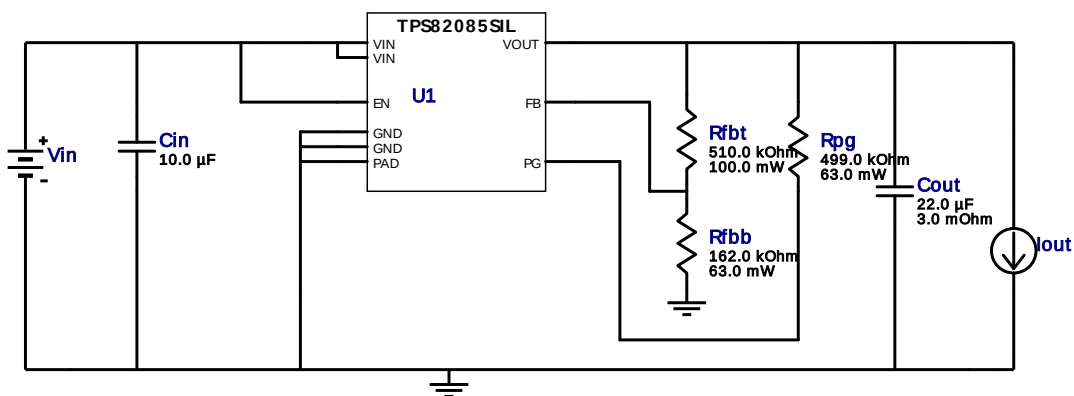


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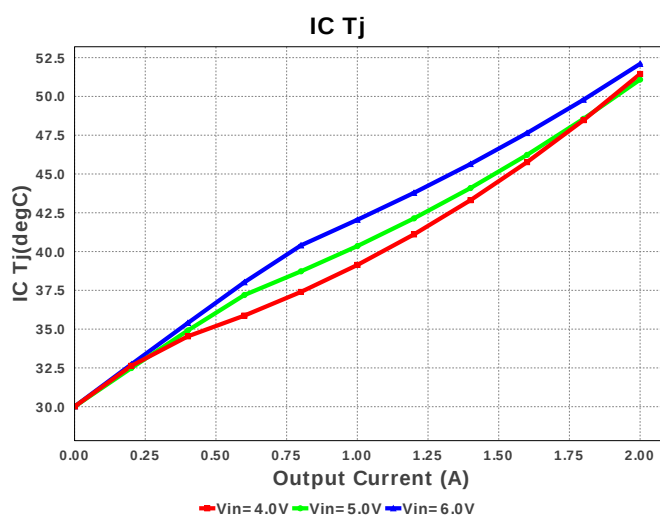
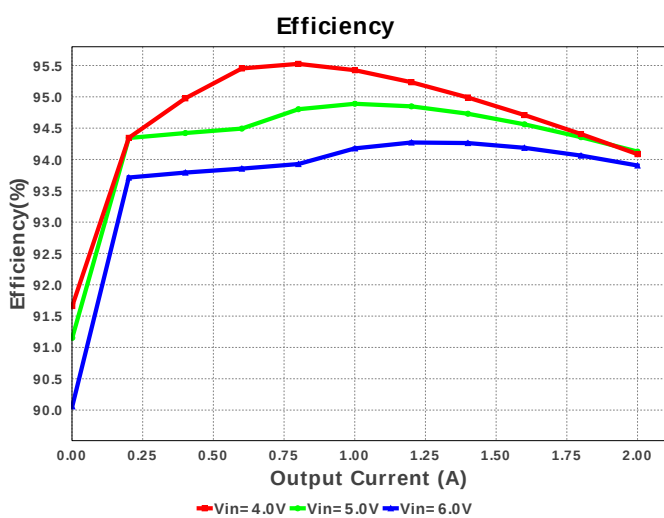
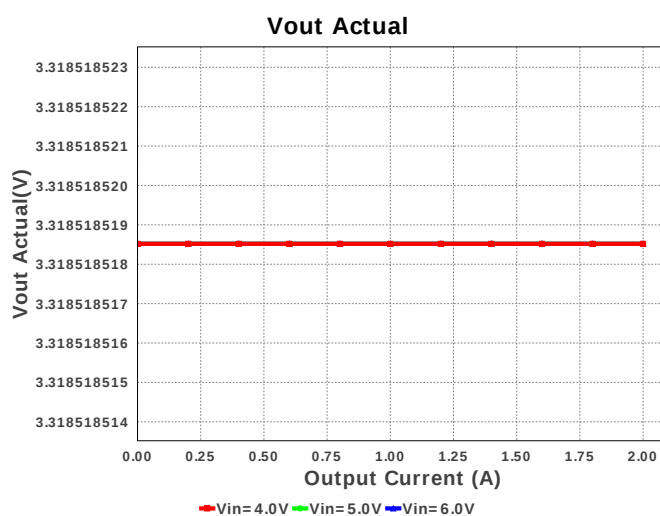
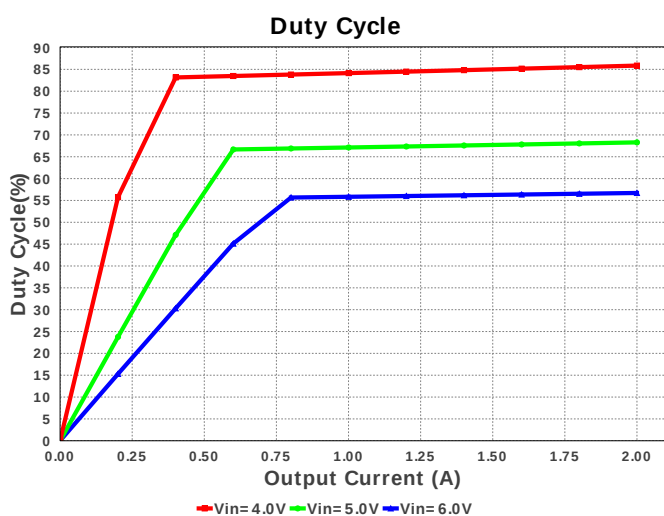
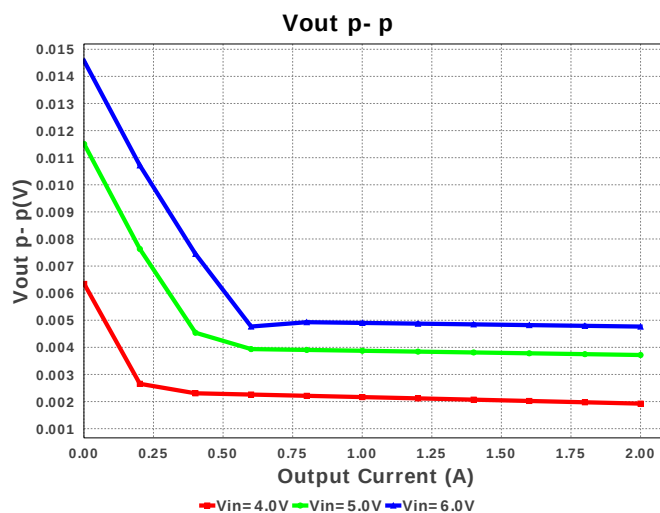
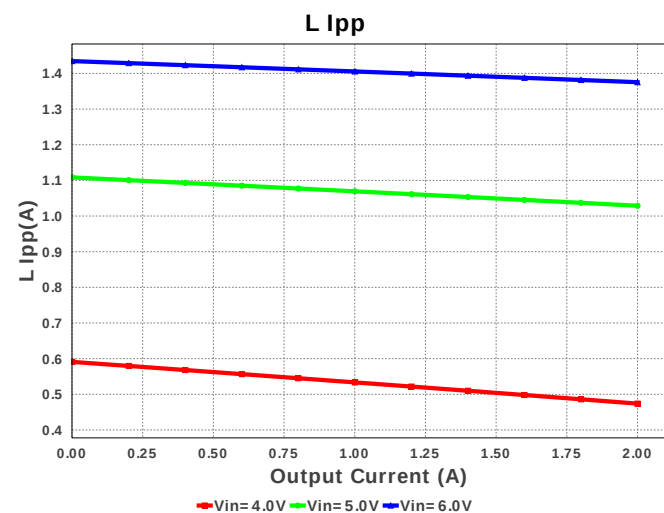
Design : 4649473/5 TPS82085SILR
TPS82085SILR 4.0V-6.0V to 3.30V @ 2.0A

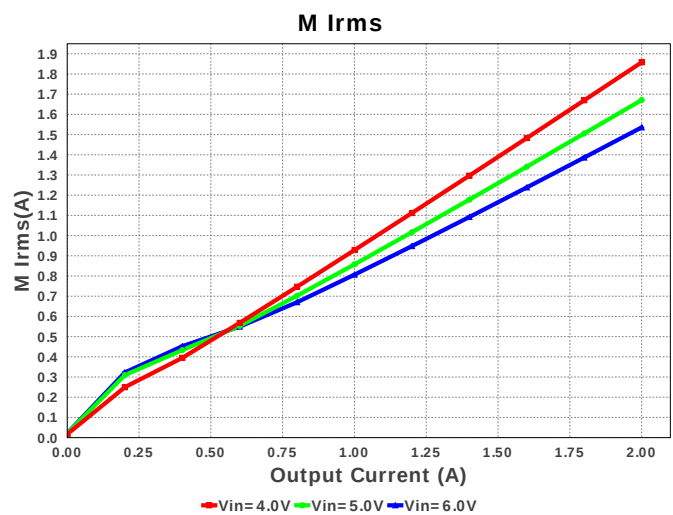
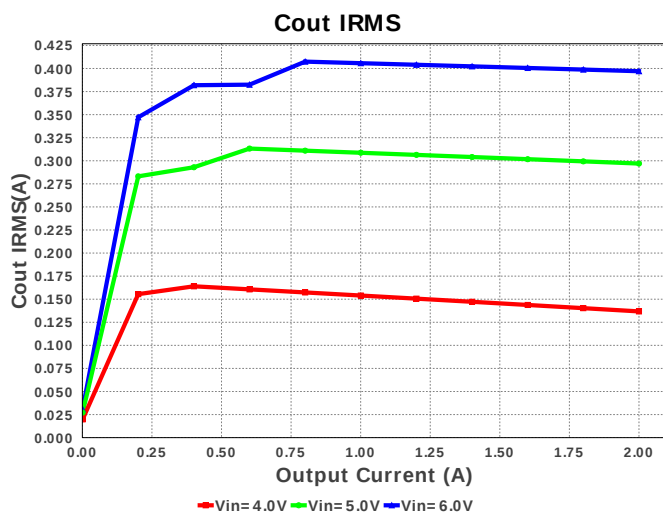
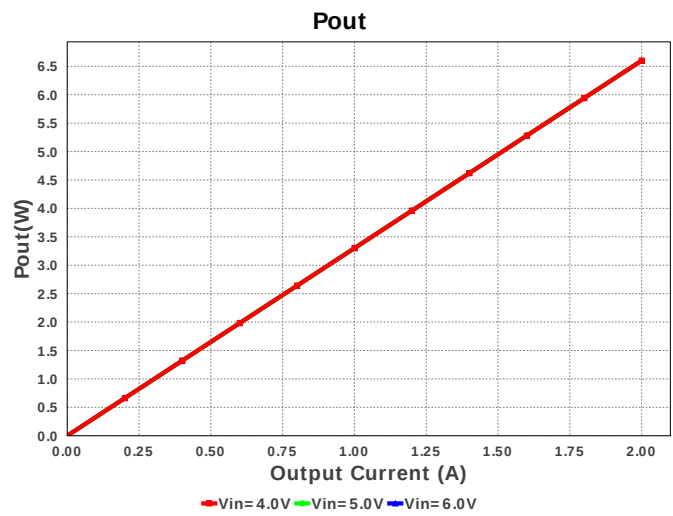
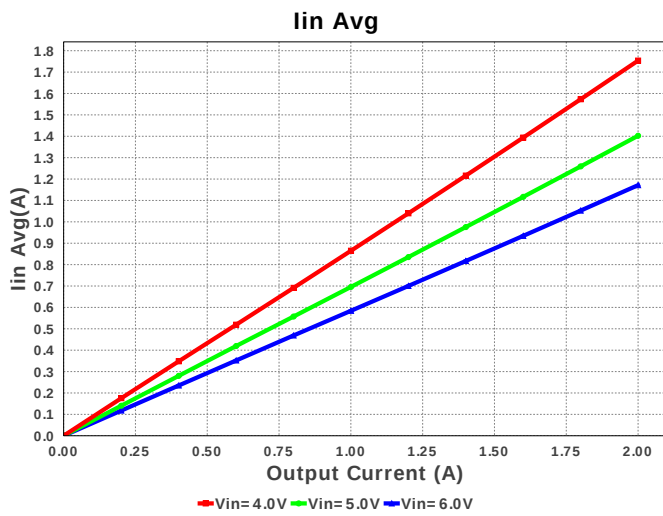
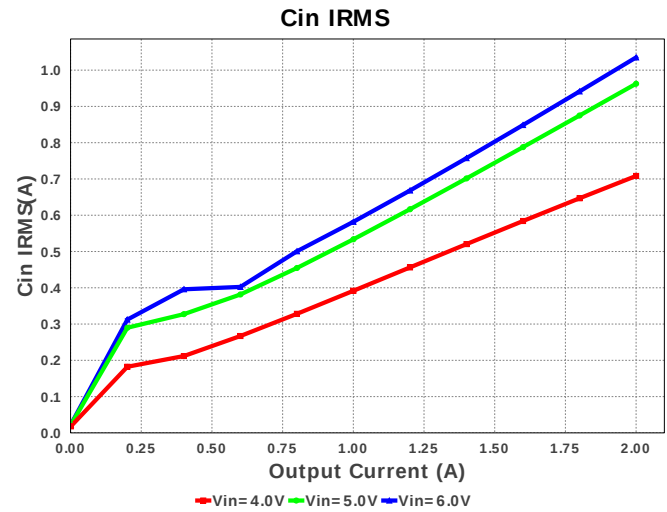
