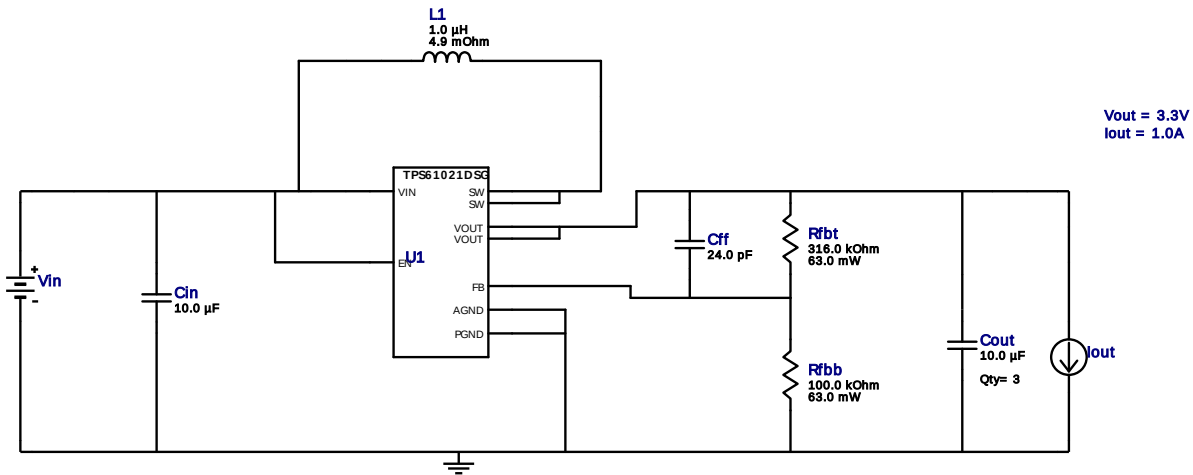


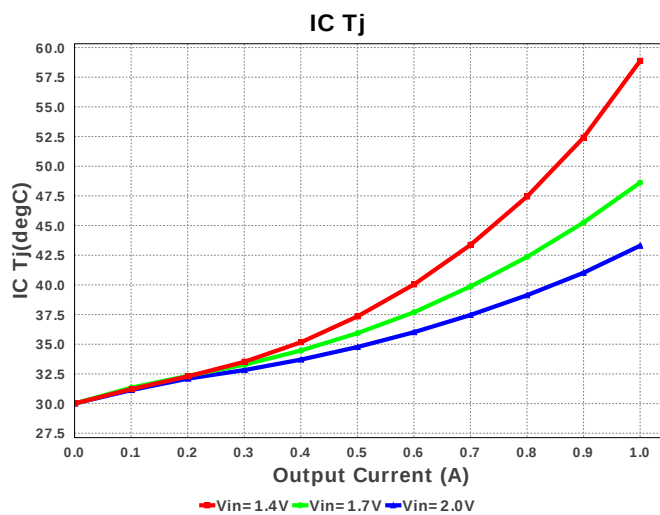
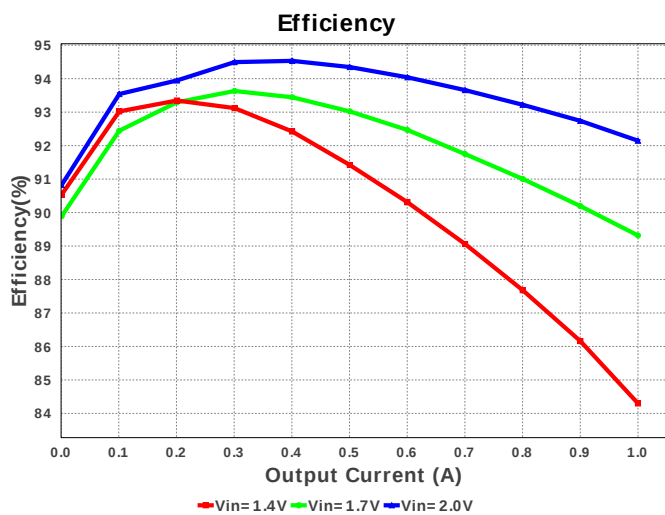
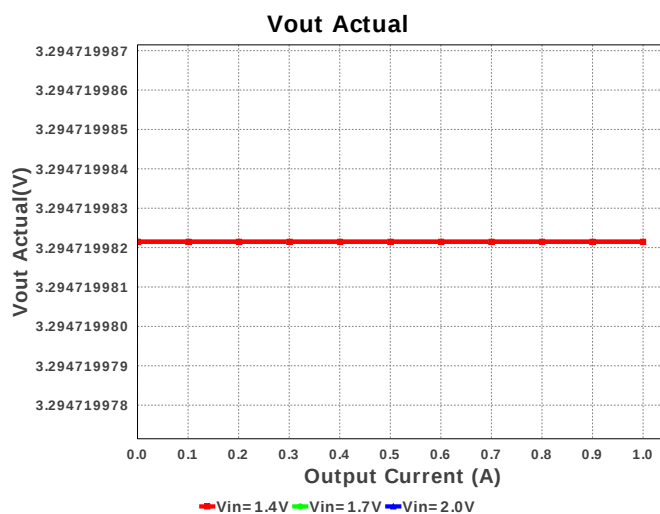
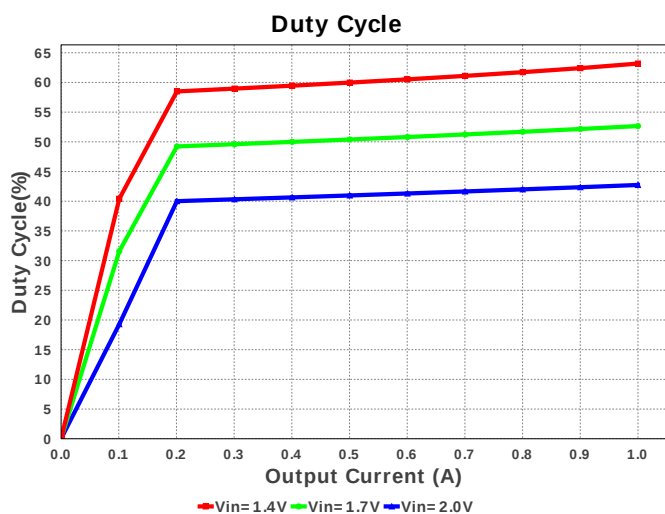
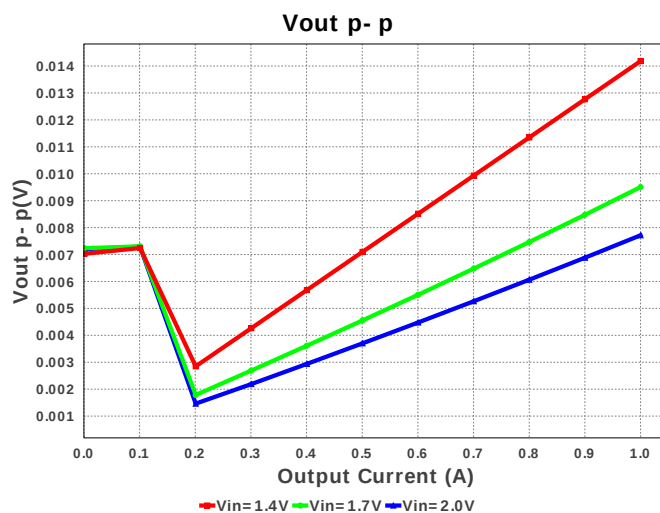
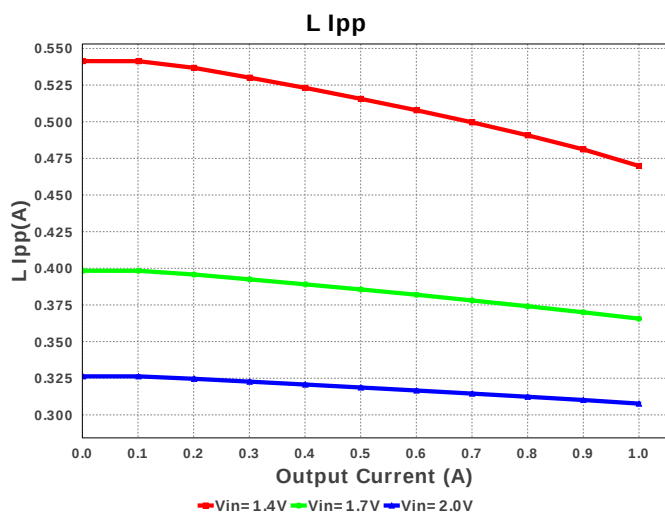
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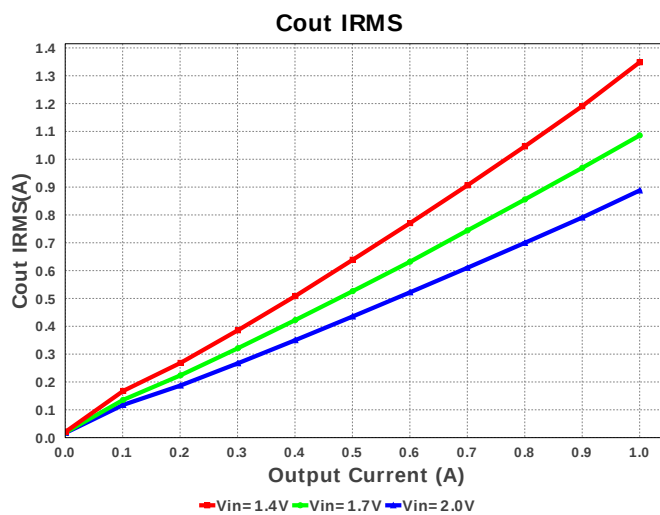
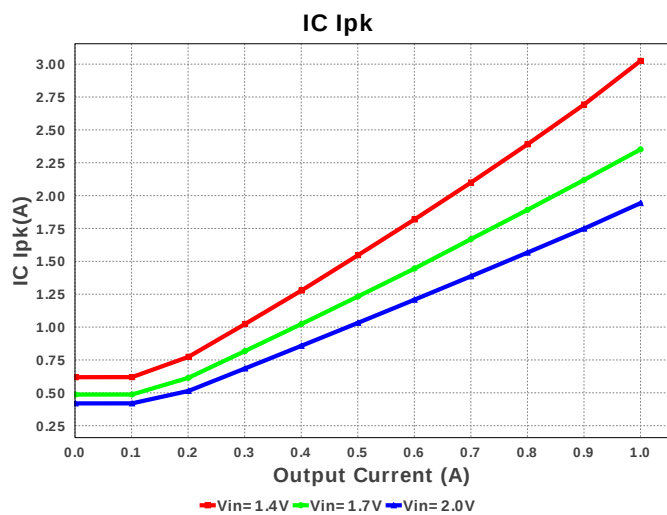
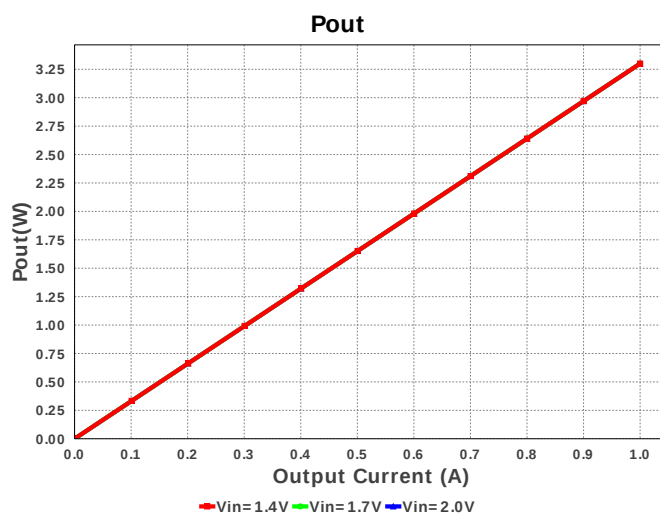
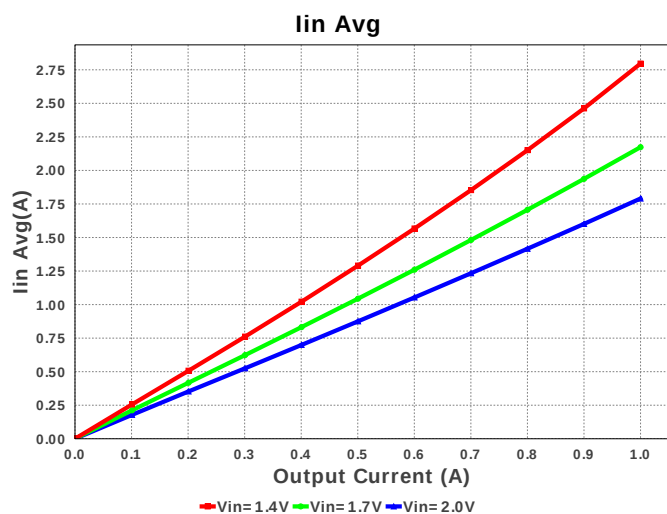
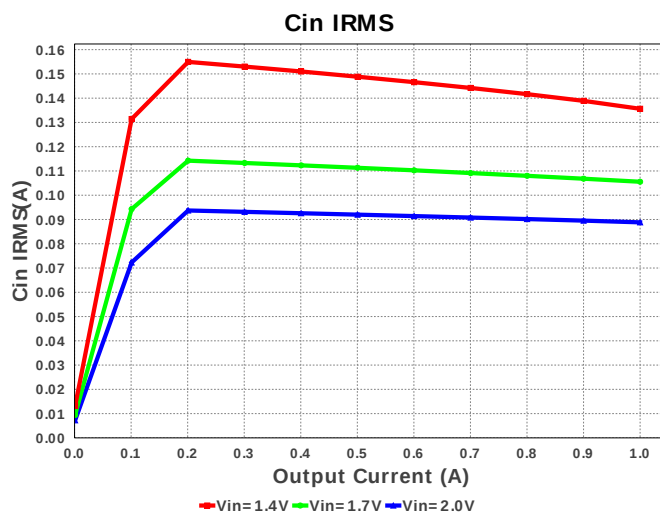
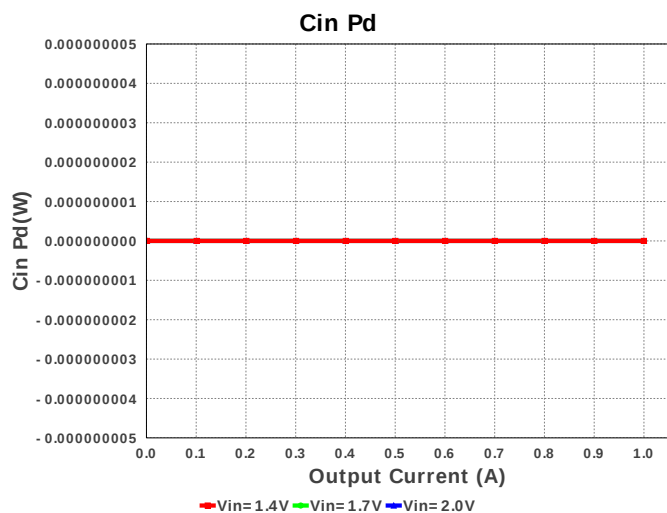
Design : 4749731/2 TPS61021ADSGR
TPS61021ADSGR 1.4V-2.0V to 3.30V @ 1.0A

