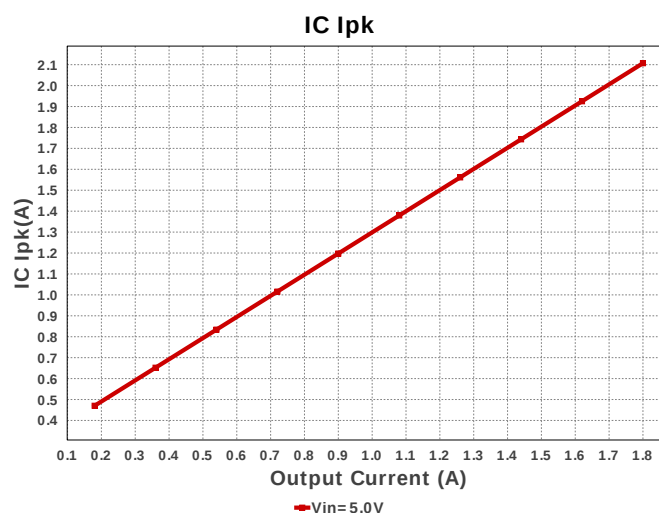
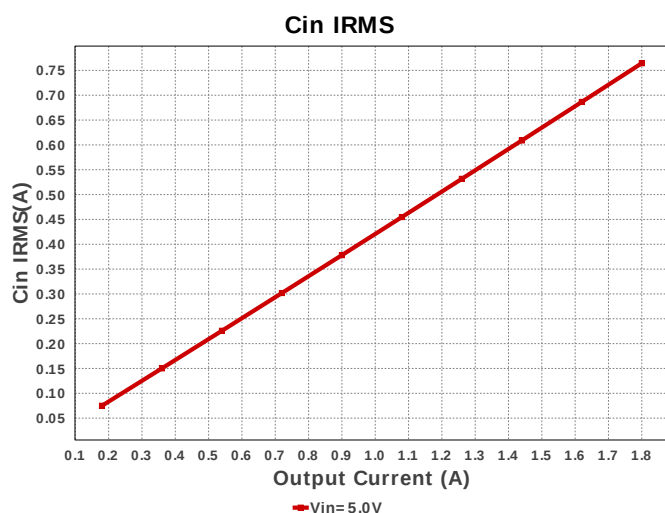
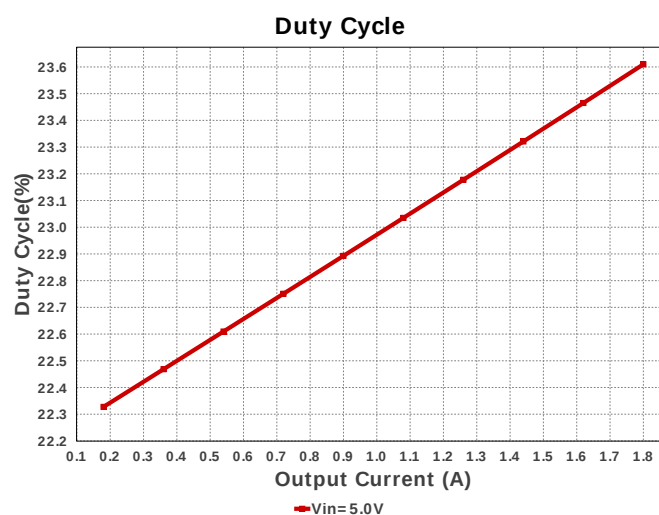
