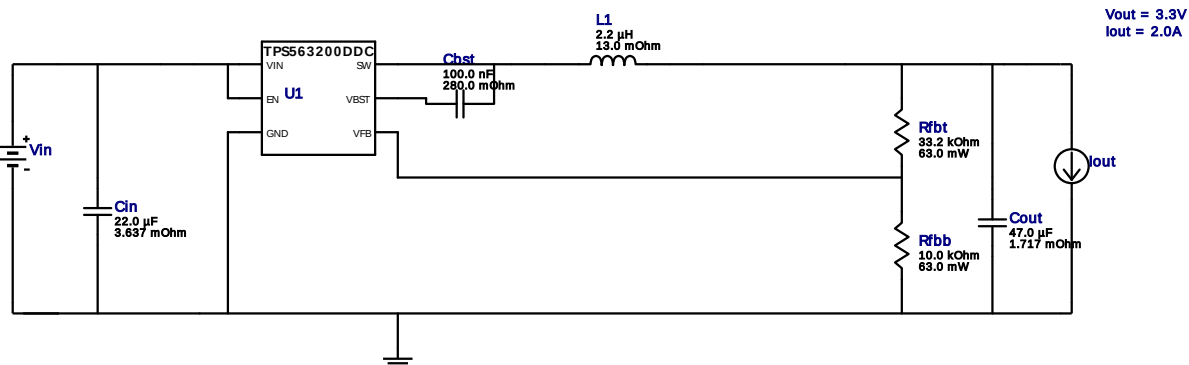


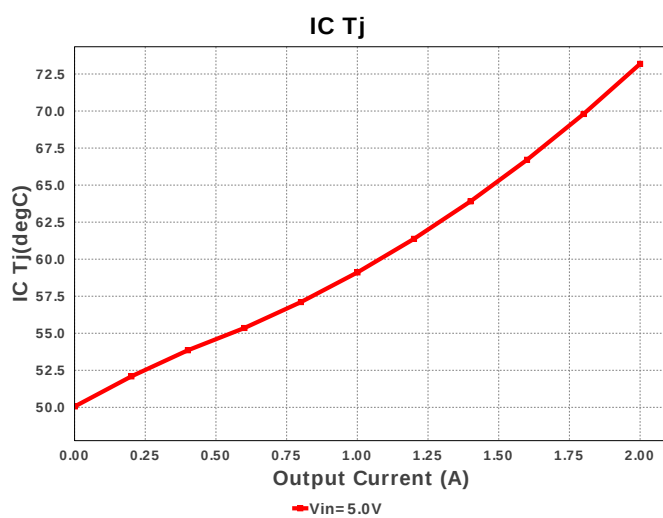
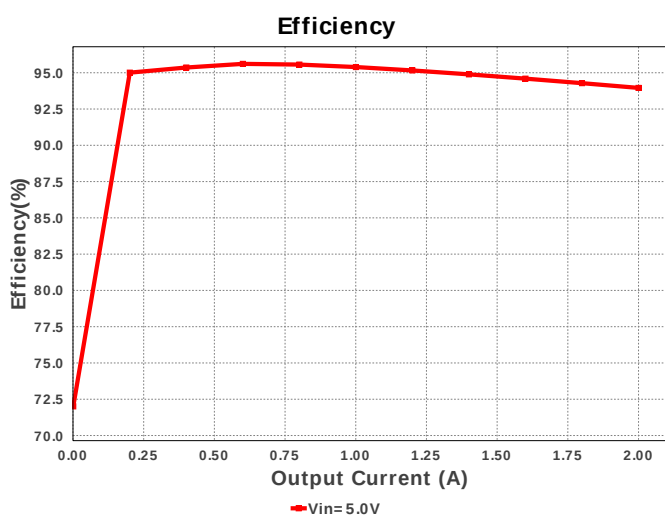
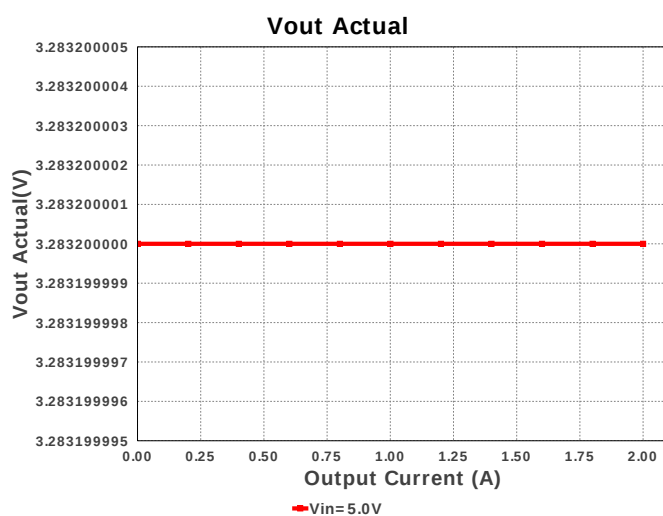
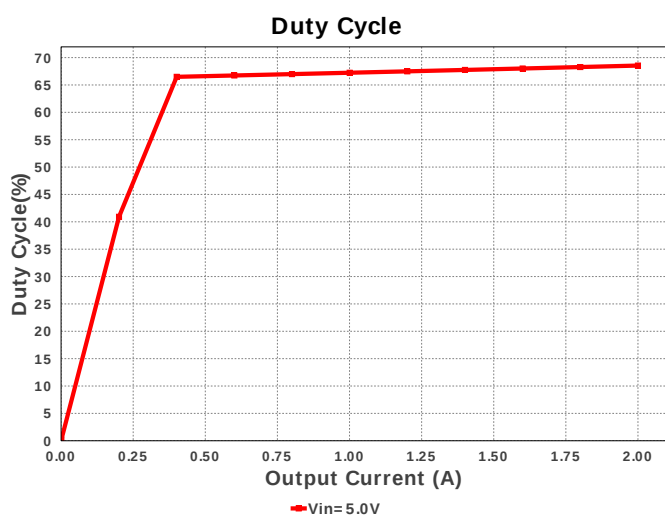
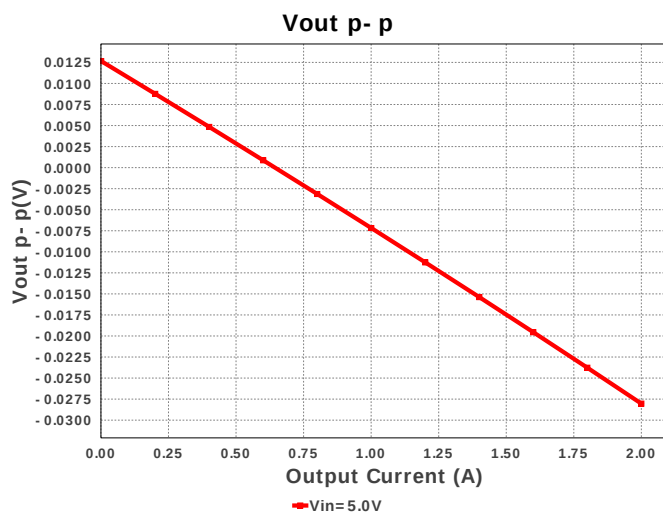
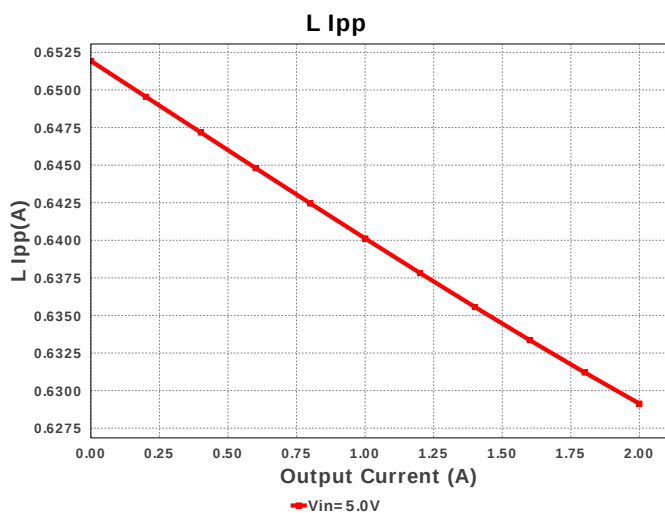
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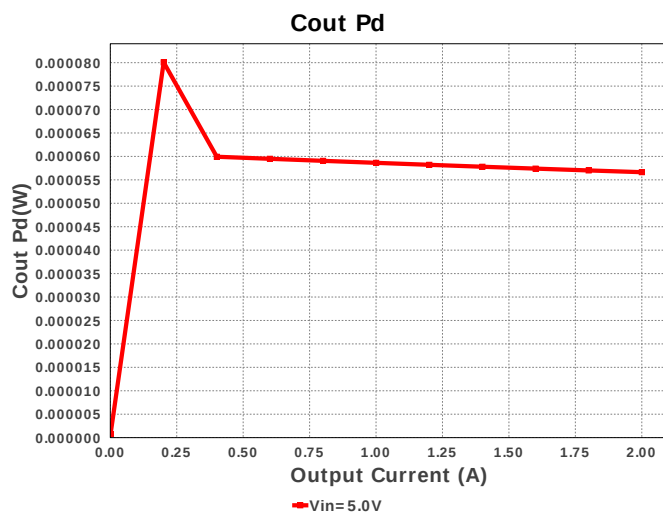
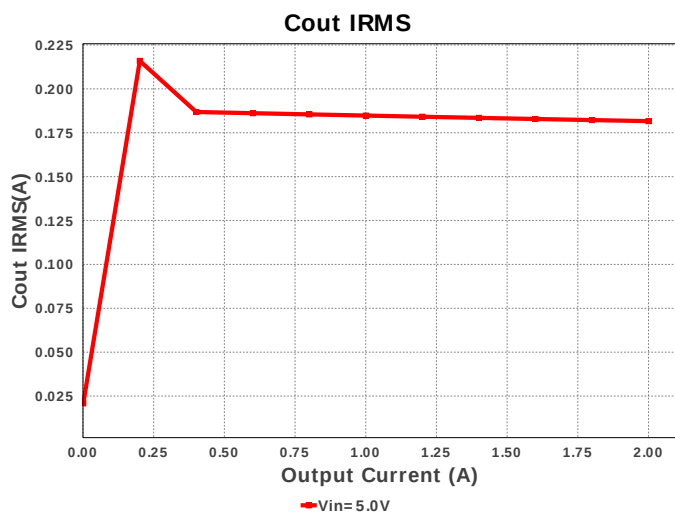
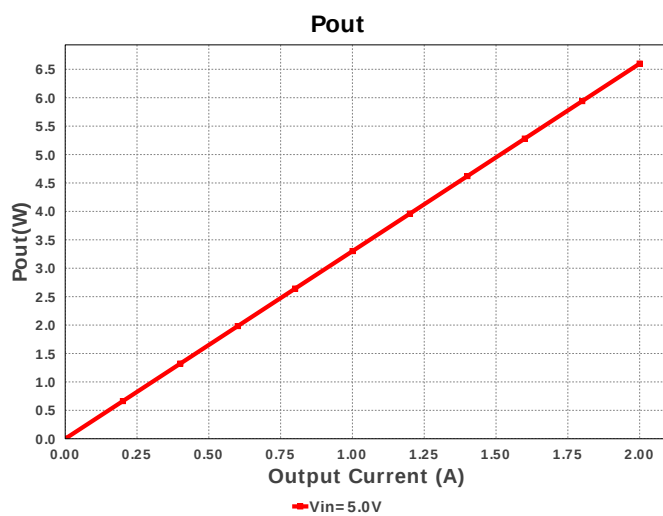
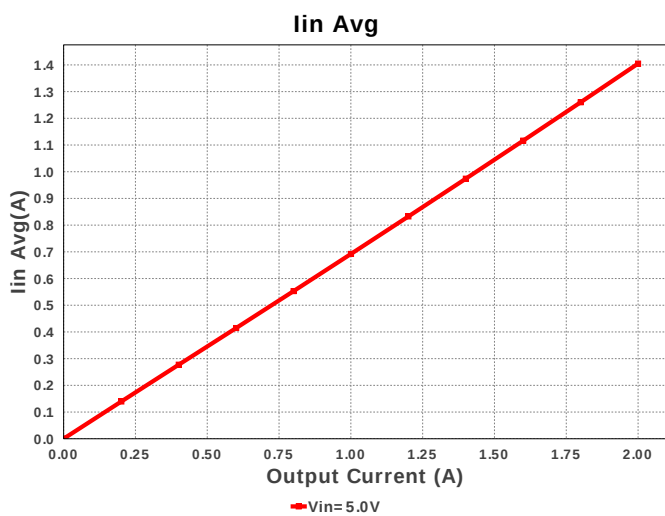
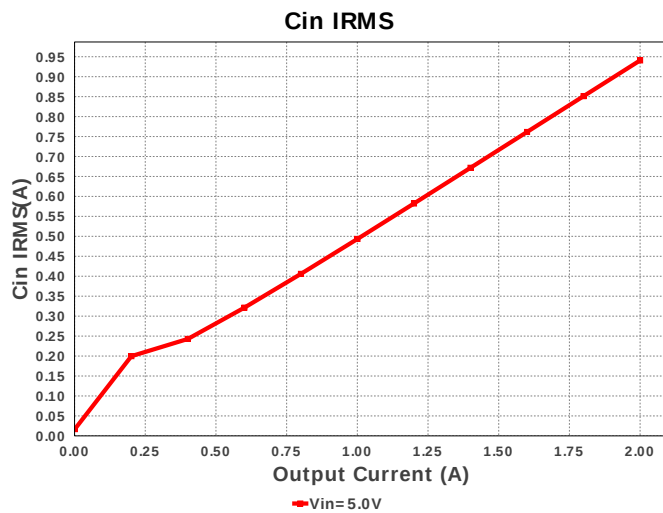
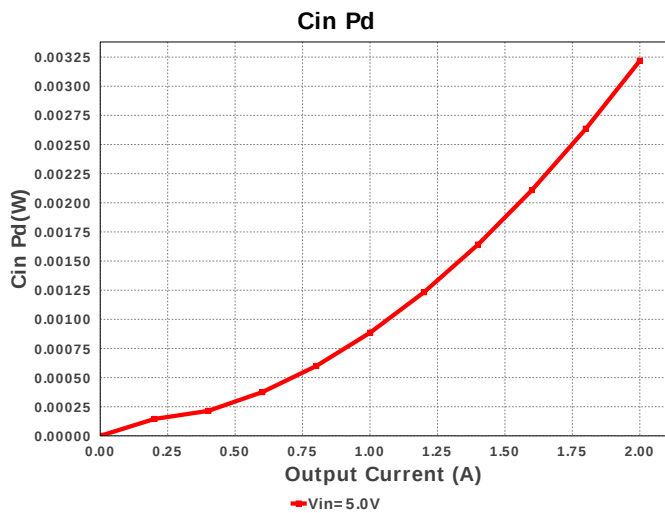
Design : 4779867/2 TPS563200DDCR
TPS563200DDCR 5.0V-5.0V to 3.30V @ 2.0A

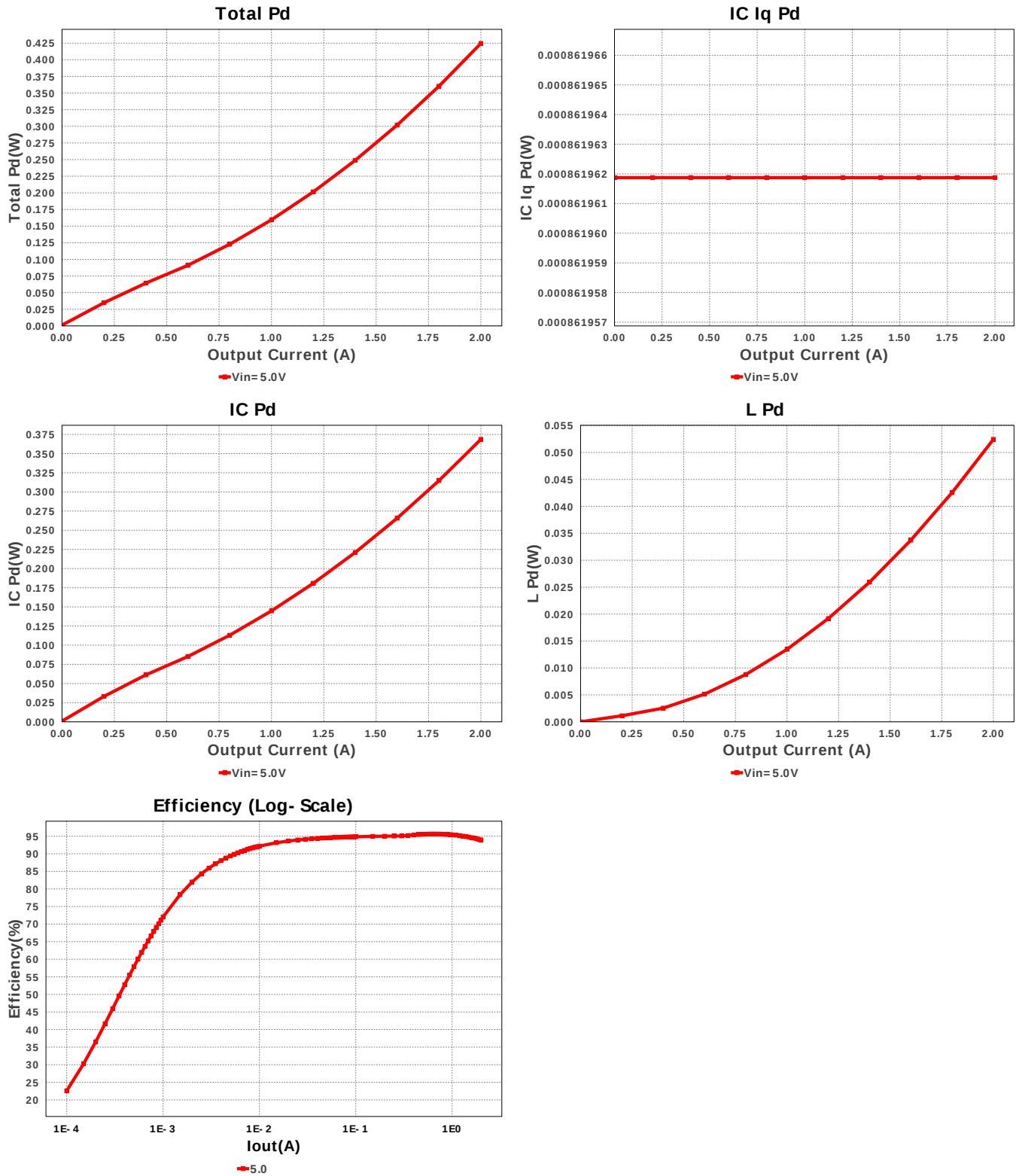


Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cbst	AVX	08053C104KAT2A Series= X7R	Cap= 100.0 nF ESR= 280.0 mOhm VDC= 25.0 V IRMS= 0.0 A	1	\$0.01	 0805 7 mm²
2.	Cin	MuRata	GRM31CR61A226KE19L Series= X5R	Cap= 22.0 uF ESR= 3.637 mOhm VDC= 10.0 V IRMS= 3.56456 A	1	\$0.07	 1206_190 11 mm²
3.	Cout	TDK	C3216JB1A476M Series= JB	Cap= 47.0 uF ESR= 1.717 mOhm VDC= 10.0 V IRMS= 0.0 A	1	\$0.34	 1206 11 mm²
4.	L1	Bourns	SRN8040-2R2Y	L= 2.2 uH DCR= 13.0 mOhm	1	\$0.22	 SRN8040 100 mm²
5.	Rfbb	Vishay-Dale	CRCW040210K0FKED Series= CRCW..e3	Res= 10.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm²
6.	Rfbt	Vishay-Dale	CRCW040233K2FKED Series= CRCW..e3	Res= 33.2 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm²
7.	U1	Texas Instruments	TPS563200DDCR	Switcher	1	\$0.52	 DDC0006A 10 mm²







Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	940.768 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	181.615 mA	Current	Output capacitor RMS ripple current
3.	Iin Avg	1.405 A	Current	Average input current
4.	L Ipp	629.13 mA	Current	Peak-to-peak inductor ripple current
5.	BOM Count	7	General	Total Design BOM count
6.	FootPrint	145.0 mm ²	General	Total Foot Print Area of BOM components
7.	Frequency	772.363 kHz	General	Switching frequency
8.	Mode	CCM	General	Conduction Mode
9.	Pout	6.6 W	General	Total output power
10.	Total BOM	\$1.18	General	Total BOM Cost
