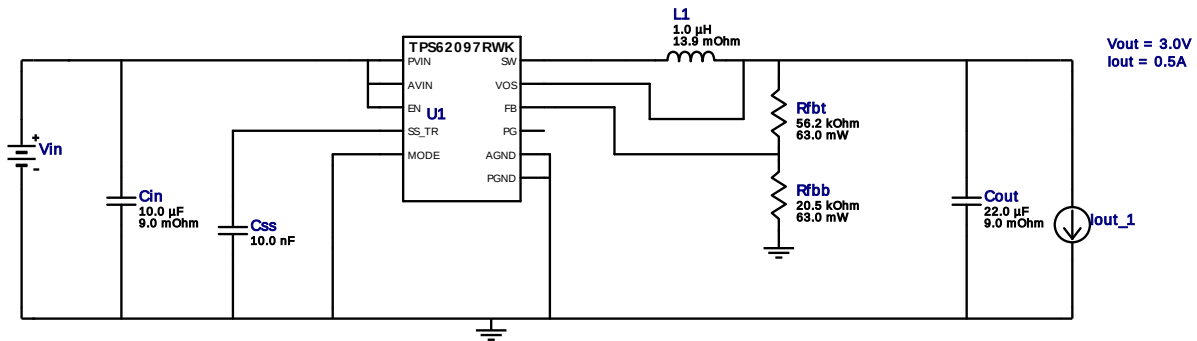


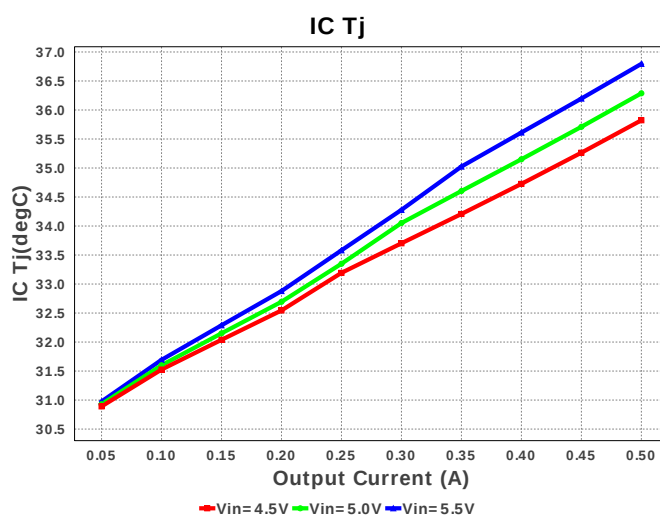
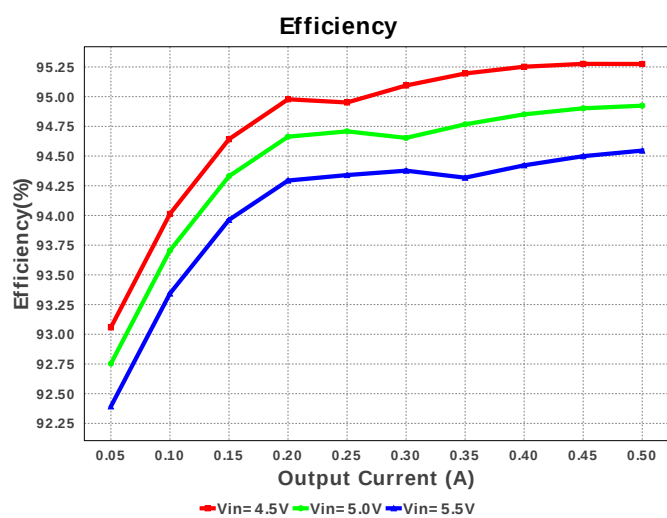
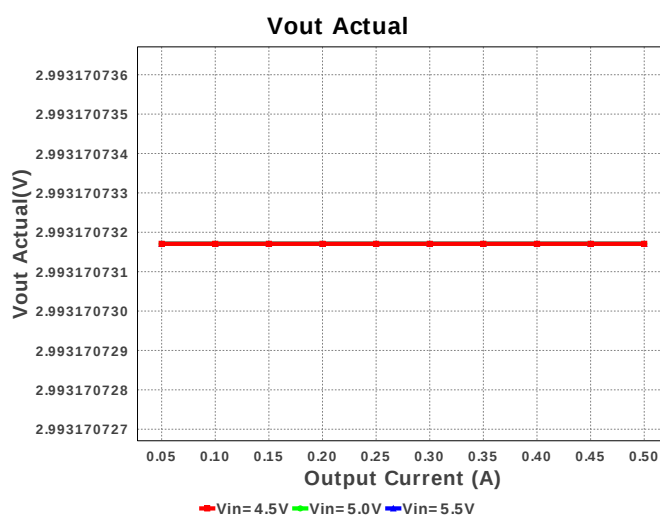
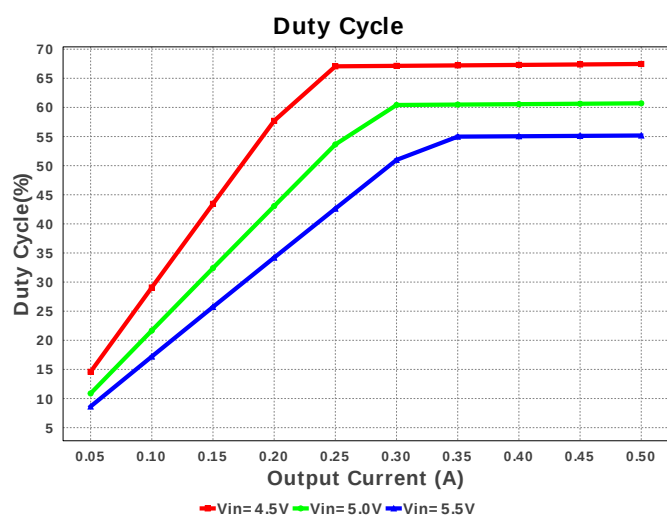
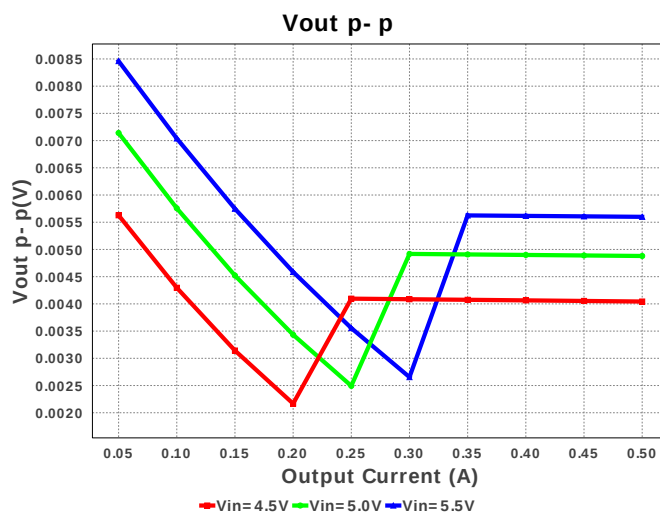
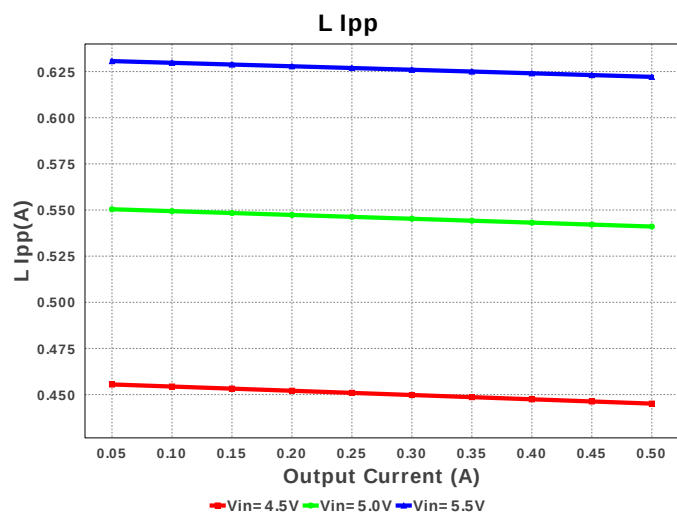
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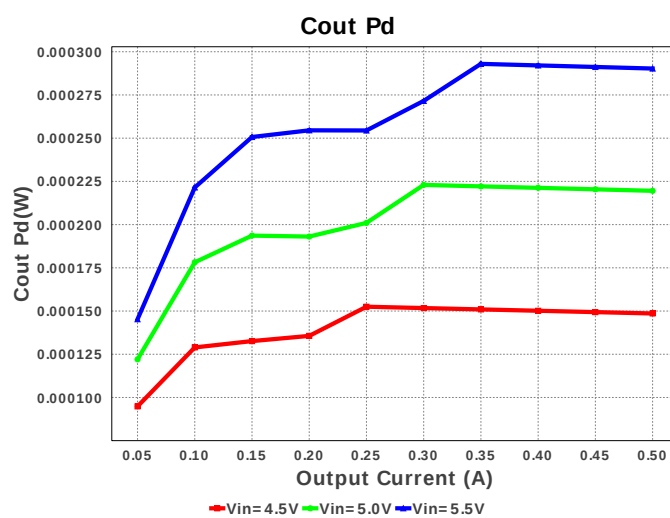
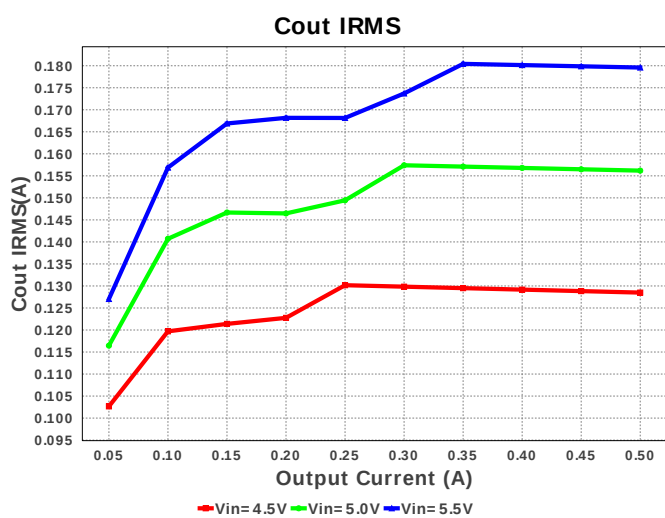
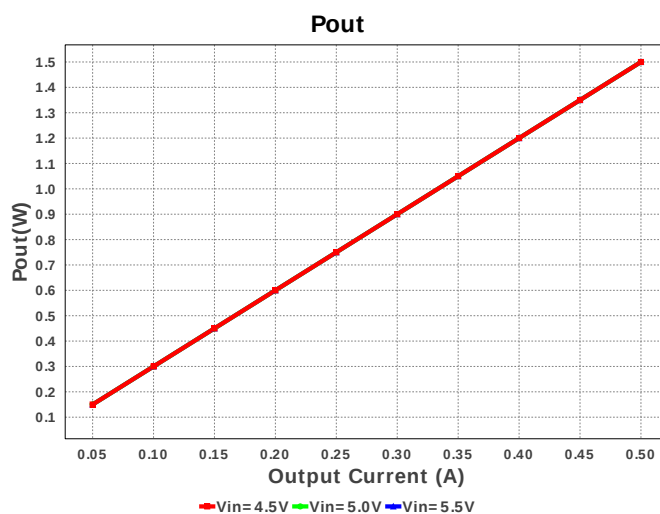
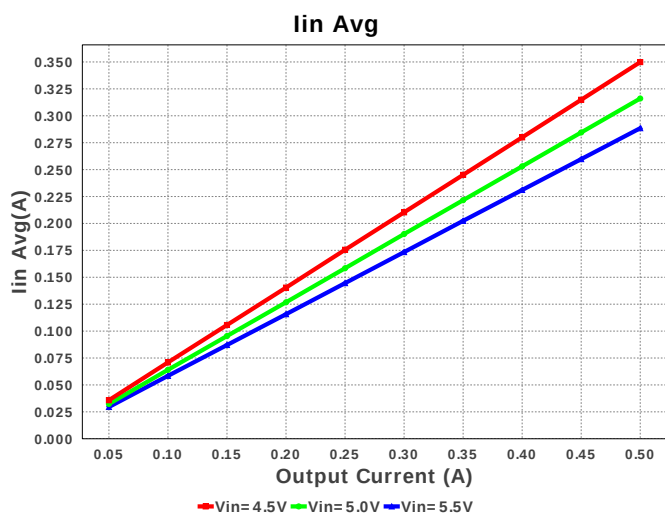
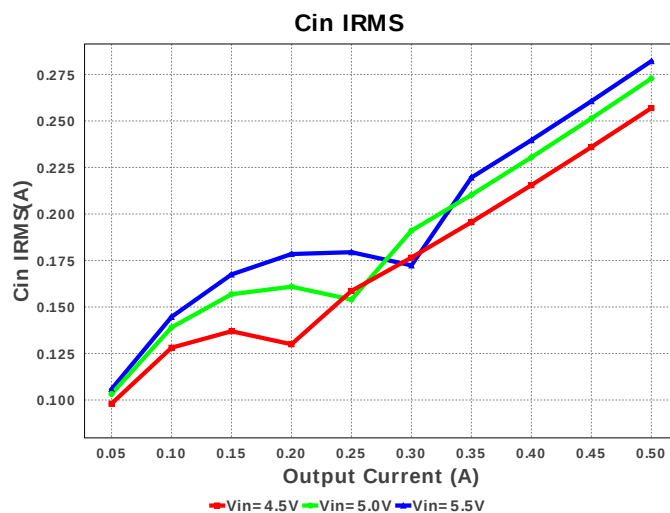
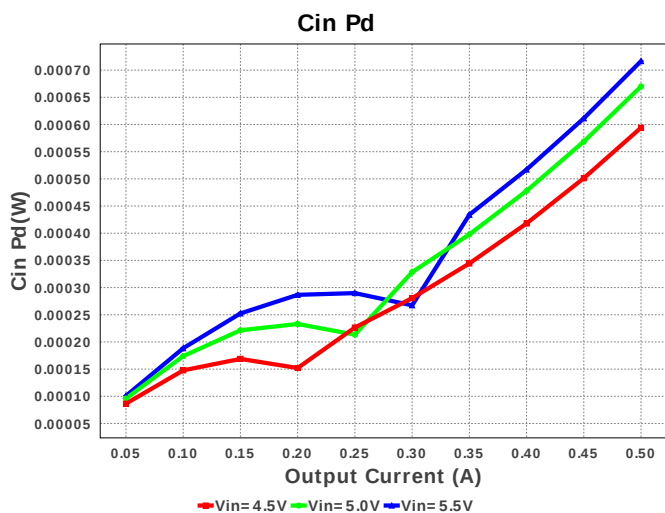
