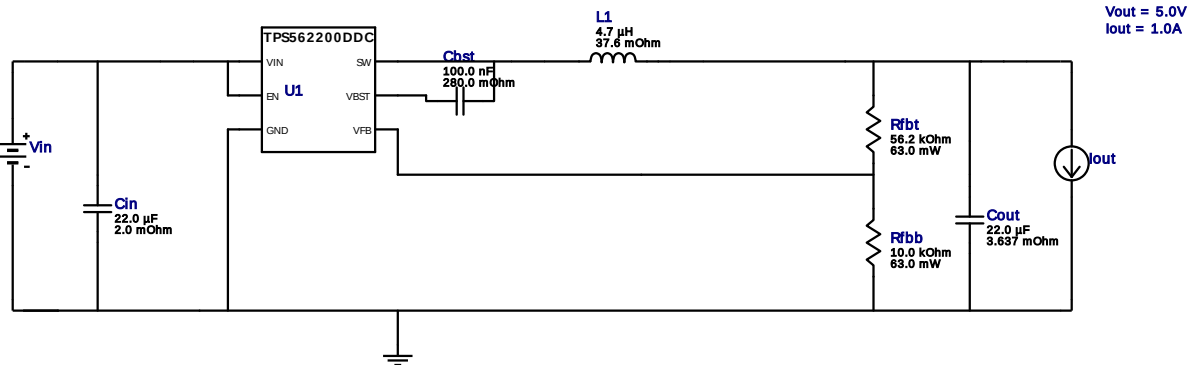


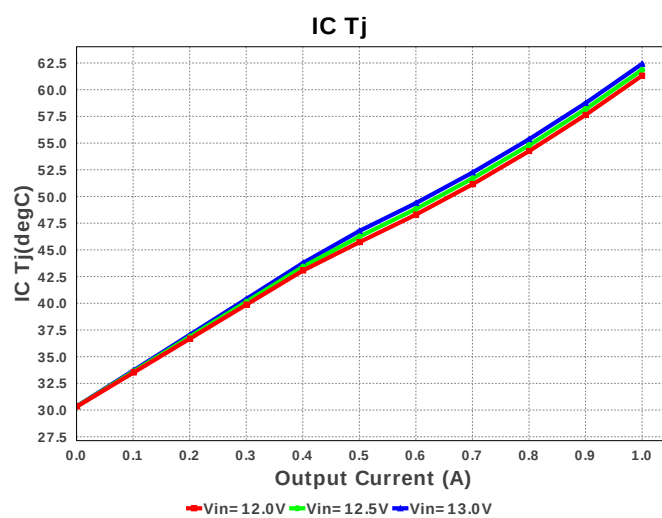
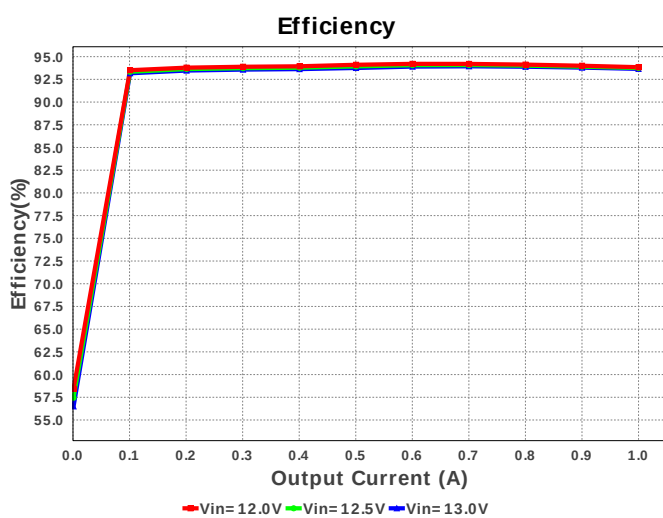
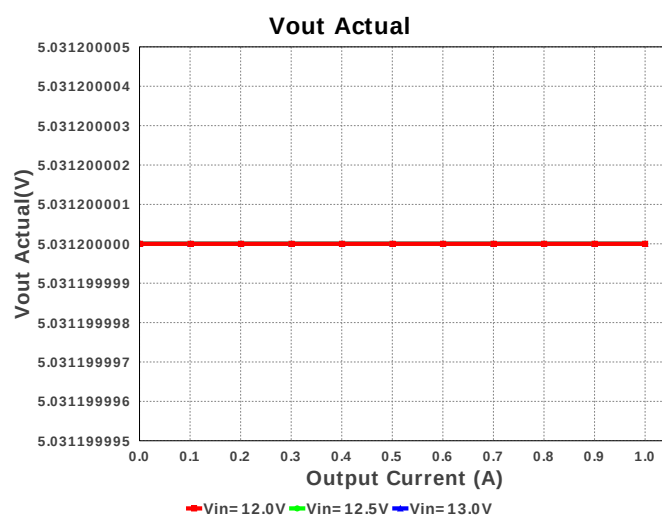
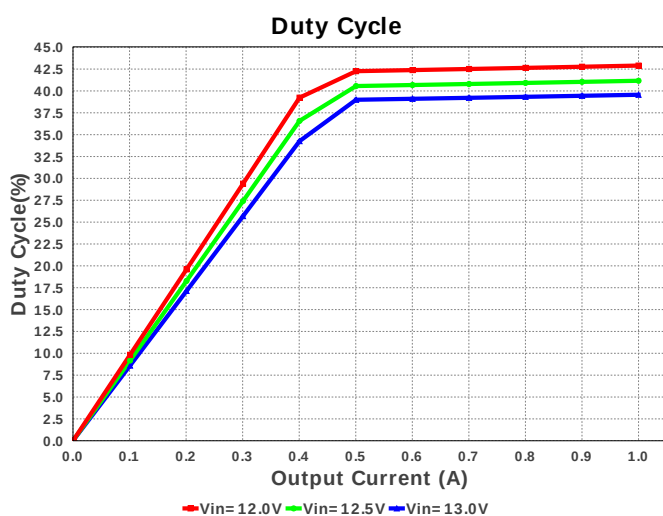
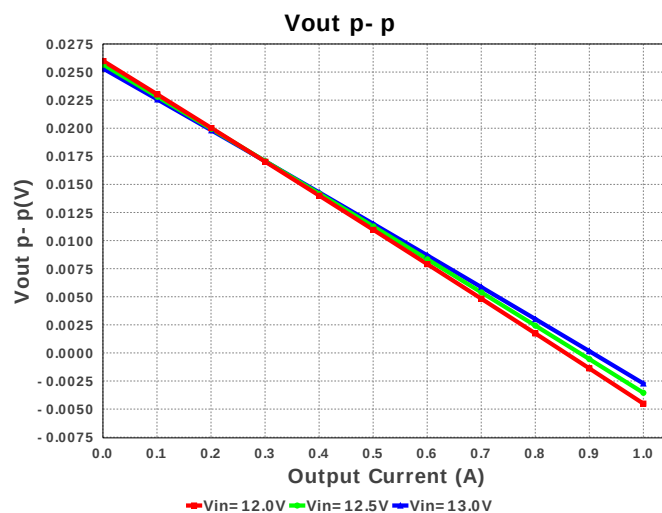
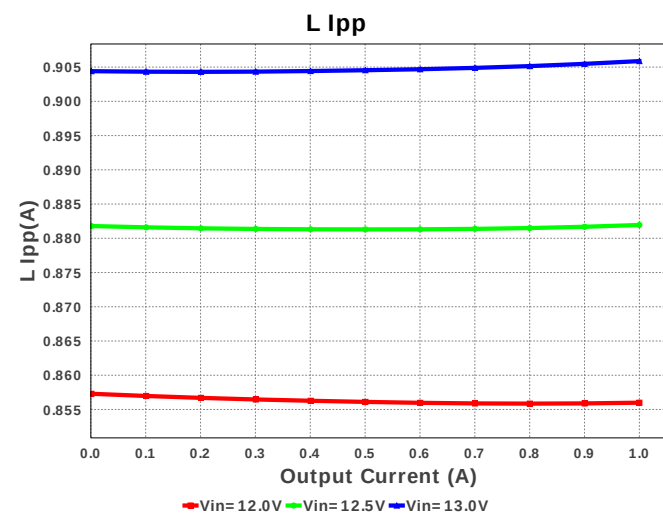
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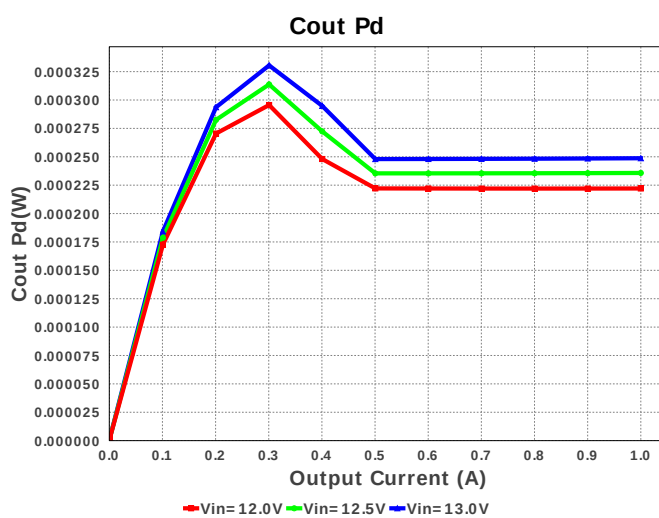
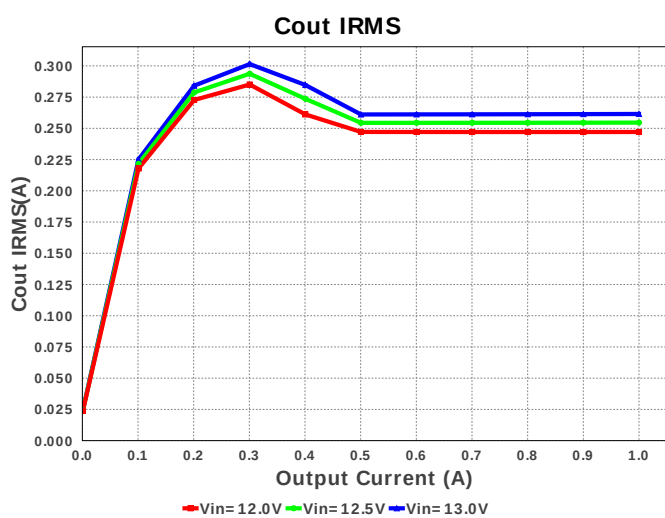
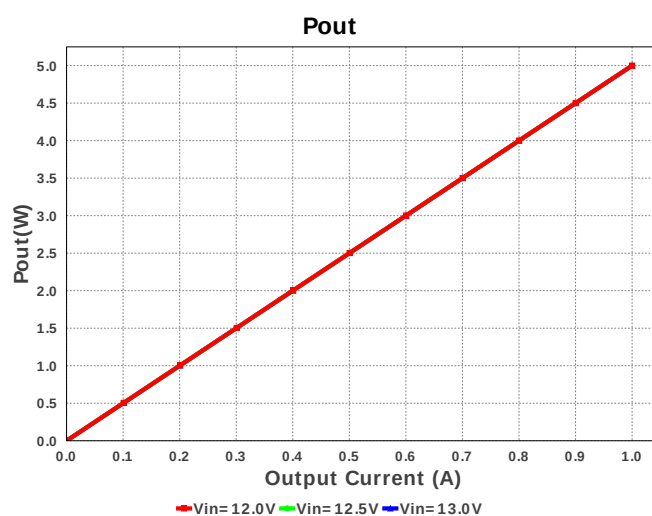
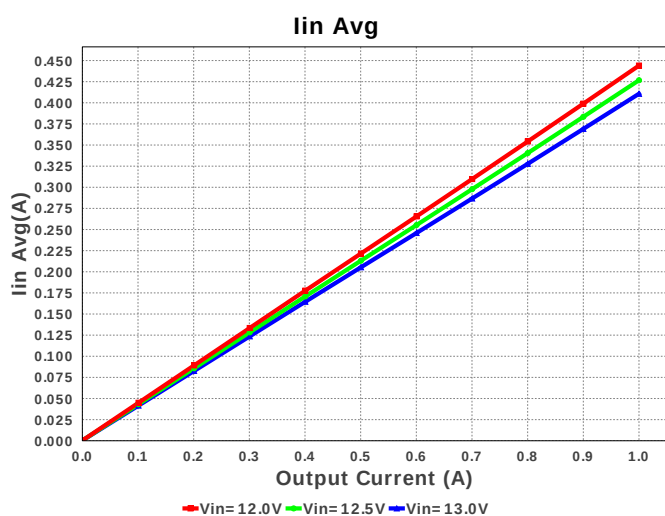
