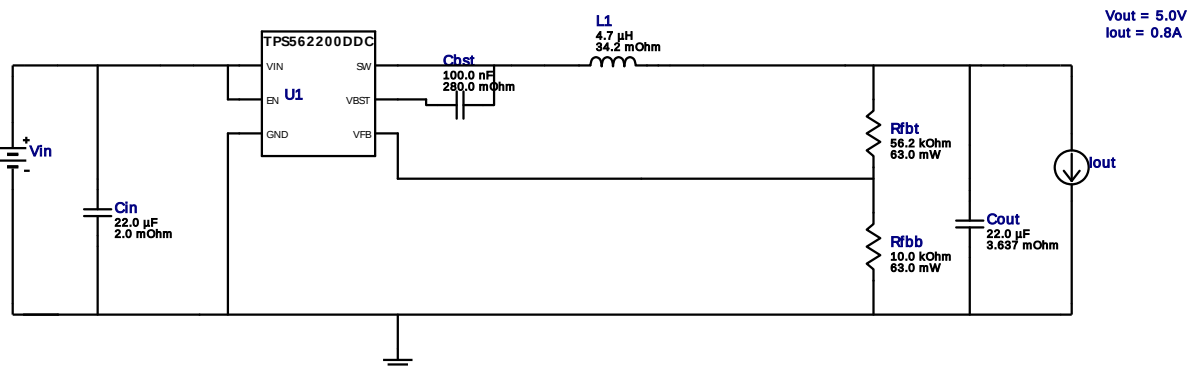


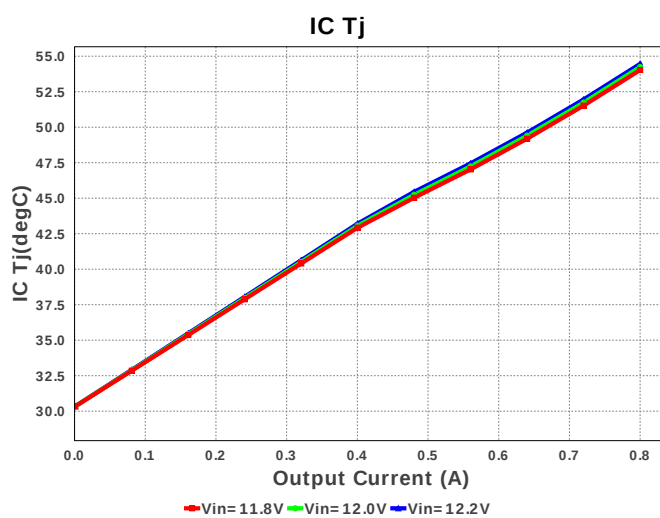
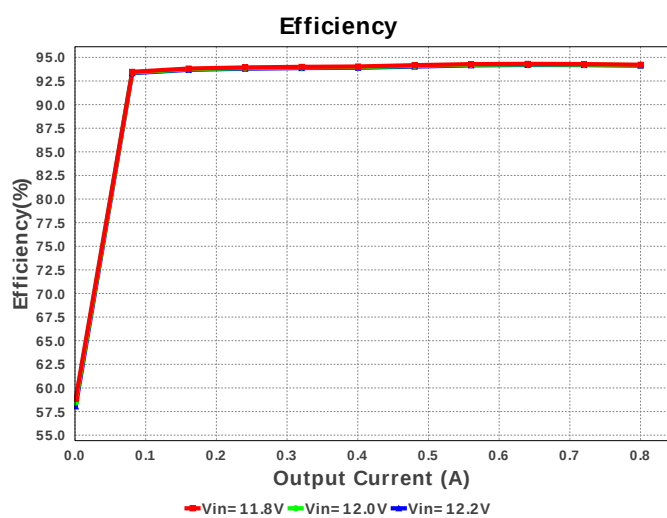
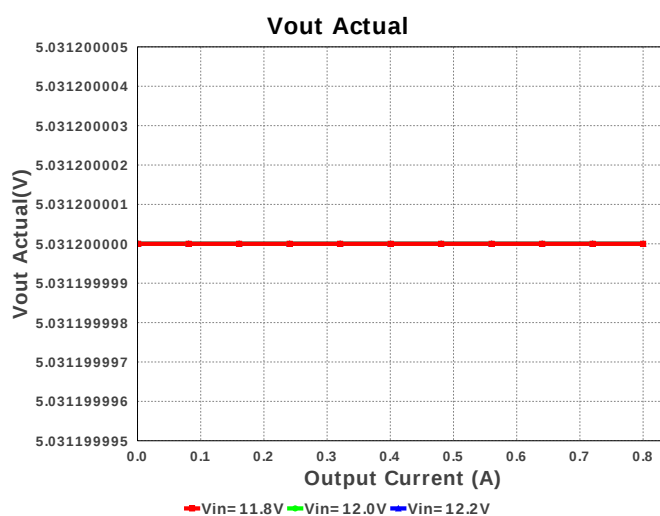
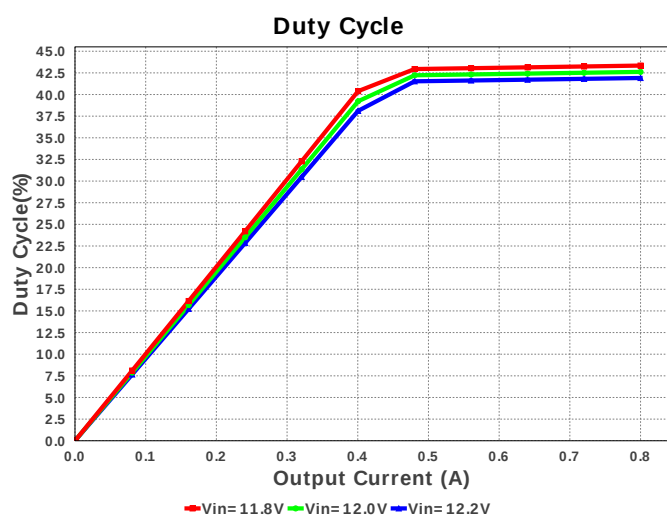
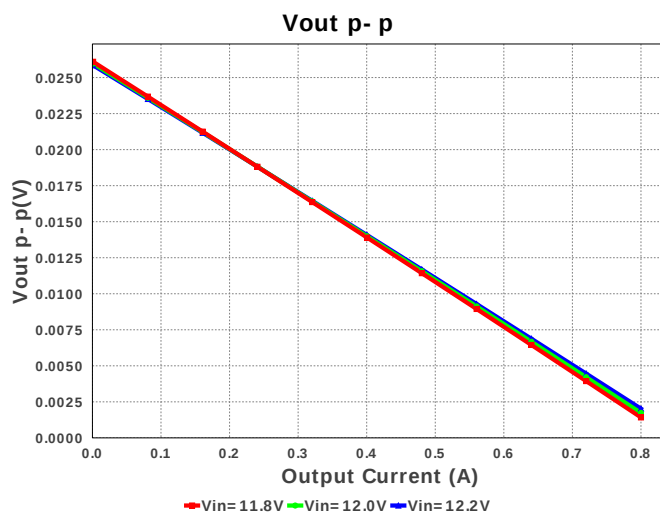
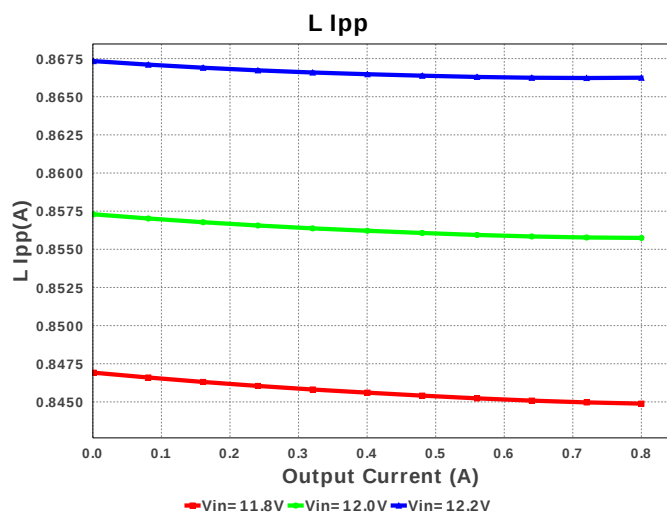
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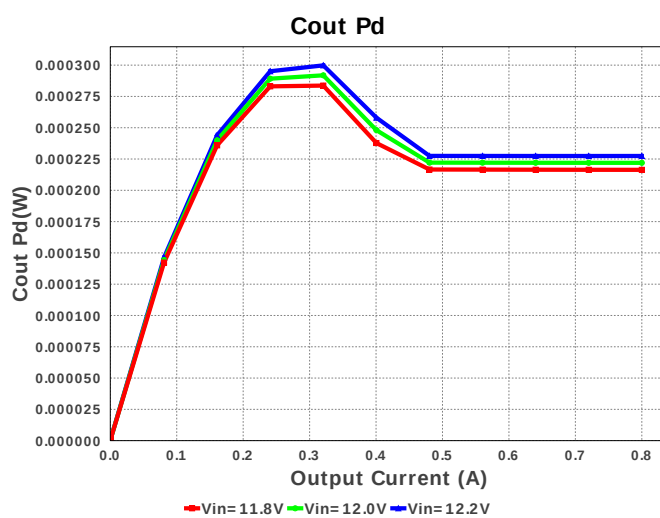
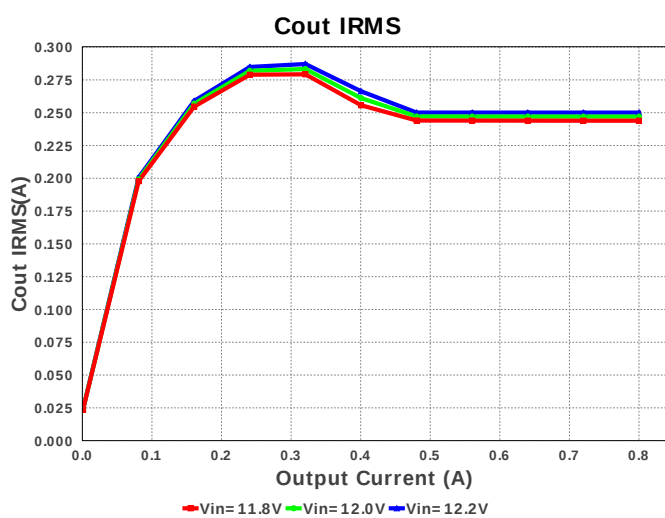
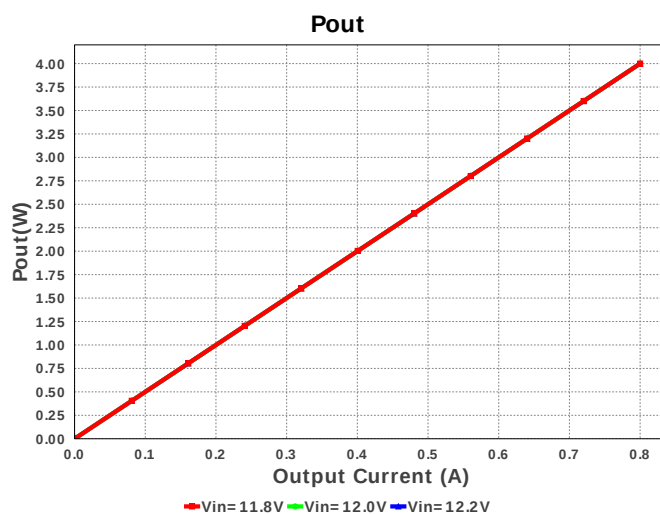
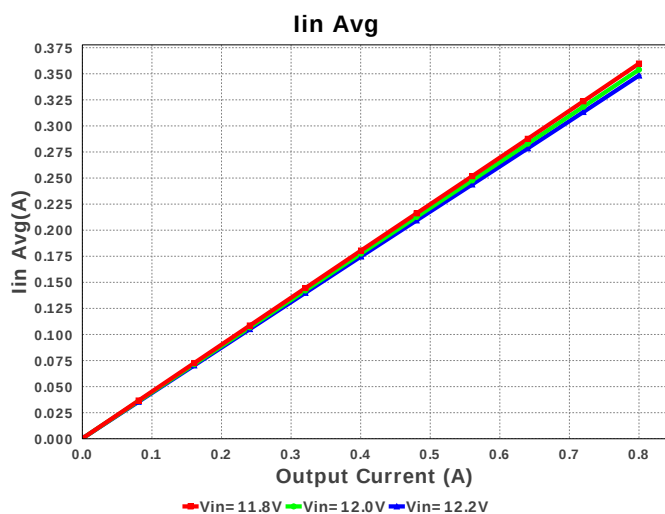
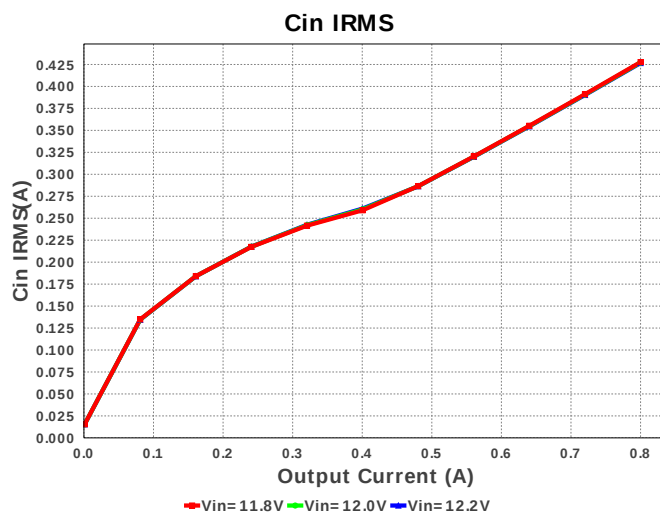
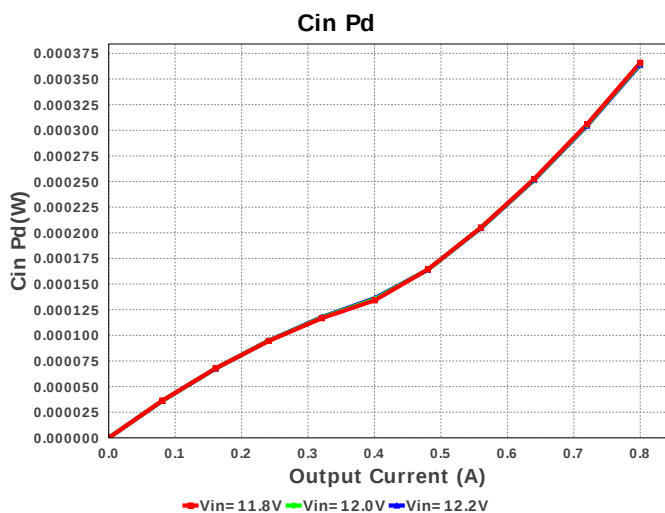
Design : 4772421/1 TPS562200DDCR
TPS562200DDCR 11.8V-12.2V to 5.00V @ 0.8A

