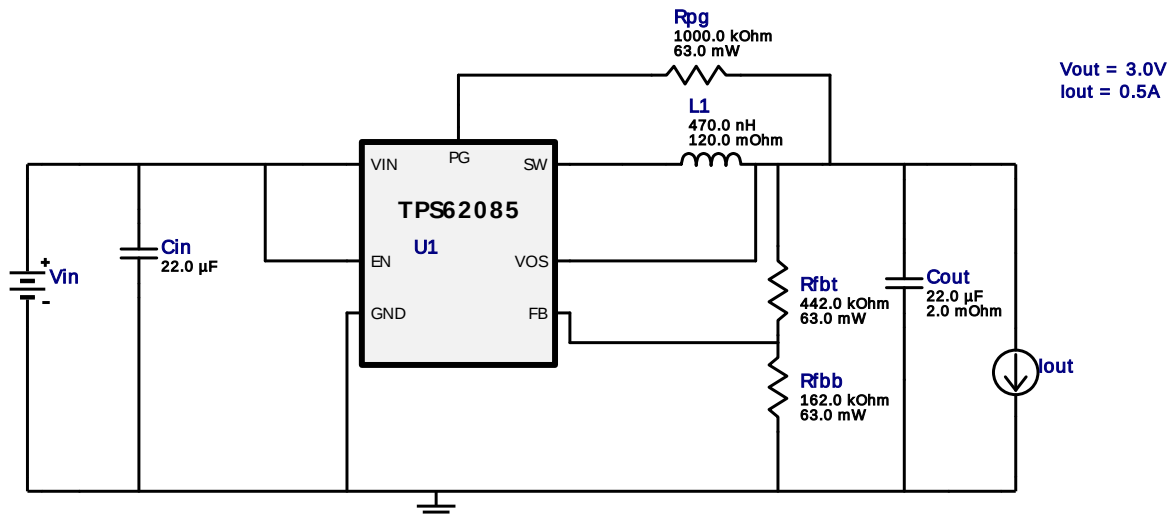


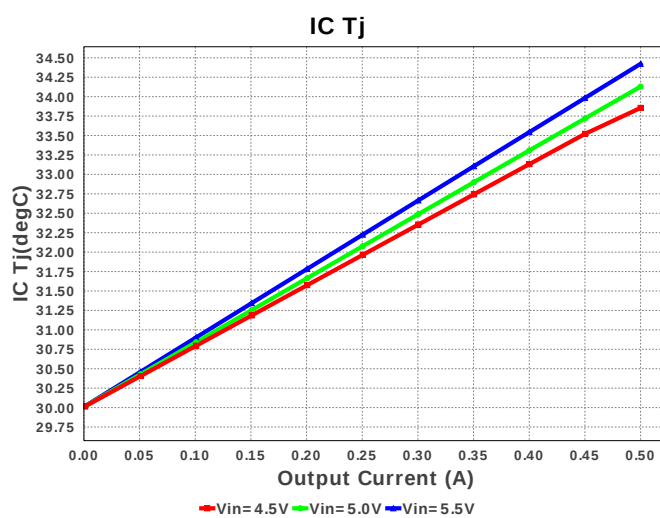
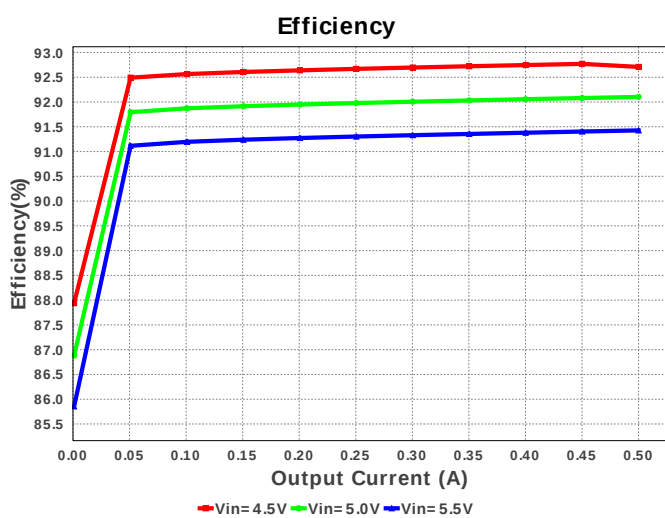
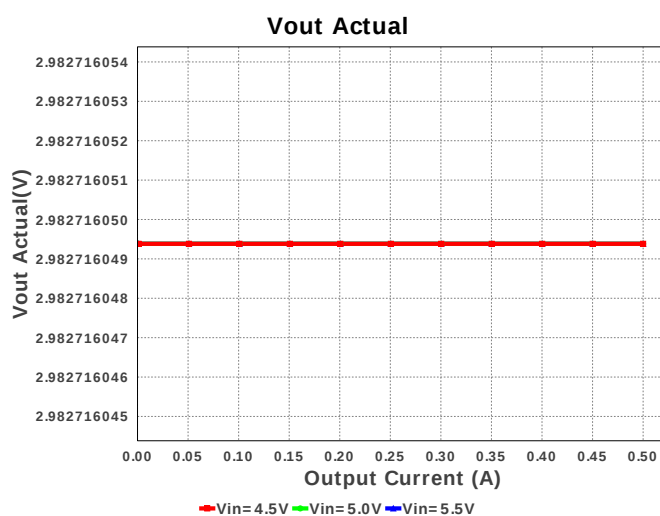
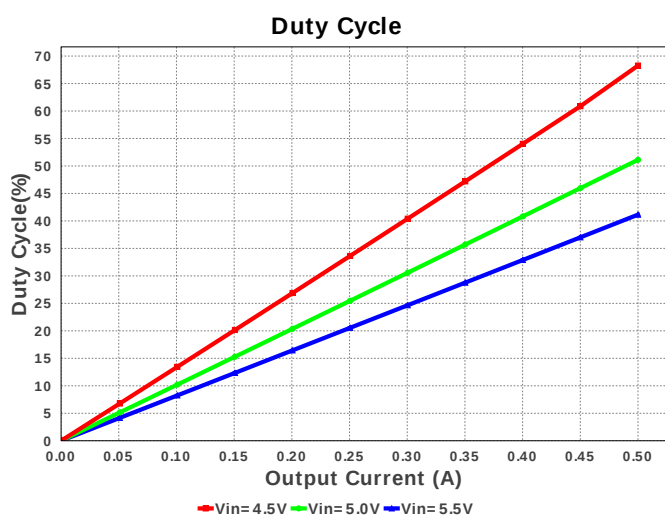
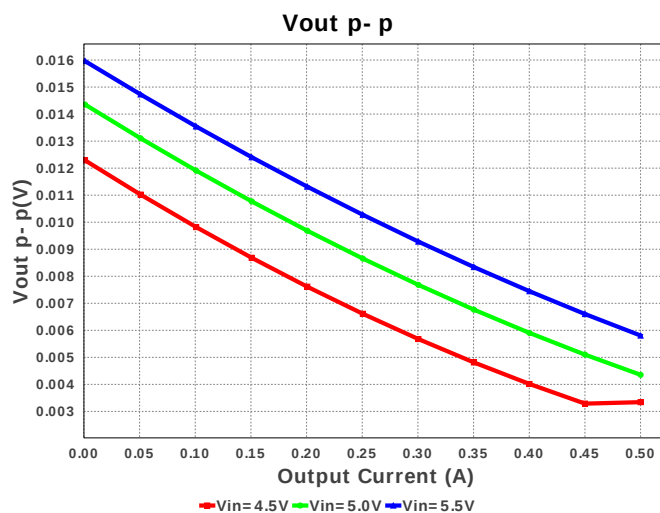
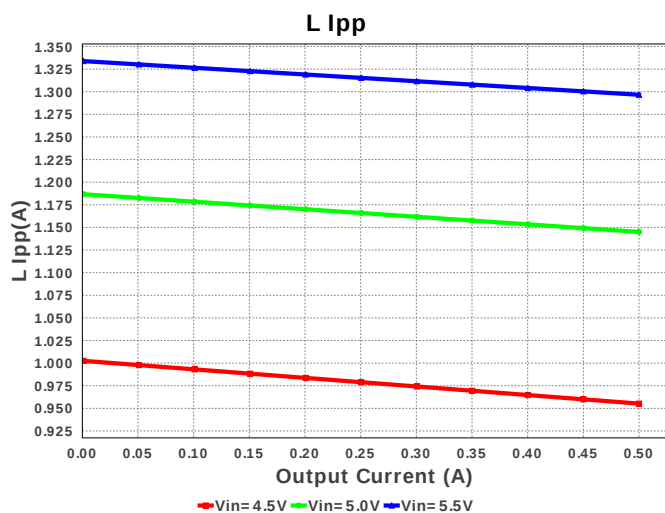
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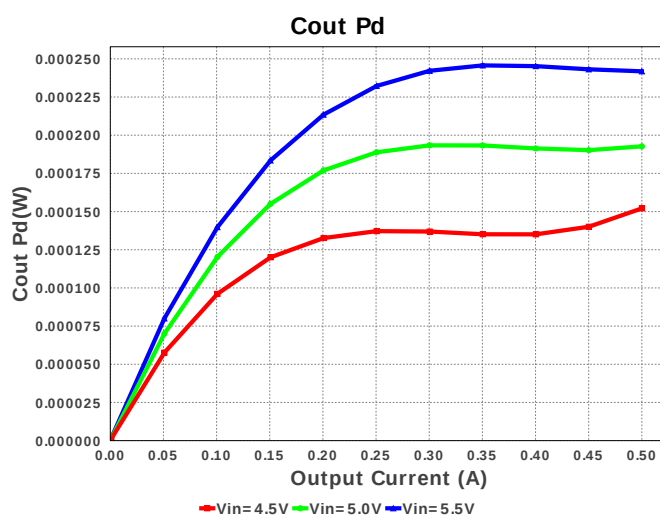
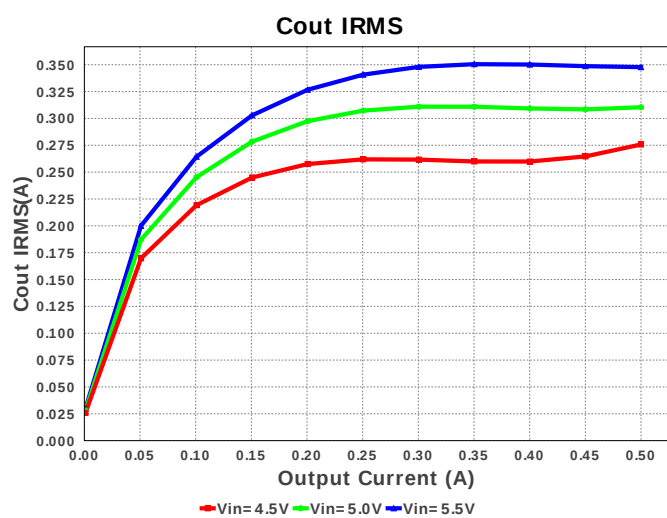
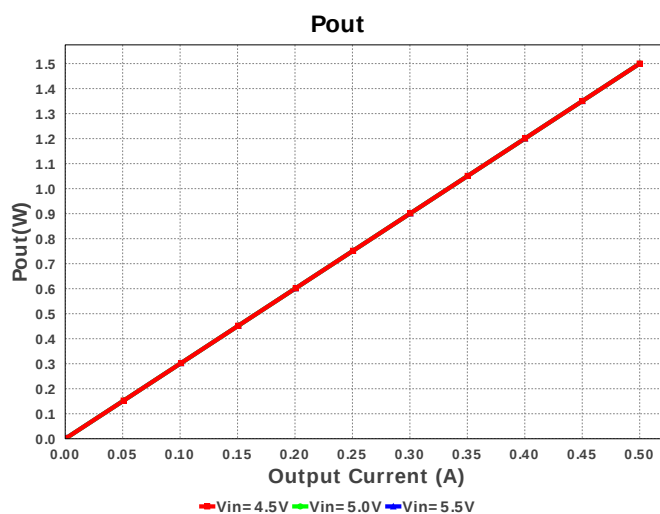
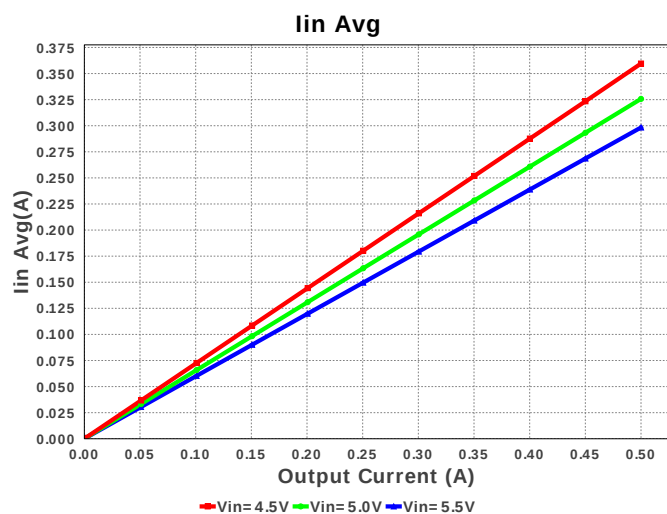
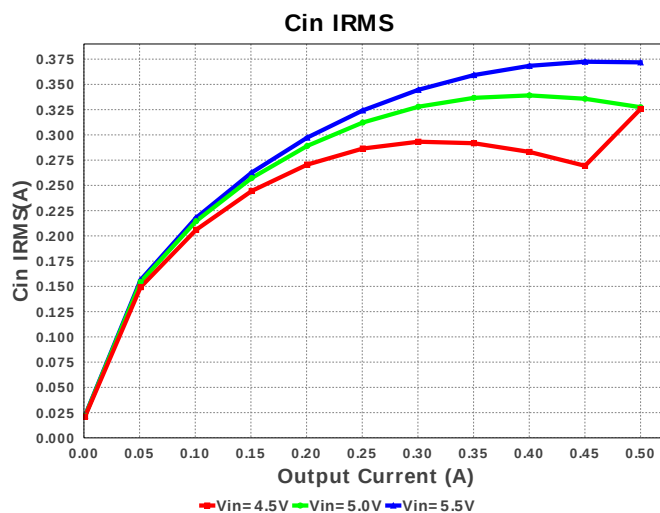
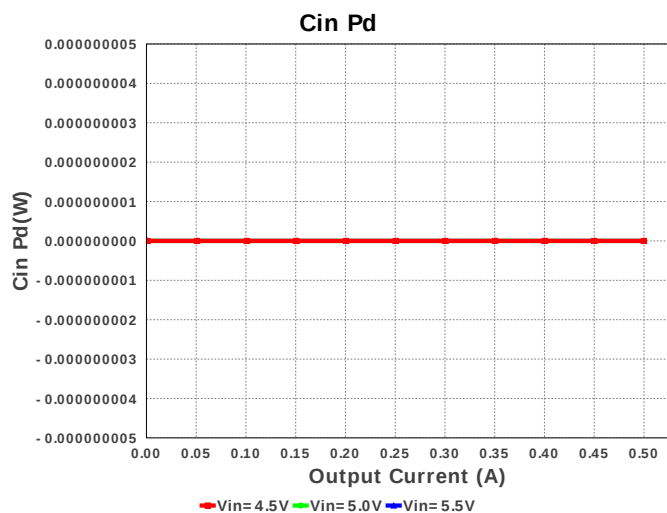
Design : 4742013/136 TPS62085RLTR
TPS62085RLTR 4.5V-5.5V to 3.00V @ 0.5A