11.	Vout Actual	3.283 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors

#	Name	Value	Category	Description
12.	Vout OP	3.3 V	Op_Point	Operational Output Voltage
13.	Duty Cycle	68.545 %	Op_point	Duty cycle
14.	Efficiency	93.956 %	Op_point	Steady state efficiency
15.	IC Tj	73.184 degC	Op_point	IC junction temperature
16.	ICThetaJA	62.9 degC/W	Op_point	IC junction-to-ambient thermal resistance
17.	IOUT_OP	2.0 A	Op_point	Iout operating point
18.	VIN_OP	5.0 V	Op_point	Vin operating point
19.	Vout p-p	2.491 mV	Op_point	Peak-to-peak output ripple voltage
20.	Cin Pd	3.219 mW	Power	Input capacitor power dissipation
21.	Cout Pd	56.634 μ W	Power	Output capacitor power dissipation
22.	IC Iq Pd	861.962 μ W	Power	IC Iq Pd
23.	IC Pd	368.579 mW	Power	IC power dissipation
24.	L Pd	52.429 mW	Power	Inductor power dissipation
25.	Total Pd	424.561 mW	Power	Total Power Dissipation
26.	Vout Tolerance	2.889 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	2.0	Maximum Output Current
2.	VinMax	5.0	Maximum input voltage
3.	VinMin	5.0	Minimum input voltage
4.	Vout	3.3	Output Voltage
5.	base_pn	TPS563200	Texas Instruments Base Part Number
6.	source	DC	Input Source Type
7.	ta	50.0	Ambient temperature

Design Assistance

1. TPS563200 Product Folder : <http://www.ti.com/product/TPS563200> : contains the data sheet and other resources.

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