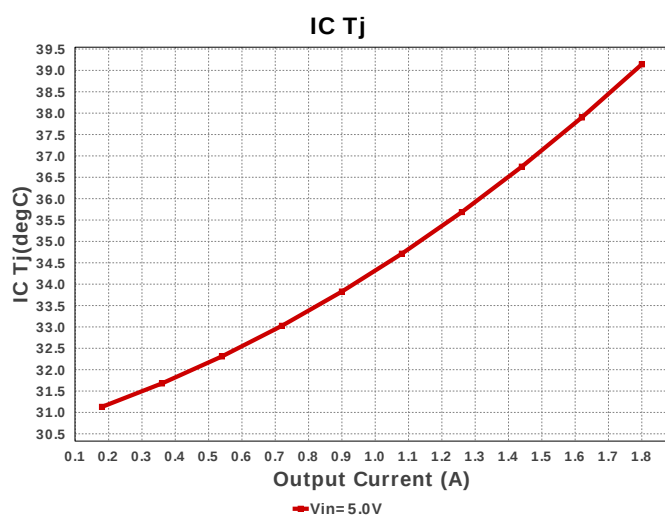
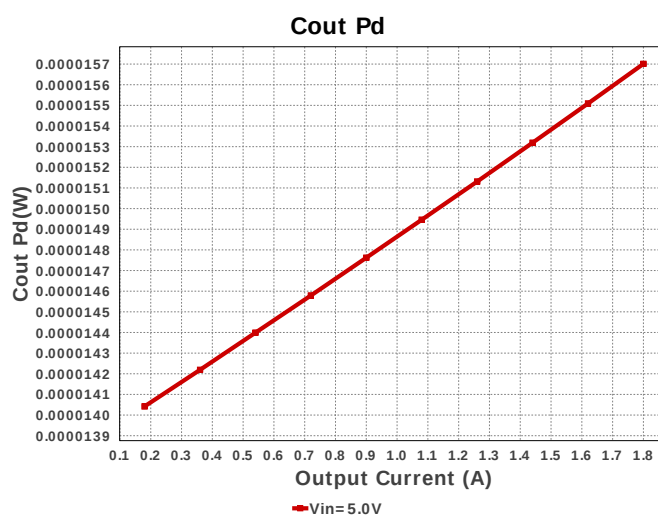
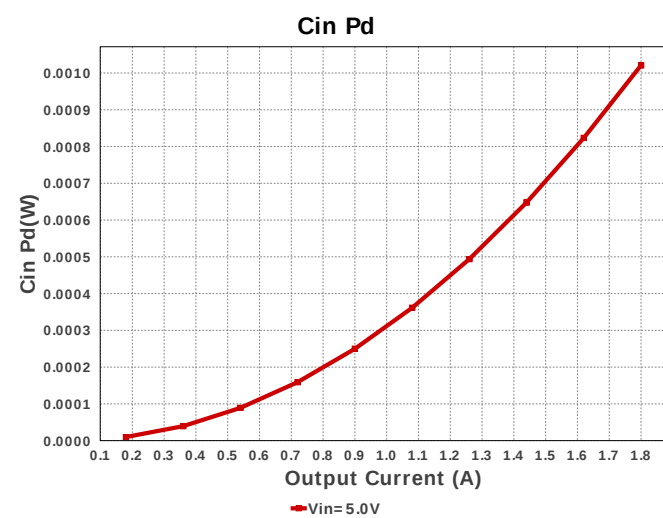
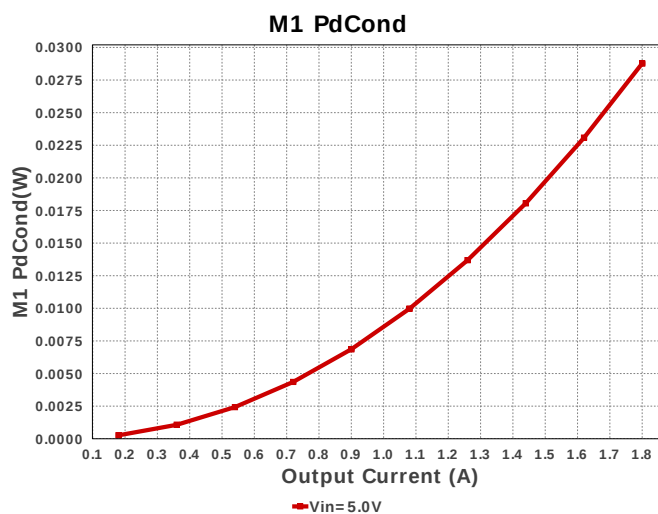