Design : 4742013/118 TPS62097RWKR
TPS62097RWKR 4.5V-5.5V to 3.00V @ 0.5A

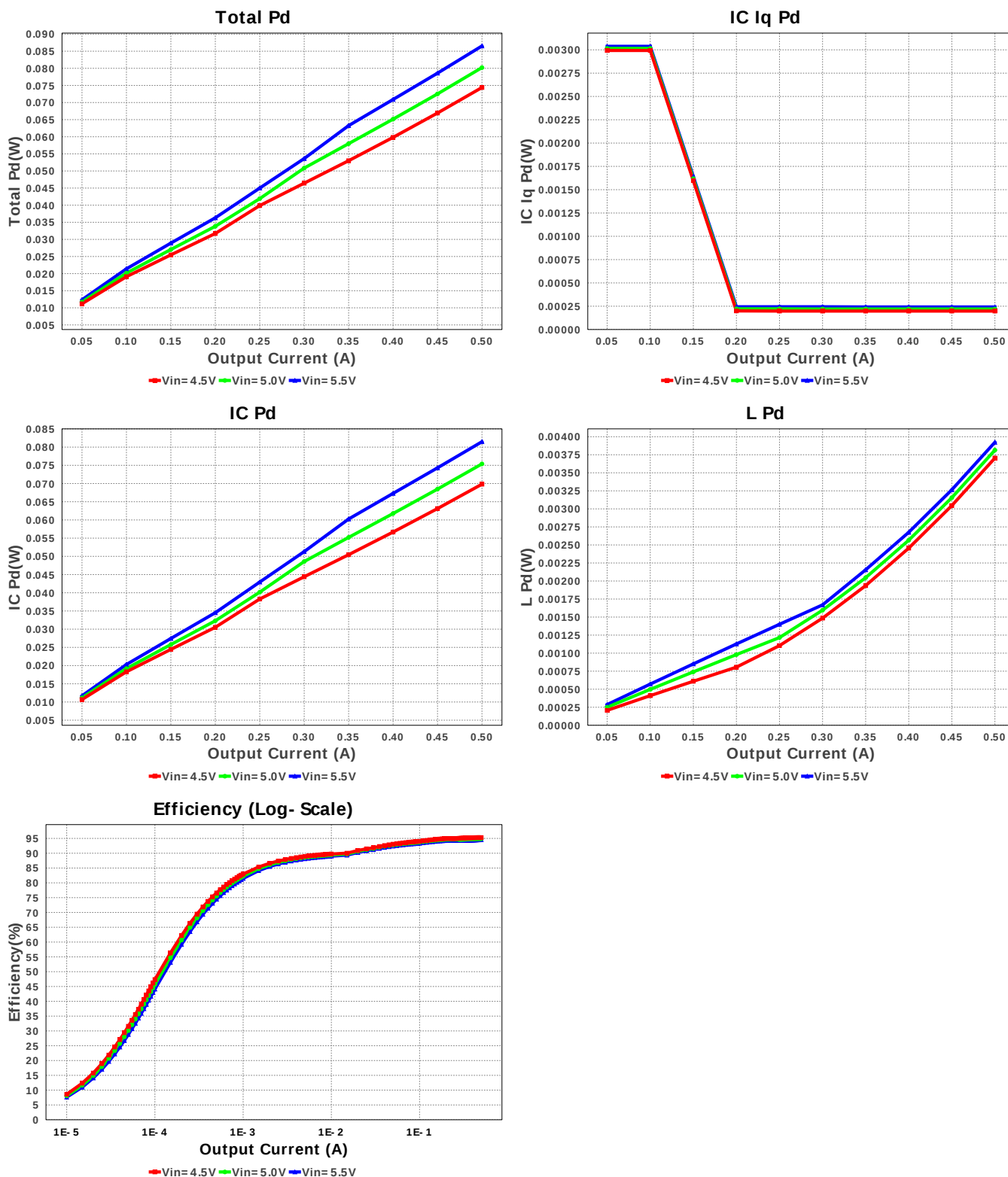


Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cin	MuRata	GRM188R60J106ME47D Series= X5R	Cap= 10.0 uF ESR= 9.0 mOhm VDC= 6.3 V IRMS= 2.74 A	1	\$0.02	0603 5 mm ²
2.	Cout	MuRata	GRM21BR60J226ME39L Series= X5R	Cap= 22.0 uF ESR= 9.0 mOhm VDC= 6.3 V IRMS= 3.5 A	1	\$0.04	0805 7 mm ²
3.	Css	MuRata	GRM033R61A103KA01D Series= X5R	Cap= 10.0 nF VDC= 10.0 V IRMS= 0.0 A	1	\$0.01	0201 2 mm ²
4.	L1	Bourns	SRN6045-1R0Y	L= 1.0 uH DCR= 13.9 mOhm	1	\$0.16	SRN6045 64 mm ²