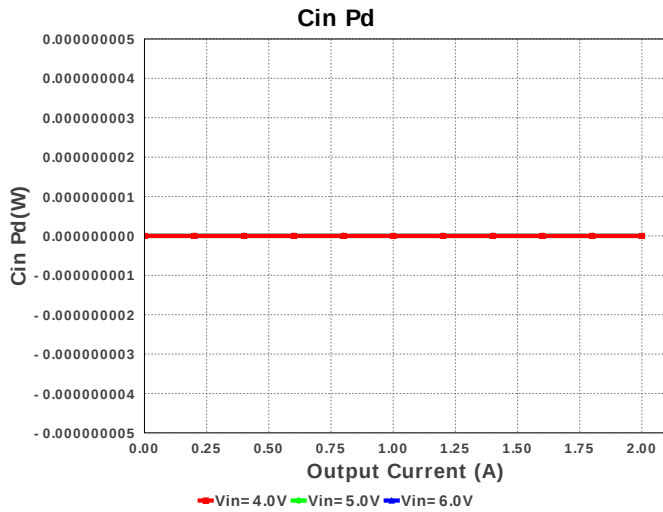
Vout = 3.3V
Iout = 2.0A

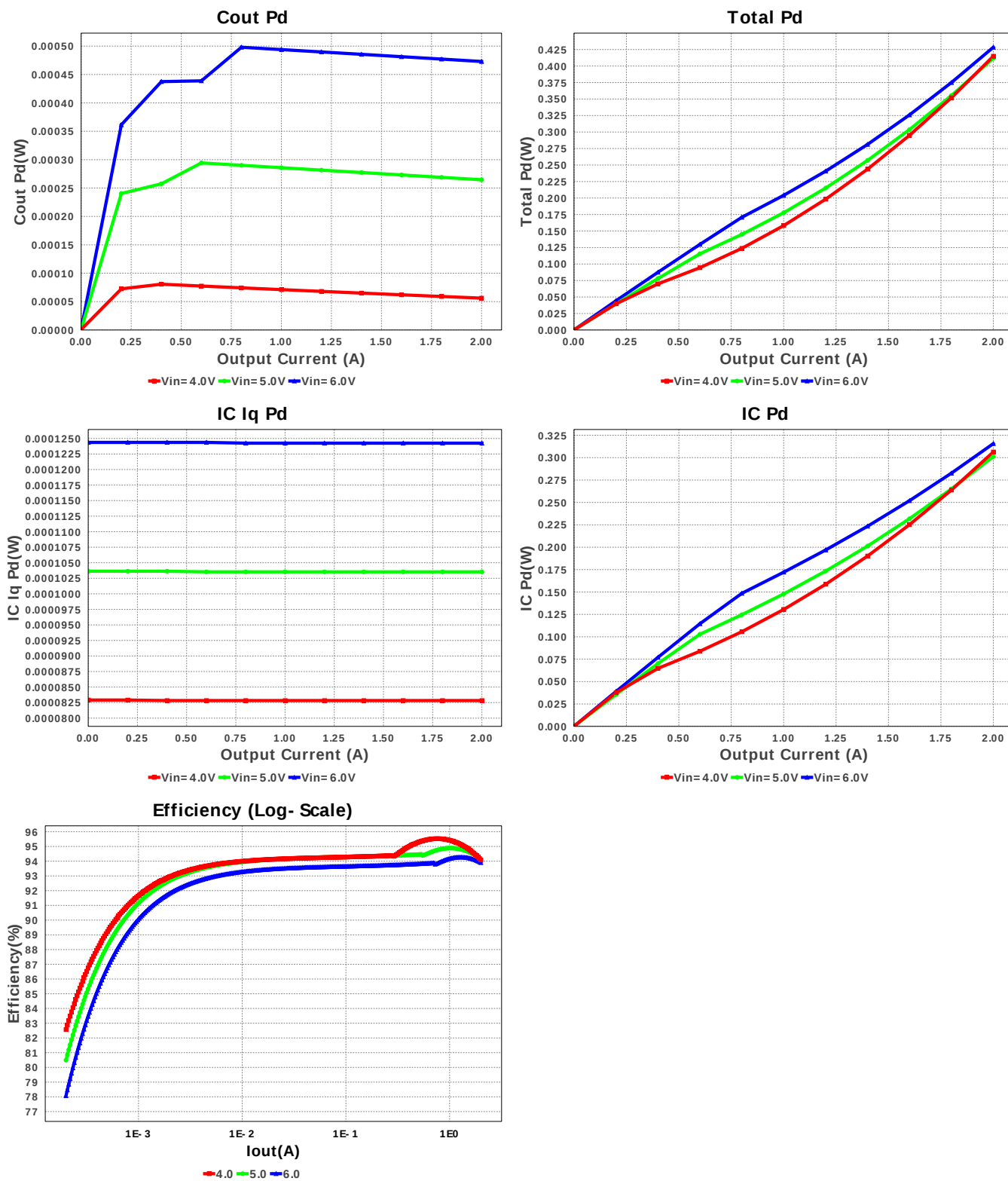


Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cin	Taiyo Yuden	LMK212BJ106KG-T Series= X5R	Cap= 10.0 uF VDC= 10.0 V IRMS= 0.0 A	1	\$0.03	0805 7 mm ²
2.	Cout	MuRata	GRM32ER71C226KE18L Series= X7R	Cap= 22.0 uF ESR= 3.0 mOhm VDC= 16.0 V IRMS= 0.0 A	1	\$0.28	1210 15 mm ²
3.	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
4.	Rfbb	Yageo America	RC0603FR-07510KL Series= ?	Res= 510.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	\$0.01	0603 5 mm ²