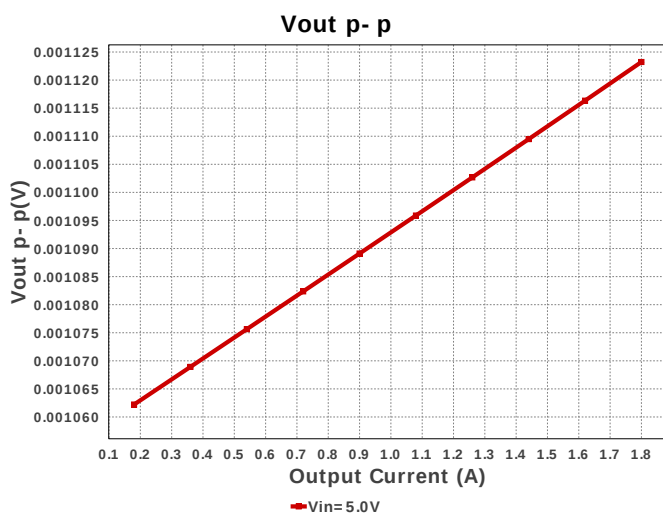
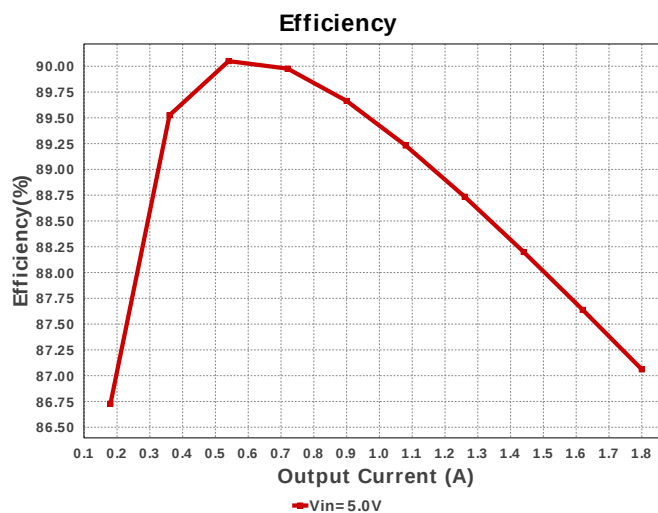
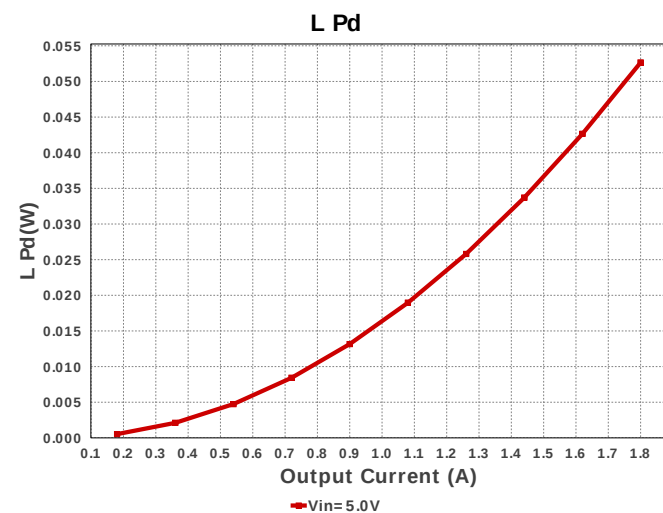


