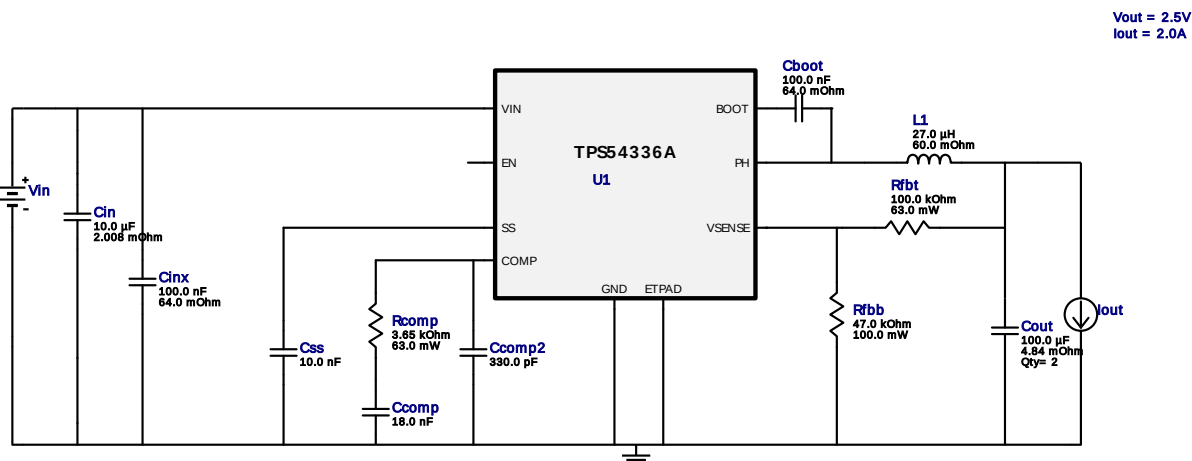


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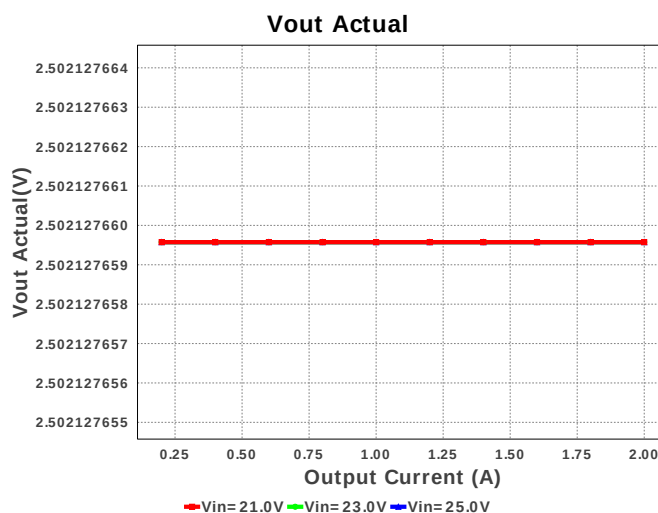
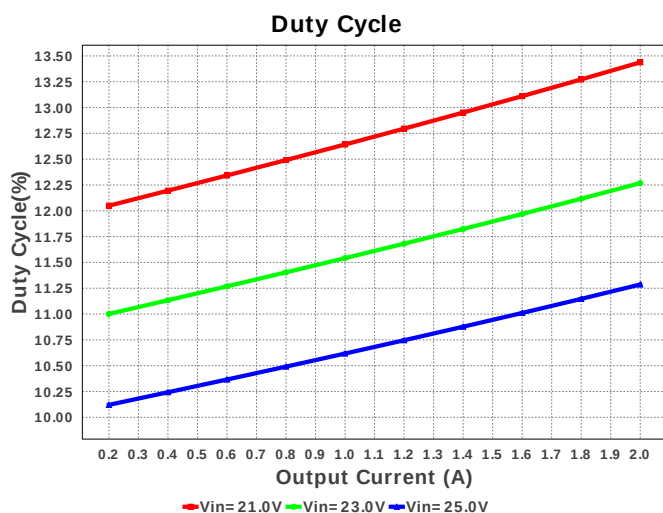
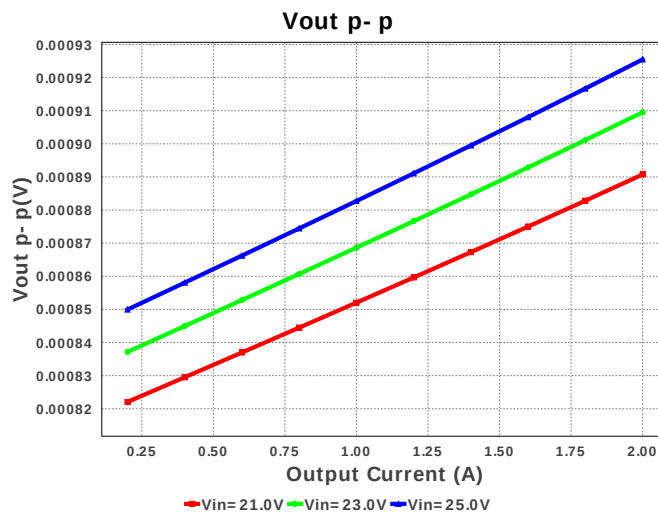
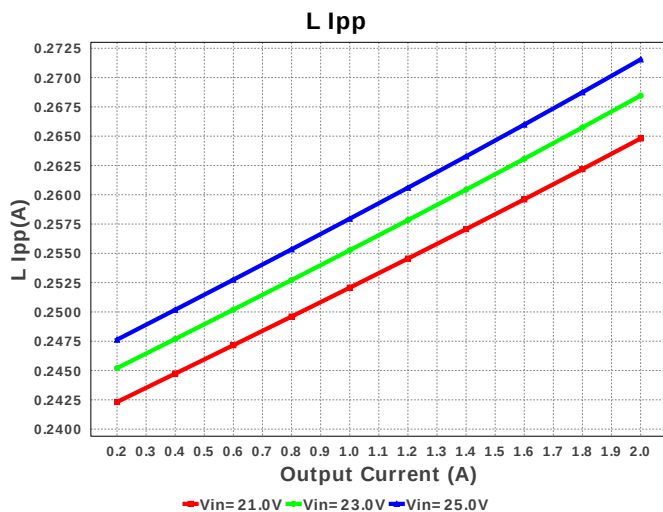
Design : 4742013/185 TPS54336ADDAR
TPS54336ADDAR 21.0V-25.0V to 2.50V @ 2.0A

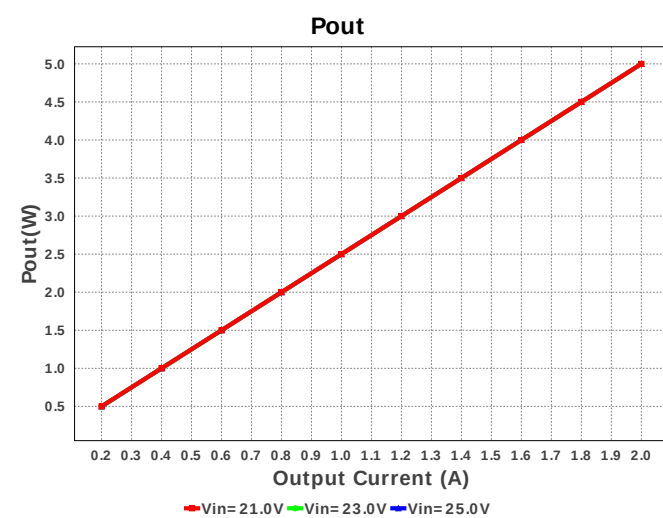
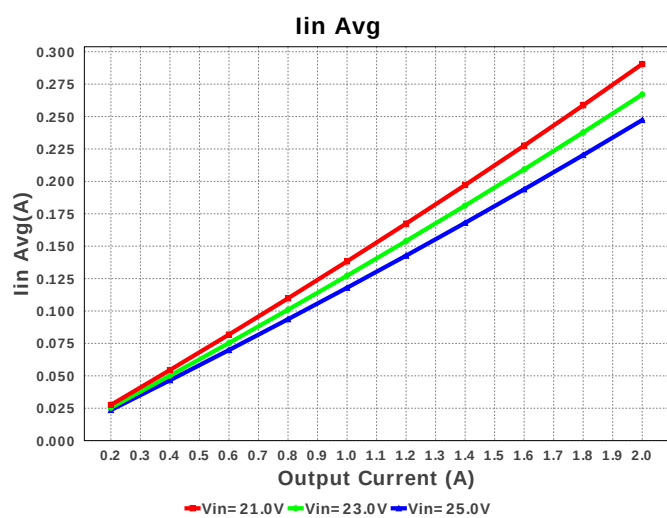
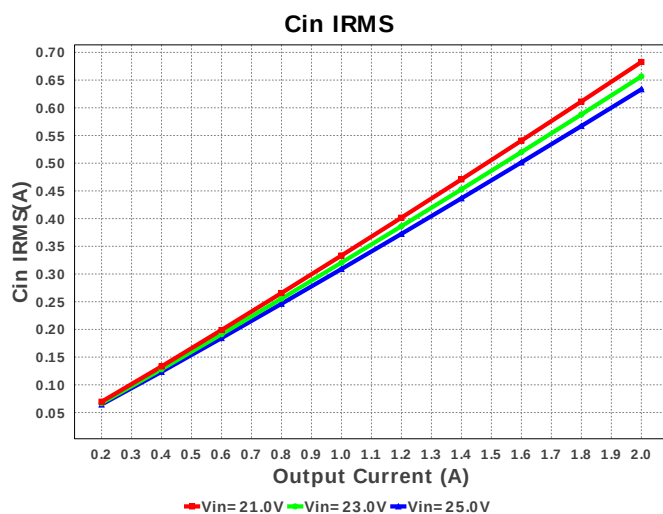
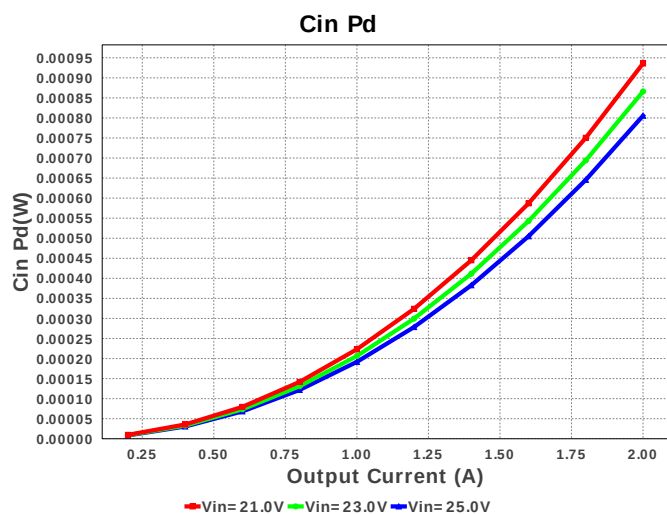
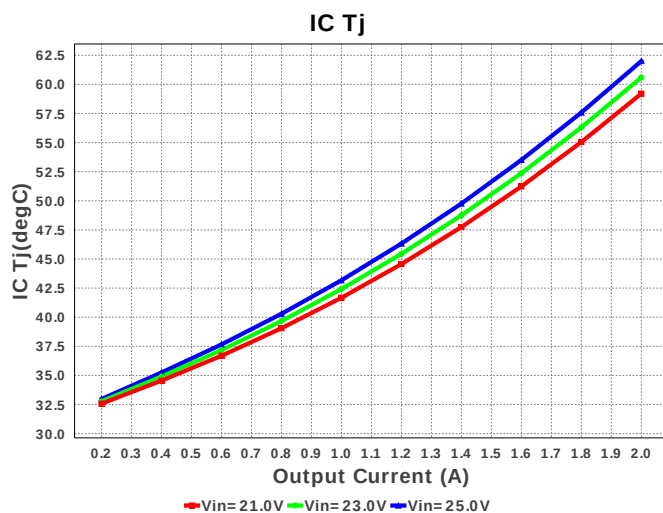
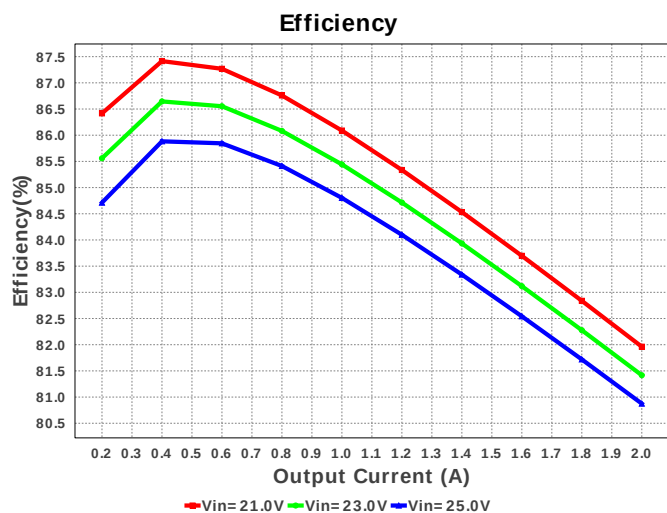


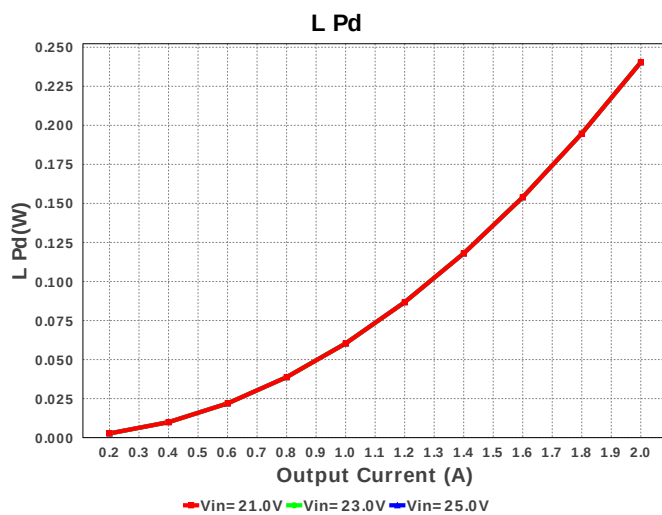
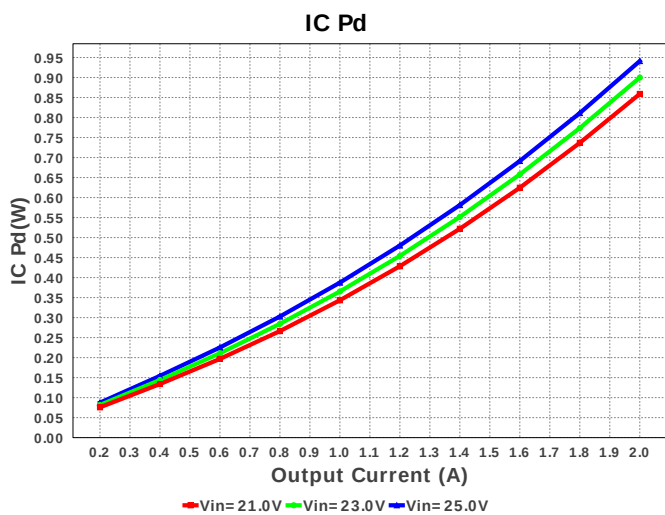
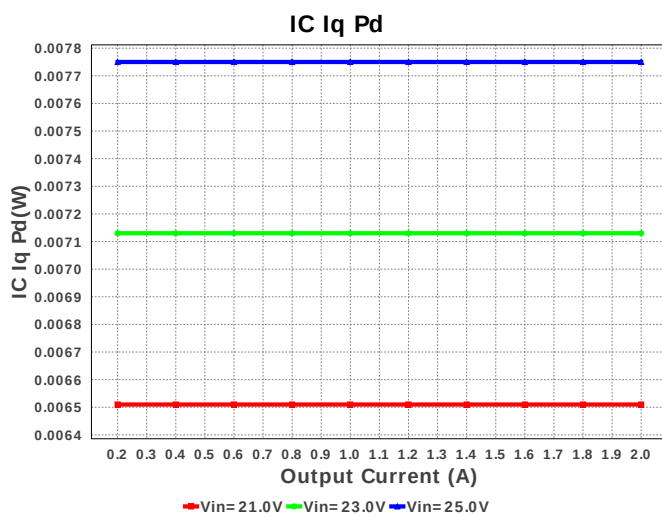
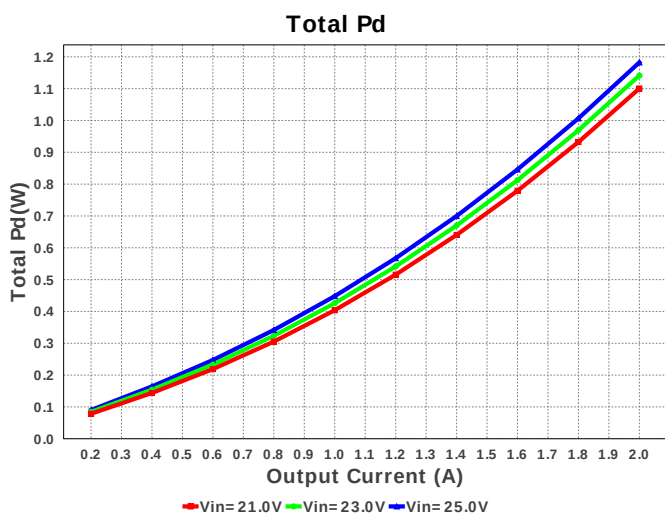