5.	Rpg	Vishay-Dale	CRCW0402499KFKED Series= CRCW..e3	Res= 499.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
6.	U1	Texas Instruments	TPS82085SILR	Switcher	1	\$2.15	SIL0008C_SMD 15 mm ²







Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	1.035 A	Current	Input capacitor RMS ripple current
2.	Cout IRMS	397.033 mA	Current	Output capacitor RMS ripple current
3.	Iin Avg	1.171 A	Current	Average input current
4.	L Ipp	1.375 A	Current	Peak-to-peak inductor ripple current
5.	M1 Irms	1.536 A	Current	Q Iavg
6.	BOM Count	6	General	Total Design BOM count
7.	FootPrint	47.0 mm ²	General	Total Foot Print Area of BOM components
8.	Frequency	2.172 MHz	General	Switching frequency
9.	Pout	6.6 W	General	Total output power
10.	Total BOM	\$2.49	General	Total BOM Cost
11.	Vout Actual	3.319 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	56.711 %	Op_point	Duty cycle
14.	Efficiency	93.904 %	Op_point	Steady state efficiency
15.	IC Tj	52.098 degC	Op_point	IC junction temperature
16.	ICThetaJA	70.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
17.	IOUT_OP	2.0 A	Op_point	Iout operating point
18.	VIN_OP	6.0 V	Op_point	Vin operating point
19.	Vout p-p	4.767 mV	Op_point	Peak-to-peak output ripple voltage
20.	Cin Pd	0.0 W	Power	Input capacitor power dissipation
21.	Cout Pd	472.906 μ W	Power	Output capacitor power dissipation
22.	IC Iq Pd	124.245 μ W	Power	IC Iq Pd
23.	IC Pd	315.693 mW	Power	IC power dissipation
24.	Total Pd	428.451 mW	Power	Total Power Dissipation
25.	Vout Tolerance	2.675 %		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	6.0	Maximum input voltage
3.	VinMin	4.0	Minimum input voltage
4.	Vout	3.3	Output Voltage
5.	base_pn	TPS82085	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **TPS82085 Product Folder** : <http://www.ti.com/product/TPS82085> : contains the data sheet and other resources.

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