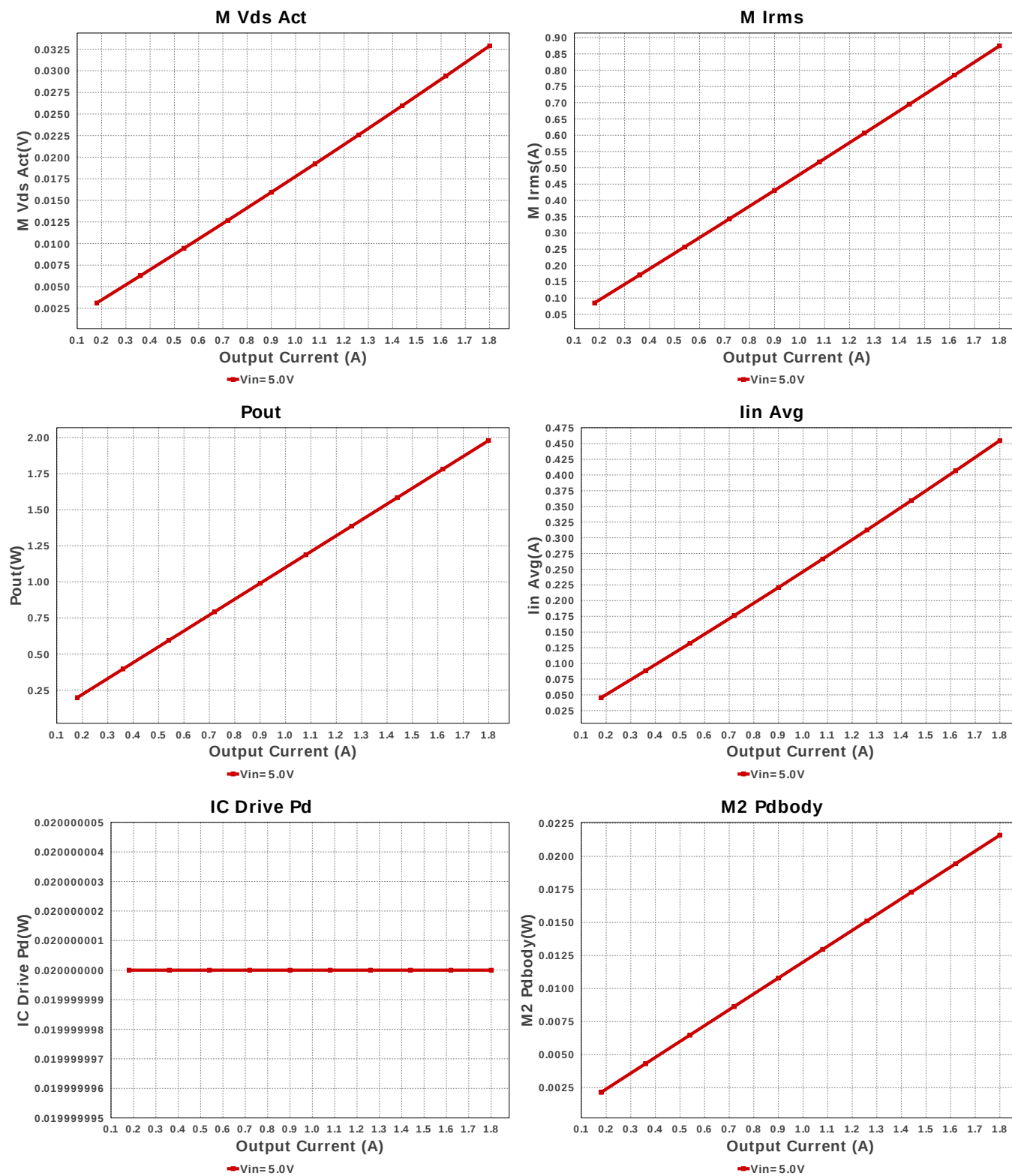


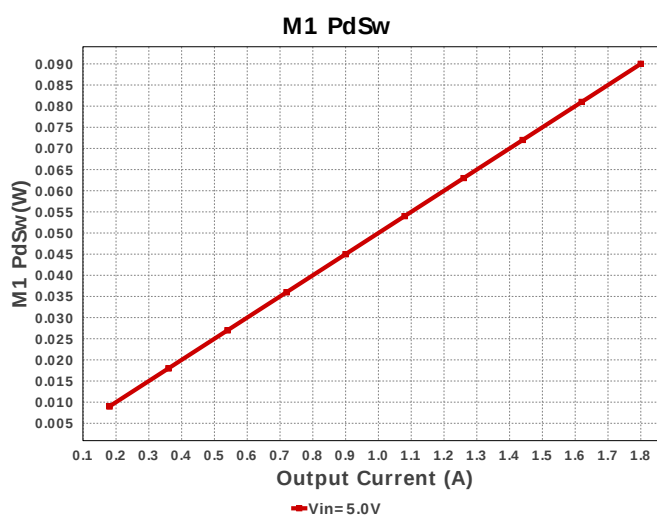
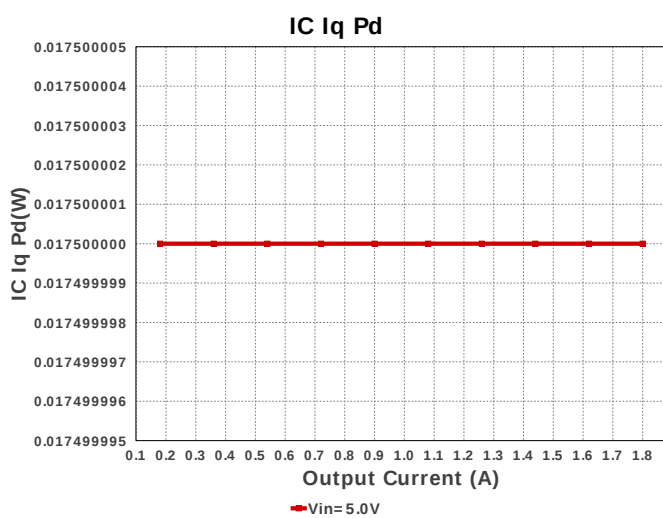
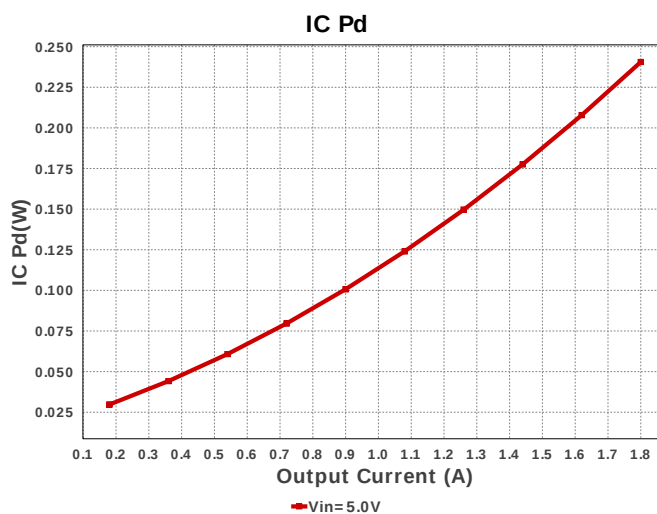
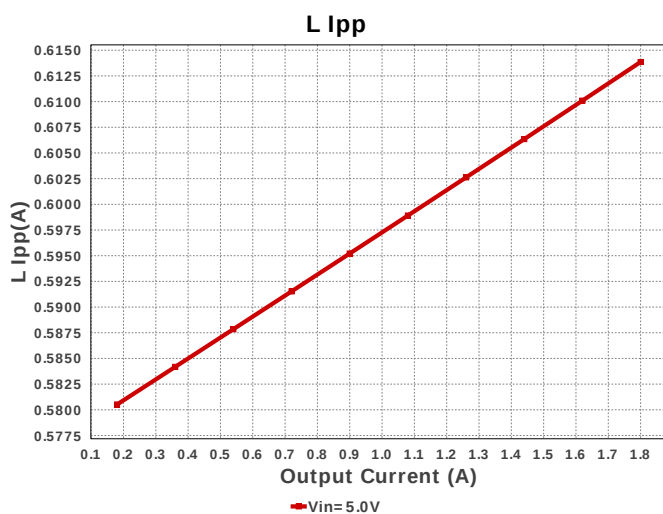