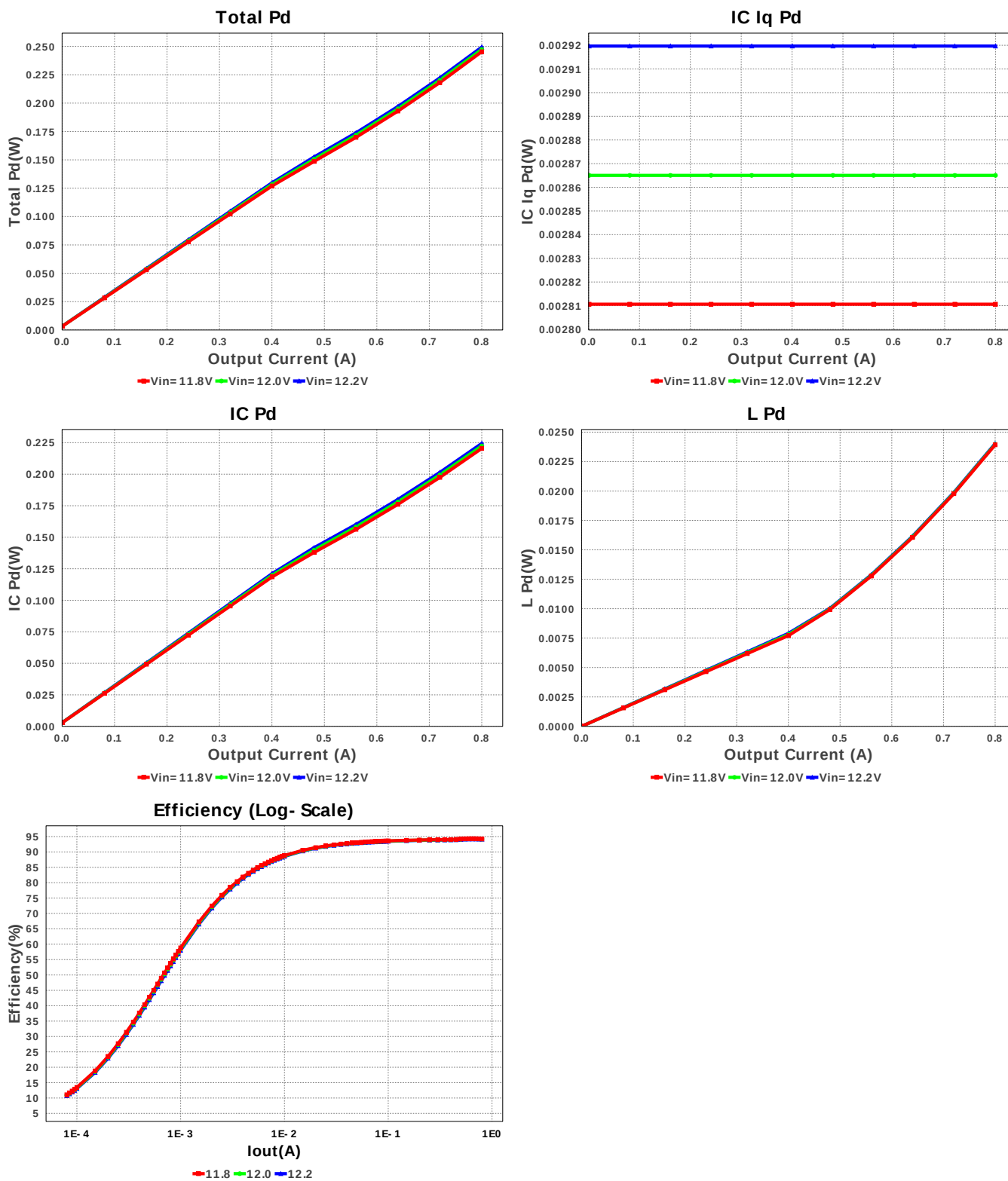


Electrical BOM

#	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 mm ²
2.	Cin	MuRata	GRM32ER61E226KE15L Series= X5R	Cap= 22.0 uF ESR= 2.0 mOhm VDC= 25.0 V IRMS= 3.67 A	1	\$0.16	1210 15 mm ²
3.	Cout	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 mm ²
4.	L1	Coilcraft	MSS5131-472MLB	L= 4.7 uH DCR= 34.2 mOhm	1	\$0.48	MSS5131 50 mm ²
5.	Rfbb	Vishay-Dale	CRCW040210K0FKED Series= CRCW..e3	Res= 10.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
6.	Rfbt	Vishay-Dale	CRCW040256K2FKED Series= CRCW..e3	Res= 56.2 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