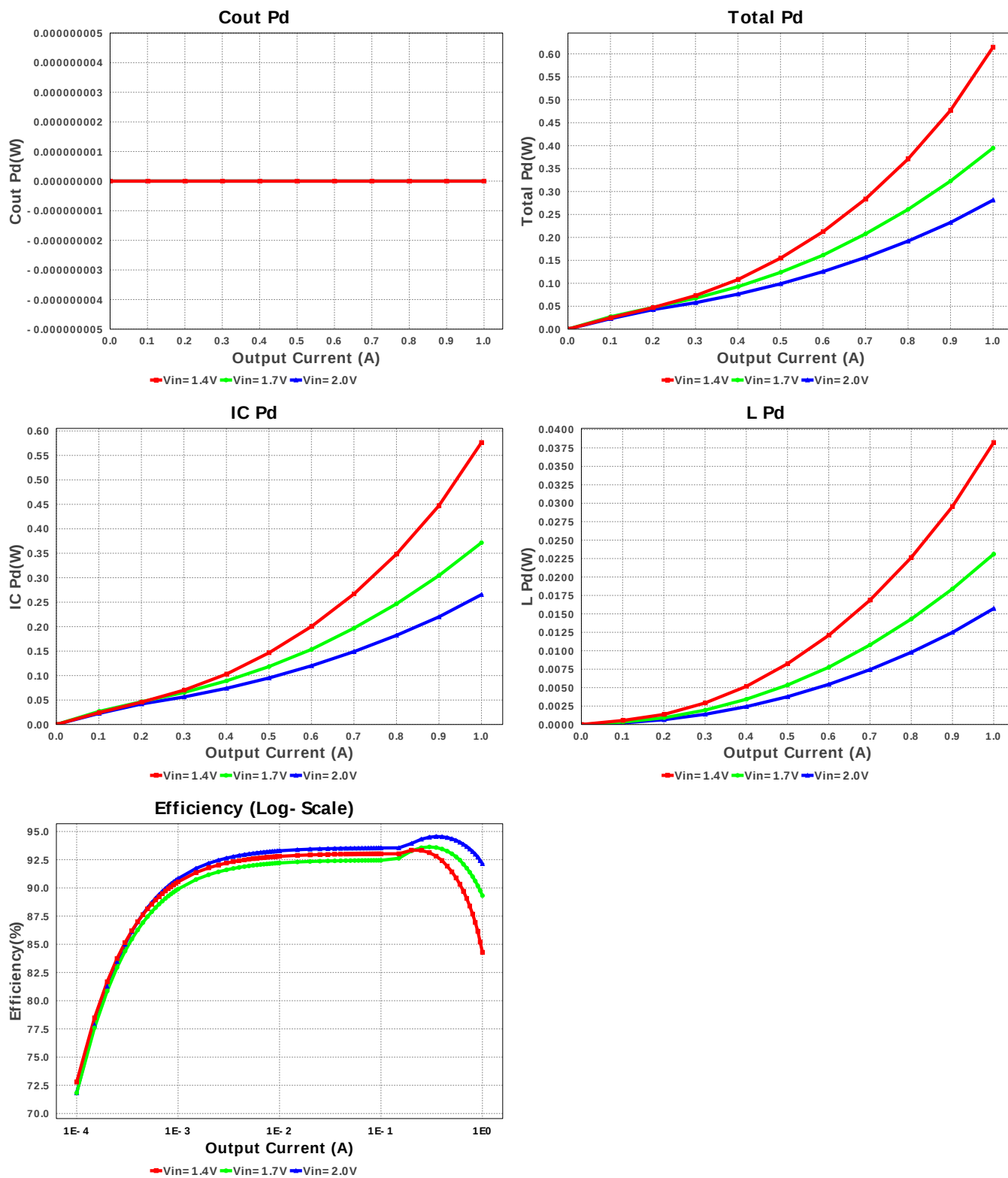


Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cff	Samsung Electro-Mechanics	CL10C240JB8NCNC Series= C0G/NP0	Cap= 24.0 pF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	0603 5 mm ²
2.	Cin	Samsung Electro-Mechanics	CL10A106MQ8NNNC Series= X5R	Cap= 10.0 uF VDC= 6.3 V IRMS= 0.0 A	1	\$0.03	0603 5 mm ²
3.	Cout	Taiyo Yuden	LMK212BJ106KG-T Series= X5R	Cap= 10.0 uF VDC= 10.0 V IRMS= 0.0 A	3	\$0.03	0805 7 mm ²
4.	L1	Bourns	SRU1028-1R0Y	L= 1.0 µH DCR= 4.9 mOhm	1	\$0.33	SRU1028 144 mm ²
5.	Rfbb	Vishay-Dale	CRCW0402100KFKED Series= CRCW..e3	Res= 100.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