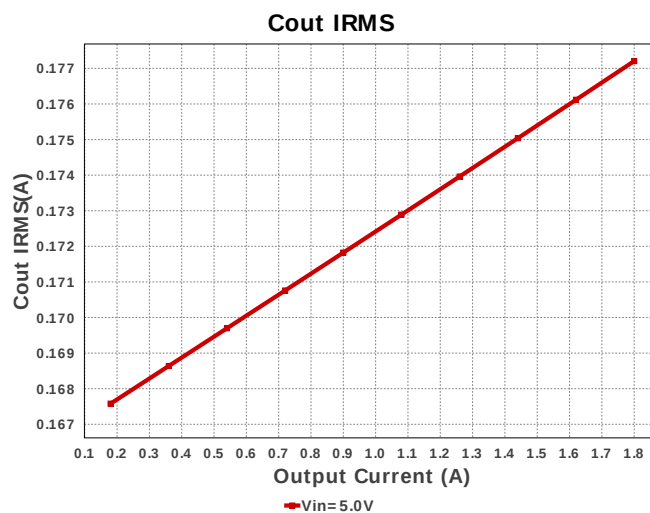
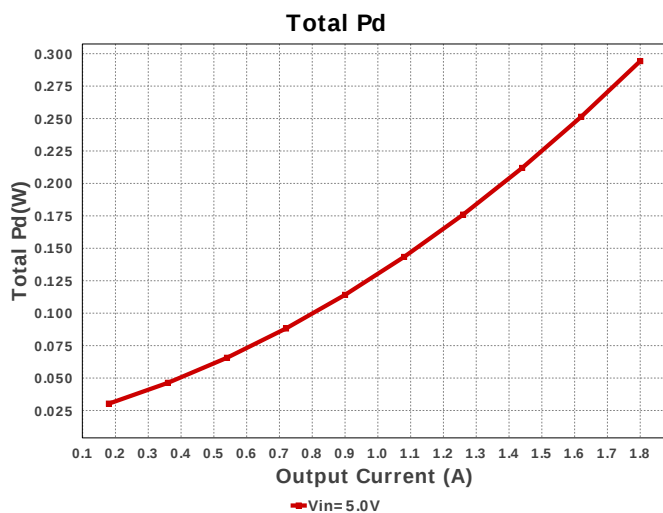
Device = LM20154MH/NOPB
Topology = Buck
Created = 2019-09-25 19:35:55.067
BOM Cost = \$3.54
BOM Count = 15
Total Pd = 0.29W