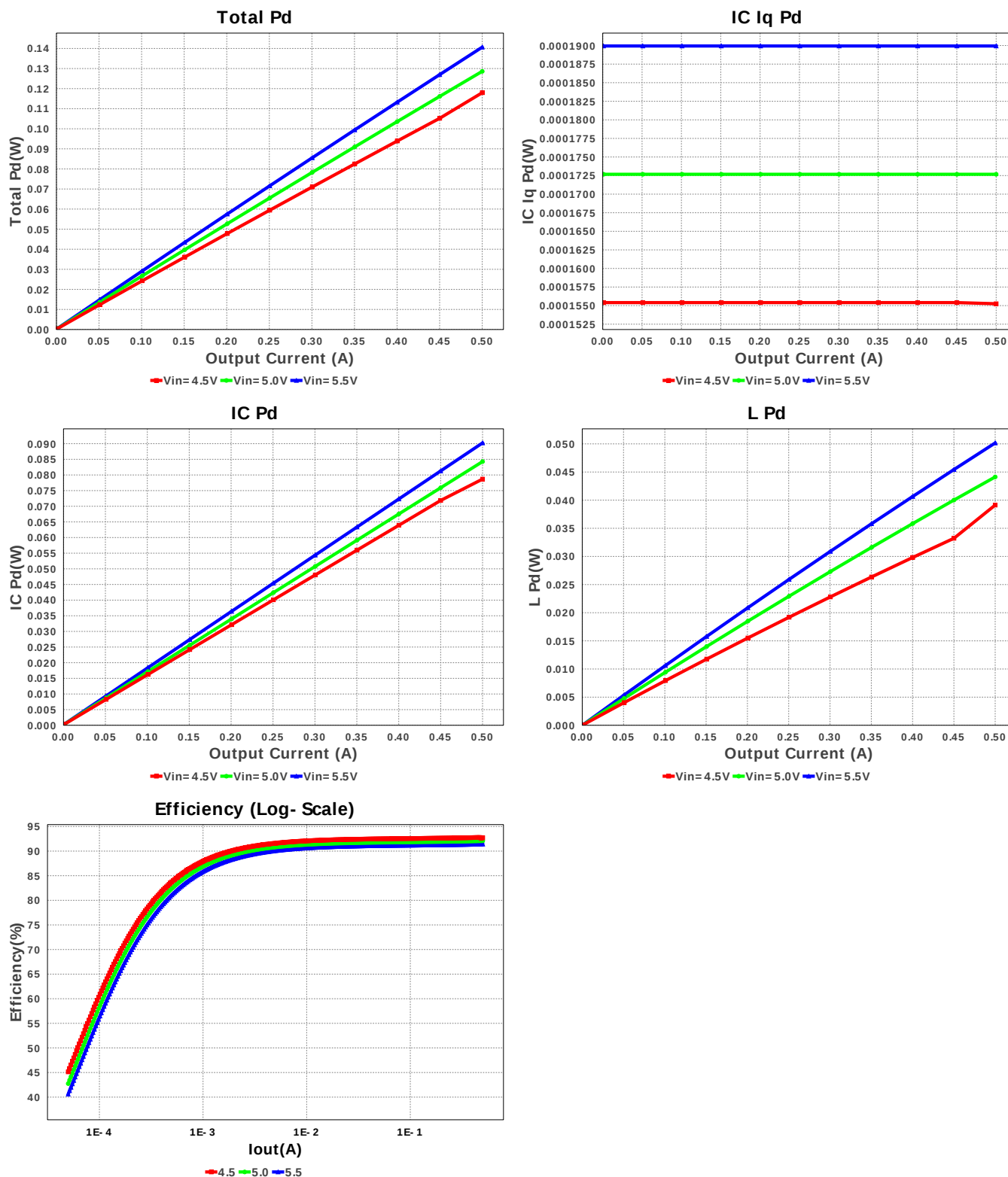


Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cin	Taiyo Yuden	LMK212BJ226MG-T Series= X5R	Cap= 22.0 uF VDC= 10.0 V IRMS= 0.0 A	1	\$0.12	0805 7 mm ²
2.	Cout	Taiyo Yuden	JMK212BJ226KG-T Series= X5R	Cap= 22.0 uF ESR= 2.0 mOhm VDC= 6.3 V IRMS= 0.0 A	1	\$0.13	0805 7 mm ²
3.	L1	MuRata	LQM21PNR47MC0D	L= 470.0 nH DCR= 120.0 mOhm	1	\$0.10	0805 7 mm ²
4.	Rfbb	Vishay-Dale	CRCW0402162KFKED Series= CRCW..e3	Res= 162.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
5.	Rfbb	Vishay-Dale	CRCW0402442KFKED Series= CRCW..e3	Res= 442.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
6.	Rpg	Vishay-Dale	CRCW04021M00FKED Series= CRCW..e3	Res= 1000.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