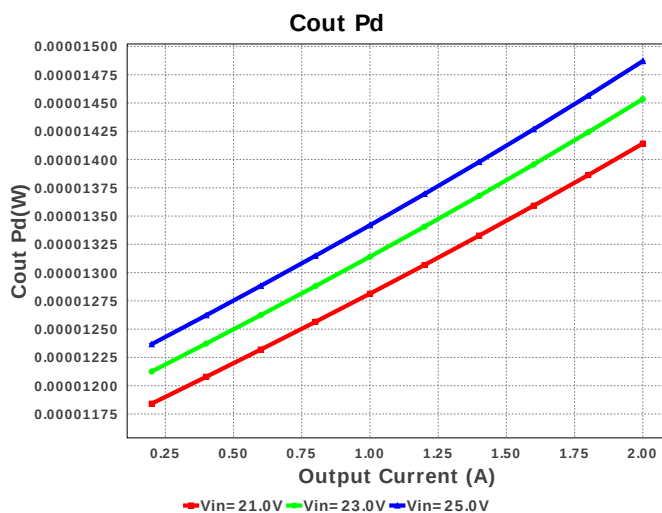
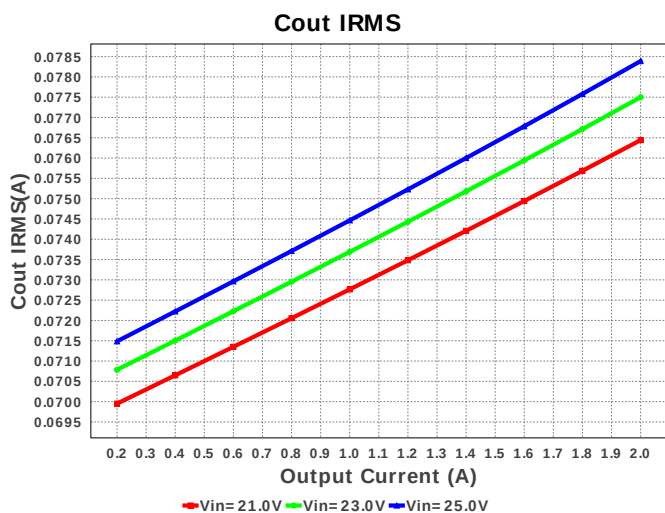
Electrical BOM

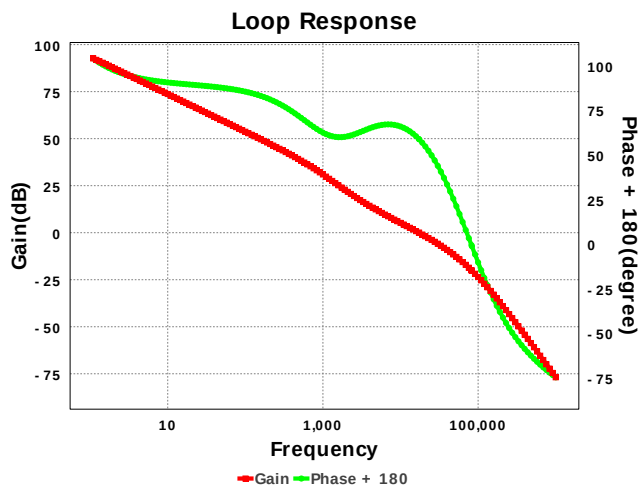
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cboot	Kemet	C0805C104K5RACTU Series= X7R	Cap= 100.0 nF ESR= 64.0 mOhm VDC= 50.0 V IRMS= 1.64 A	1	\$0.01	0805 7 mm ²
2.	Ccomp	Yageo America	CC0805KRX7R9BB183 Series= X7R	Cap= 18.0 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	0805 7 mm ²
3.	Ccomp2	Samsung Electro-Mechanics	CL21C331JBANFNC Series= C0G/NP0	Cap= 330.0 pF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	0805 7 mm ²
4.	Cin	MuRata	GRM32ER7YA106KA12L Series= X7R	Cap= 10.0 uF ESR= 2.008 mOhm VDC= 35.0 V IRMS= 4.6772 A	1	\$0.22	1210_280 15 mm ²