6.	Rfbt	Vishay-Dale	CRCW0402316KFKED Series= CRCW..e3	Res= 316.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
7.	U1	Texas Instruments	TPS61021ADSGR	Switcher	1	\$0.60	DSG0008A 9 mm ²







Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	135.626 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	1.348 A	Current	Output capacitor RMS ripple current
3.	IC IpK	3.025 A	Current	Peak switch current in IC
4.	Iin Avg	2.796 A	Current	Average input current
5.	L Ipp	469.82 mA	Current	Peak-to-peak inductor ripple current
6.	BOM Count	9	General	Total Design BOM count
7.	FootPrint	189.0 mm ²	General	Total Foot Print Area of BOM components
8.	Frequency	1.608 MHz	General	Switching frequency
9.	Pout	3.3 W	General	Total output power
10.	Total BOM	\$1.08	General	Total BOM Cost
11.	Vout Actual	3.295 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors

#	Name	Value	Category	Description
12.	Vout OP	3.3 V	Op_Point	Operational Output Voltage
13.	Duty Cycle	63.18 %	Op_point	Duty cycle
14.	Efficiency	84.299 %	Op_point	Steady state efficiency
15.	IC Tj	58.877 degC	Op_point	IC junction temperature
16.	ICThetaJA	50.1 degC/W	Op_point	IC junction-to-ambient thermal resistance
17.	IOUT_OP	1.0 A	Op_point	Iout operating point
18.	VIN_OP	1.4 V	Op_point	Vin operating point
19.	Vout p-p	14.183 mV	Op_point	Peak-to-peak output ripple voltage
20.	Cin Pd	0.0 W	Power	Input capacitor power dissipation
21.	Cout Pd	0.0 W	Power	Output capacitor power dissipation
22.	IC Pd	576.39 mW	Power	IC power dissipation
23.	L Pd	38.234 mW	Power	Inductor power dissipation
24.	Total Pd	614.644 mW	Power	Total Power Dissipation
25.	Vout Tolerance	3.458 %		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	2.0	Maximum input voltage
3.	VinMin	1.4	Minimum input voltage
4.	Vout	3.3	Output Voltage
5.	base_pn	TPS61021A	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **TPS61021A** Product Folder : <http://www.ti.com/product/TPS61021A> : contains the data sheet and other resources.

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