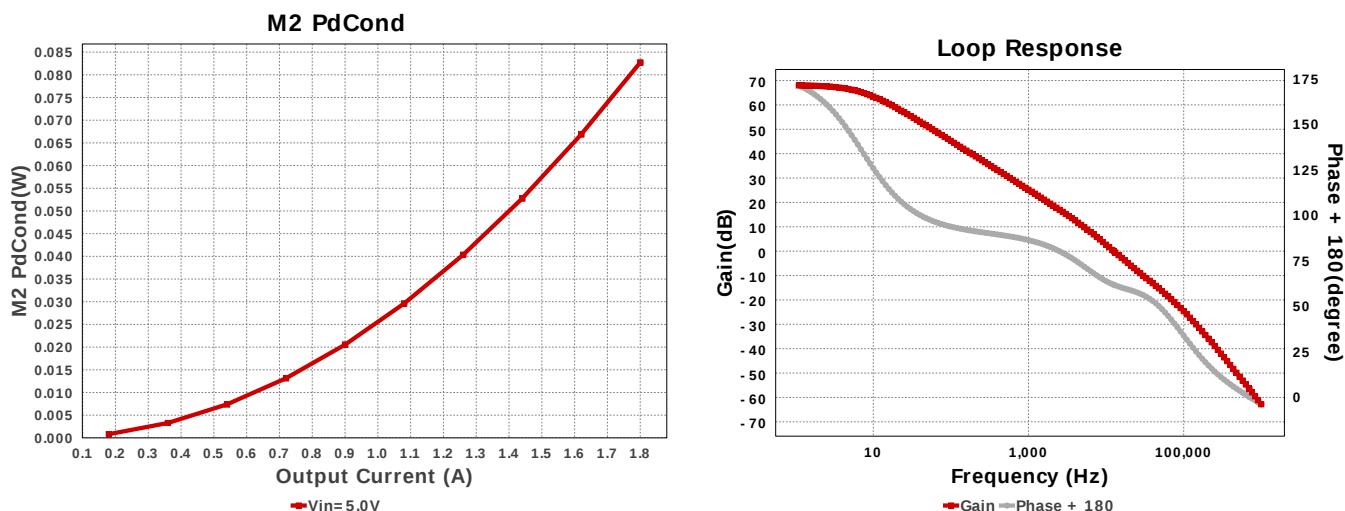
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
11.	Rfbt	Yageo	RC0603FR-073K9L Series= ?	Res= 3900.00hm Power= 100.0 mW Tolerance= 1.0%	1	\$0.01	 0603 5 mm ²
12.	Rpg	Vishay-Dale	CRCW020144K2FNED Series= ?	Res= 44200.00hm Power= 50.0 mW Tolerance= 1.0%	1	\$0.01	 0201 2 mm ²
13.	U1	Texas Instruments	LM20154MH/NOPB	Switcher	1	\$1.80	 MXA16A 59 mm ²