5.	Cinx	Kemet	C0805C104K5RACTU Series= X7R	Cap= 100.0 nF ESR= 64.0 mOhm VDC= 50.0 V IRMS= 1.64 A	1	\$0.01	0805 7 mm ²
6.	Cout	MuRata	GRM31CD80G107ME39L Series= X6T	Cap= 100.0 uF ESR= 4.84 mOhm VDC= 4.0 V IRMS= 4.3381 A	2	\$0.14	1206_190 11 mm ²
7.	Css	MuRata	GRM033R61A103KA01D Series= X5R	Cap= 10.0 nF VDC= 10.0 V IRMS= 0.0 A	1	\$0.01	0201 2 mm ²
8.	L1	Bourns	SDR1307-270ML	L= 27.0 uH DCR= 60.0 mOhm	1	\$0.35	SDR1307 227 mm ²
9.	Rcomp	Vishay-Dale	CRCW04023K65FKED Series= CRCW.e3	Res= 3.65 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
10.	Rfbb	Yageo America	RC0603FR-0747KL Series= ?	Res= 47.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	\$0.01	0603 5 mm ²
11.	Rfbt	Vishay-Dale	CRCW0402100KFKED Series= CRCW..e3	Res= 100.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
12.	U1	Texas Instruments	TPS54336ADDAR	Switcher	1	\$0.90	

R-PDSO-G8 57 mm²







Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	633.396 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	78.389 mA	Current	Output capacitor RMS ripple current
3.	Iin Avg	247.3 mA	Current	Average input current
4.	L Ipp	271.55 mA	Current	Peak-to-peak inductor ripple current
5.	BOM Count	13	General	Total Design BOM count
6.	FootPrint	360.0 mm ²	General	Total Foot Print Area of BOM components
7.	Frequency	340.0 kHz	General	Switching frequency
8.	IC Tolerance	12.0 mV	General	IC Feedback Tolerance
9.	Pout	5.0 W	General	Total output power
10.	Total BOM	\$1.83	General	Total BOM Cost
11.	ICThetaJA Effective	34.0 degC/W	Op_Point	Effective IC Junction-to-Ambient Thermal Resistance