7.	U1	Texas Instruments	TPS562200DDCR	Switcher	1	\$0.47	DDC0006A 10 mm ²







Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	426.633 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	250.064 mA	Current	Output capacitor RMS ripple current
3.	Iin Avg	348.31 mA	Current	Average input current
4.	L Ipp	866.25 mA	Current	Peak-to-peak inductor ripple current
5.	BOM Count	7	General	Total Design BOM count
6.	FootPrint	99.0 mm ²	General	Total Foot Print Area of BOM components
7.	Frequency	722.061 kHz	General	Switching frequency
8.	Mode	CCM	General	Conduction Mode
9.	Pout	4.0 W	General	Total output power
10.	Total BOM	\$1.21	General	Total BOM Cost
11.	Vout Actual	5.031 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors

#	Name	Value	Category	Description
12.	Vout OP	5.0 V	Op_Point	Operational Output Voltage
13.	Duty Cycle	41.909 %	Op_point	Duty cycle
14.	Efficiency	94.131 %	Op_point	Steady state efficiency
15.	IC Tj	54.461 degC	Op_point	IC junction temperature
16.	ICThetaJA	109.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
17.	IOUT_OP	800.0 mA	Op_point	Iout operating point
18.	VIN_OP	12.2 V	Op_point	Vin operating point
19.	Vout p-p	8.225 mV	Op_point	Peak-to-peak output ripple voltage
20.	Cin Pd	364.032 μ W	Power	Input capacitor power dissipation
21.	Cout Pd	227.428 μ W	Power	Output capacitor power dissipation
22.	IC Iq Pd	2.92 mW	Power	IC Iq Pd
23.	IC Pd	224.409 mW	Power	IC power dissipation
24.	L Pd	24.027 mW	Power	Inductor power dissipation
25.	Total Pd	249.396 mW	Power	Total Power Dissipation
26.	Vout Tolerance	3.053 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	800.0 m	Maximum Output Current
2.	VinMax	12.2	Maximum input voltage
3.	VinMin	11.8	Minimum input voltage
4.	Vout	5.0	Output Voltage
5.	base_pn	TPS562200	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **TPS562200** Product Folder : <http://www.ti.com/product/TPS562200> : contains the data sheet and other resources.

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