Operating Values

#	Name	Value	Category	Description
1.	BOM Count	15		Total Design BOM count
2.	Total BOM	\$3.536		Total BOM Cost
3.	Cin IRMS	764.43 mA	Capacitor	Input capacitor RMS ripple current
4.	Cin Pd	1.021 mW	Capacitor	Input capacitor power dissipation
5.	Cout IRMS	177.205 mA	Capacitor	Output capacitor RMS ripple current
6.	Cout Pd	15.701 μ W	Capacitor	Output capacitor power dissipation
7.	IC Ipk	2.107 A	IC	Peak switch current in IC
8.	IC Iq Pd	17.5 mW	IC	IC Iq Pd
9.	IC Pd	240.57 mW	IC	IC power dissipation
10.	IC Tj	39.142 degC	IC	IC junction temperature
11.	IC Tolerance	12.0 mV	IC	IC Feedback Tolerance
12.	ICThetaJA	38.0 degC/W	IC	IC junction-to-ambient thermal resistance
13.	Iin Avg	454.85 mA	IC	Average input current
14.	L Ipp	613.855 mA	Inductor	Peak-to-peak inductor ripple current
15.	L Pd	52.65 mW	Inductor	Inductor power dissipation
16.	M Irms	874.619 mA	Mosfet	MOSFET RMS current
17.	M Vds Act	32.896 mV	Mosfet	Voltage drop across the MosFET
18.	M1 PdCond	28.772 mW	Mosfet	M1 MOSFET switching losses
19.	M1 PdSw	90.0 mW	Mosfet	M1 MOSFET switching losses
20.	M2 PdCond	82.701 mW	Mosfet	M2 MOSFET switching losses
21.	M2 Pdbody	21.6 mW	Mosfet	Power dissipation through lower FET
22.	Cin Pd	1.021 mW	Power	Input capacitor power dissipation
23.	Cout Pd	15.701 μ W	Power	Output capacitor power dissipation
24.	IC Drive Pd	20.0 mW	Power	Driver power dissipation
25.	IC Pd	240.57 mW	Power	IC power dissipation
26.	L Pd	52.65 mW	Power	Inductor power dissipation
27.	M1 PdCond	28.772 mW	Power	M1 MOSFET switching losses
28.	M1 PdSw	90.0 mW	Power	M1 MOSFET switching losses
29.	M2 PdCond	82.701 mW	Power	M2 MOSFET switching losses
30.	M2 Pdbody	21.6 mW	Power	Power dissipation through lower FET
31.	Total Pd	294.265 mW	Power	Total Power Dissipation
32.	Cross Freq	12.574 kHz	System	Bode plot crossover frequency
33.	Duty Cycle	23.61 %	System	Duty cycle
34.	Efficiency	87.061 %	System	Steady state efficiency
35.	FootPrint	272.0 mm ²	System	Total Foot Print Area of BOM components
36.	Frequency	1000.0 kHz	System	Switching frequency
37.	Gain Marg	-56.612 dB	System	Bode Plot Gain Margin
38.	Iout	1.8 A	System	Iout operating point
39.	Low Freq Gain	67.983 dB	System	Gain at 1Hz
40.	Mode	CCM	System	Conduction Mode
41.	Phase Marg	61.744 deg	System	Bode Plot Phase Margin

#	Name	Value	Category	Description
42.	Pout	1.98 W	System Information	Total output power
43.	Vin	5.0 V	System Information	Vin operating point
44.	Vout	1.1 V	System Information	Operational Output Voltage
45.	Vout Actual	1.1 V	System Information	Vout Actual calculated based on selected voltage divider resistors
46.	Vout Tolerance	1.805 %	System Information	Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable
47.	Vout p-p	1.123 mV	System Information	Peak-to-peak output ripple voltage

Design Inputs

#	Name	Value	Description
1.	Iout	1.8	Maximum Output Current
2.	VinMax	5.0	Maximum input voltage
3.	VinMin	5.0	Minimum input voltage
4.	Vout	1.1	Output Voltage
5.	base_pn	LM20154	Texas Instruments Base Part Number
6.	source	DC	Input Source Type
7.	ta	30.0	Ambient temperature

Design Assistance

1. LM20154 Product Folder : <http://www.ti.com/product/LM20154> : contains the data sheet and other resources.

Important Notice and Disclaimer

TI provides technical and reliability data (including datasheets), design resources (including reference designs), application or other design advice, web tools, safety information, and other resources AS IS and with all faults, and disclaims all warranties. These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements.

These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

Providing these resources does not expand or otherwise alter TI's applicable Terms of Sale or other applicable terms available either on ti.com or provided in conjunction with TI products.