12.	Low Freq Gain	92.638 dB	Op_Point	Gain at 10Hz
13.	Vout Actual	2.502 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
14.	Vout OP	2.5 V	Op_Point	Operational Output Voltage
15.	Cross Freq	17.267 kHz	Op_point	Bode plot crossover frequency
16.	Duty Cycle	11.286 %	Op_point	Duty cycle
17.	Efficiency	80.875 %	Op_point	Steady state efficiency
18.	Gain Marg	-19.97 dB	Op_point	Bode Plot Gain Margin
19.	IC Tj	62.0 degC	Op_point	IC junction temperature
20.	IOUT_OP	2.0 A	Op_point	Iout operating point
21.	Phase Marg	59.479 deg	Op_point	Bode Plot Phase Margin
22.	VIN_OP	25.0 V	Op_point	Vin operating point
23.	Vout p-p	925.483 μ V	Op_point	Peak-to-peak output ripple voltage
24.	Cin Pd	805.591 μ W	Power	Input capacitor power dissipation
25.	Cout Pd	14.87 μ W	Power	Output capacitor power dissipation
26.	IC Iq Pd	7.75 mW	Power	IC Iq Pd
27.	IC Pd	941.181 mW	Power	IC power dissipation
28.	L Pd	240.369 mW	Power	Inductor power dissipation
29.	Total Pd	1.182 W	Power	Total Power Dissipation
30.	Vout Tolerance	2.895 %		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	25.0	Maximum input voltage
3.	VinMin	21.0	Minimum input voltage
4.	Vout	2.5	Output Voltage
5.	base_pn	TPS54336A	Texas Instruments Base Part Number
6.	source	DC	Input Source Type
7.	ta	30.0	Ambient temperature

Design Assistance

1. TPS54336A Product Folder : <http://www.ti.com/product/TPS54336A> : contains the data sheet and other resources.

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