7.	U1	Texas Instruments	TPS62085RLTR	Switcher	1	\$0.87	RLT0007A 9 mm ²







Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	371.814 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	347.734 mA	Current	Output capacitor RMS ripple current
3.	Iin Avg	298.3 mA	Current	Average input current
4.	L Ipp	1.297 A	Current	Peak-to-peak inductor ripple current
5.	BOM Count	7	General	Total Design BOM count
6.	FootPrint	38.0 mm ²	General	Total Foot Print Area of BOM components
7.	Frequency	1.641 MHz	General	Switching frequency
8.	IC Tolerance	20.0 mV	General	IC Feedback Tolerance
9.	Pout	1.5 W	General	Total output power
10.	Total BOM	\$1.25	General	Total BOM Cost
11.	Vout Actual	2.983 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors

#	Name	Value	Category	Description
12.	Vout OP	3.0 V	Op_Point	Operational Output Voltage
13.	Duty Cycle	41.143 %	Op_point	Duty cycle
14.	Efficiency	91.427 %	Op_point	Steady state efficiency
15.	IC Tj	34.422 degC	Op_point	IC junction temperature
16.	ICThetaJA	49.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
17.	IOUT_OP	500.0 mA	Op_point	Iout operating point
18.	VIN_OP	5.5 V	Op_point	Vin operating point
19.	Vout p-p	5.807 mV	Op_point	Peak-to-peak output ripple voltage
20.	Cin Pd	0.0 W	Power	Input capacitor power dissipation
21.	Cout Pd	241.838 μ W	Power	Output capacitor power dissipation
22.	IC Iq Pd	189.94 μ W	Power	IC Iq Pd
23.	IC Pd	90.24 mW	Power	IC power dissipation
24.	L Pd	50.164 mW	Power	Inductor power dissipation
25.	Total Pd	140.653 mW	Power	Total Power Dissipation
26.	Vout Tolerance	4.015 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	500.0 m	Maximum Output Current
2.	VinMax	5.5	Maximum input voltage
3.	VinMin	4.5	Minimum input voltage
4.	Vout	3.0	Output Voltage
5.	base_pn	TPS62085	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **TPS62085** Product Folder : <http://www.ti.com/product/TPS62085> : contains the data sheet and other resources.

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