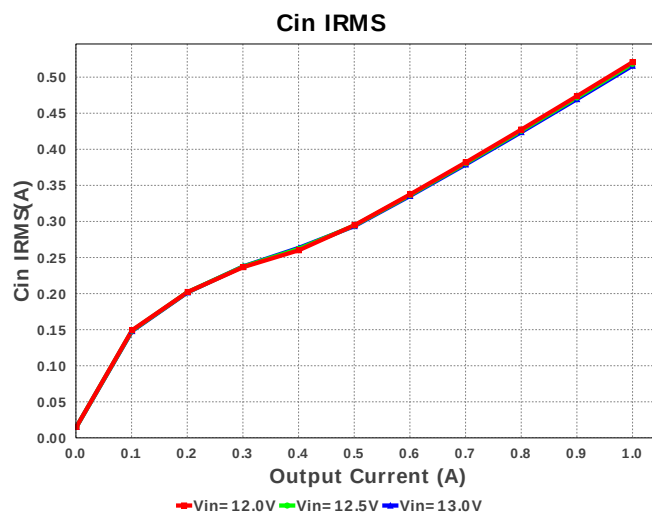
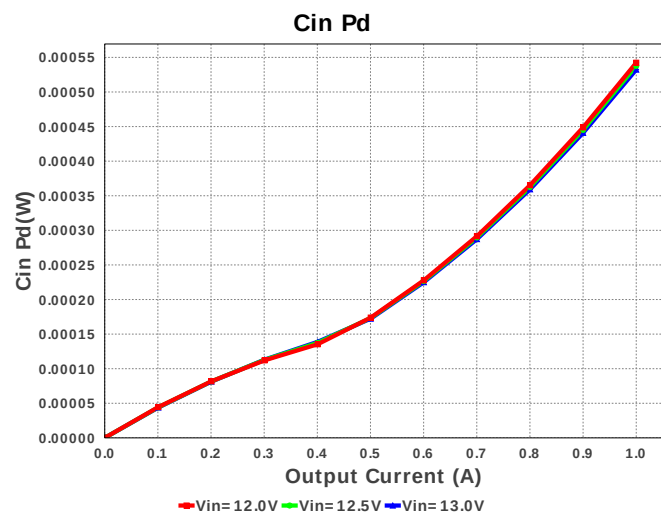
Design : 4742013/45 TPS562200DDCR
TPS562200DDCR 12.0V-13.0V to 5.00V @ 1.0A

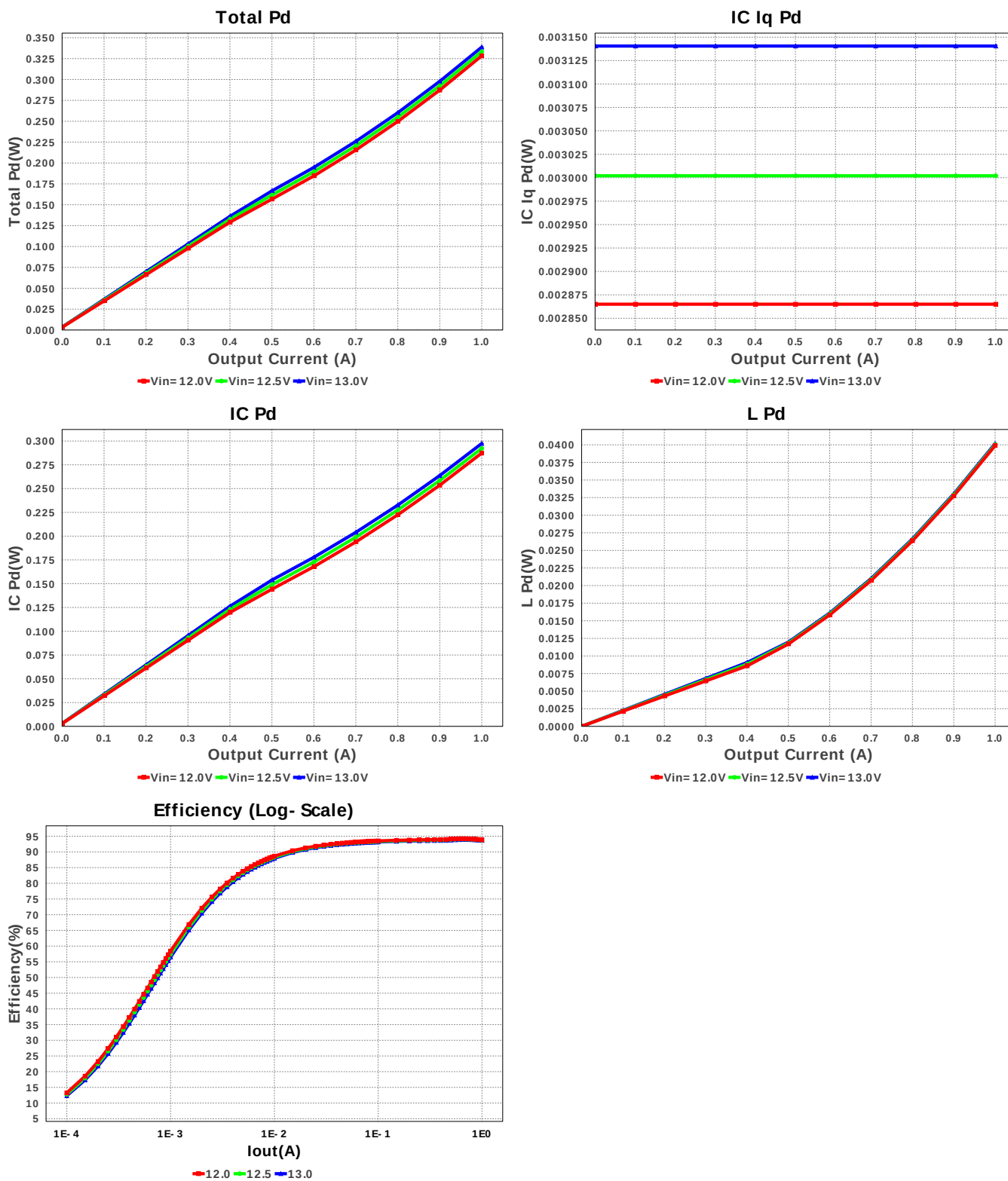


Electrical BOM

#	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 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	Bourns	SRN6045-4R7Y	L= 4.7 uH DCR= 37.6 mOhm	1	\$0.16	 SRN6045 64 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.	Rfbb	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	515.91 