5.	Rfbb	Vishay-Dale	CRCW040220K5FKED Series= CRCW..e3	Res= 20.5 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
6.	Rfht	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	TPS62097RWKR	Switcher	1	\$0.81	RWK0011B 9 mm ²







Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	282.181 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	179.592 mA	Current	Output capacitor RMS ripple current
3.	Iin Avg	288.46 mA	Current	Average input current
4.	L Ipp	622.13 mA	Current	Peak-to-peak inductor ripple current
5.	BOM Count	7	General	Total Design BOM count
6.	FootPrint	93.0 mm ²	General	Total Foot Print Area of BOM components
7.	Frequency	2.117 MHz	General	Switching frequency
8.	IC Tolerance	18.0 mV	General	IC Feedback Tolerance
9.	Pout	1.5 W	General	Total output power
10.	Total BOM	\$1.06	General	Total BOM Cost
11.	Vout Actual	2.993 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	55.176 %	Op_point	Duty cycle
14.	Efficiency	94.546 %	Op_point	Steady state efficiency
15.	IC Tj	36.795 degC	Op_point	IC junction temperature
16.	ICThetaJA	83.4 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	5.599 mV	Op_point	Peak-to-peak output ripple voltage
20.	Cin Pd	716.637 μ W	Power	Input capacitor power dissipation
21.	Cout Pd	290.281 μ W	Power	Output capacitor power dissipation
22.	IC Iq Pd	242.0 μ W	Power	IC Iq Pd
23.	IC Pd	81.475 mW	Power	IC power dissipation
24.	L Pd	3.923 mW	Power	Inductor power dissipation
25.	Total Pd	86.529 mW	Power	Total Power Dissipation
26.	Vout Tolerance	3.764 %		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	TPS62097	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **TPS62097** Product Folder : <http://www.ti.com/product/TPS62097> : contains the data sheet and other resources.

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