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	261.504 mA	Current	Output capacitor RMS ripple current
3.	Iin Avg	410.67 mA	Current	Average input current
4.	L Ipp	905.88 mA	Current	Peak-to-peak inductor ripple current
5.	BOM Count	7	General	Total Design BOM count
6.	FootPrint	113.0 mm ²	General	Total Foot Print Area of BOM components
7.	Frequency	721.554 kHz	General	Switching frequency
8.	Pout	5.0 W	General	Total output power
9.	Total BOM	\$0.89	General	Total BOM Cost
10.	Vout Actual	5.031 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
11.	Vout OP	5.0 V	Op_Point	Operational Output Voltage

#	Name	Value	Category	Description
12.	Duty Cycle	39.563 %	Op_point	Duty cycle
13.	Efficiency	93.655 %	Op_point	Steady state efficiency
14.	IC Tj	62.418 degC	Op_point	IC junction temperature
15.	ICThetaJA	109.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
16.	IOUT_OP	1.0 A	Op_point	Iout operating point
17.	VIN_OP	13.0 V	Op_point	Vin operating point
18.	Vout p-p	8.613 mV	Op_point	Peak-to-peak output ripple voltage
19.	Cin Pd	532.326 μ W	Power	Input capacitor power dissipation
20.	Cout Pd	248.714 μ W	Power	Output capacitor power dissipation
21.	IC Iq Pd	3.141 mW	Power	IC Iq Pd
22.	IC Pd	297.413 mW	Power	IC power dissipation
23.	L Pd	40.171 mW	Power	Inductor power dissipation
24.	Total Pd	338.741 mW	Power	Total Power Dissipation
25.	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	1.0	Maximum Output Current
2.	VinMax	13.0	Maximum input voltage
3.	VinMin	12.0	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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