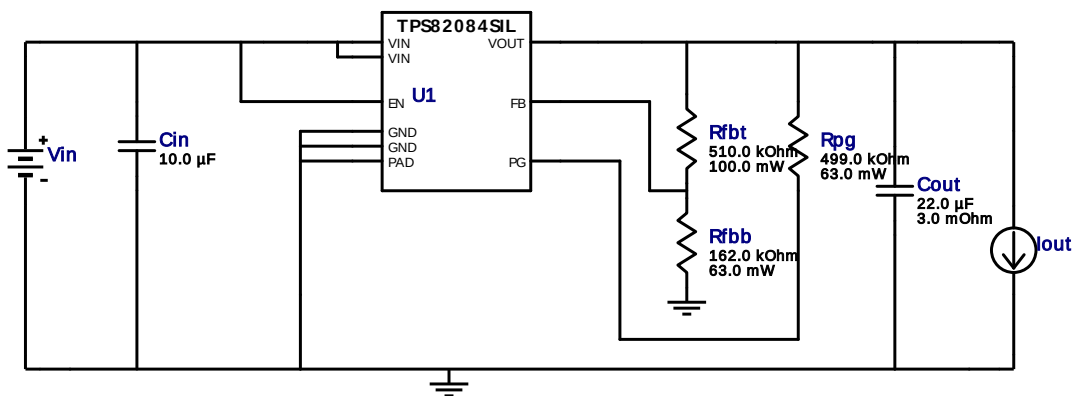


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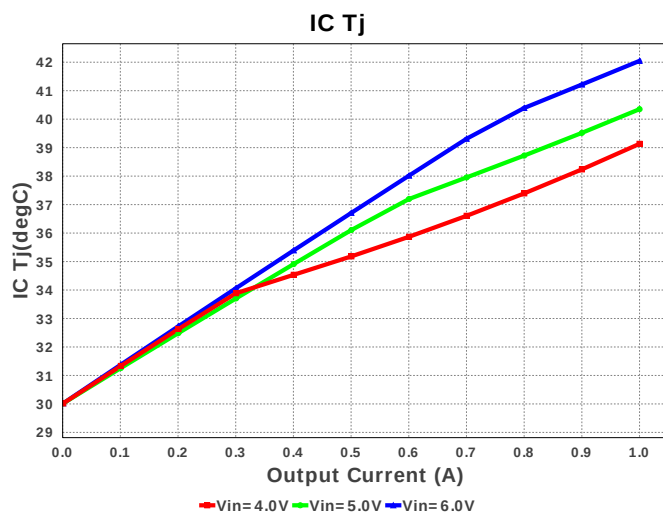
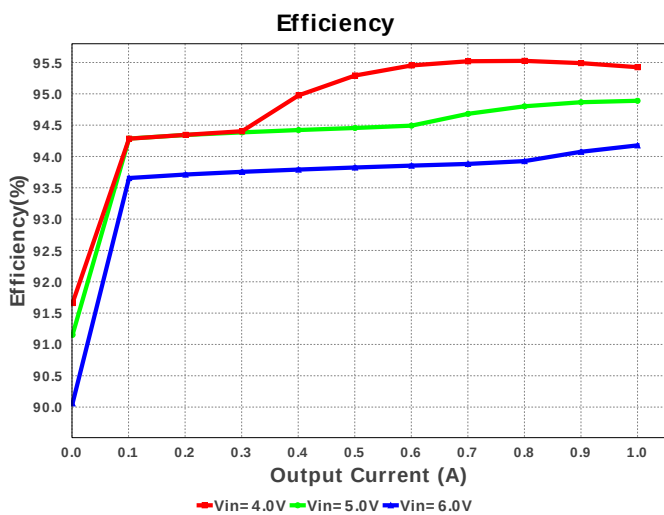
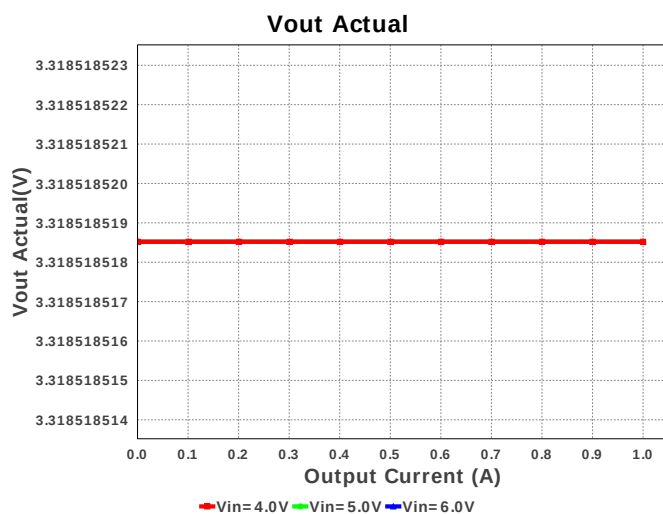
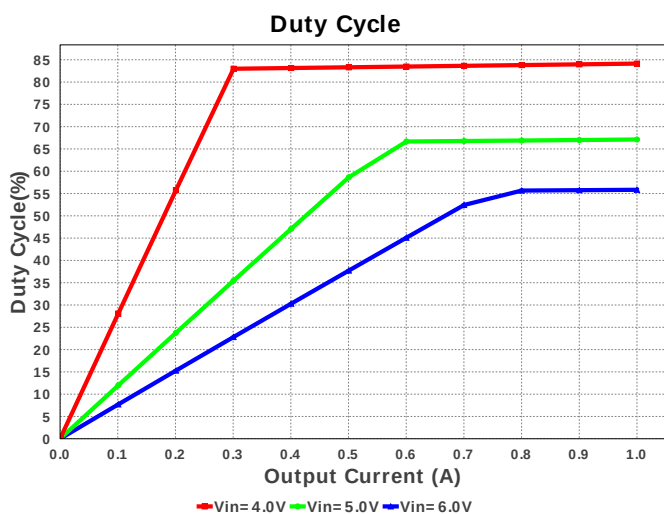
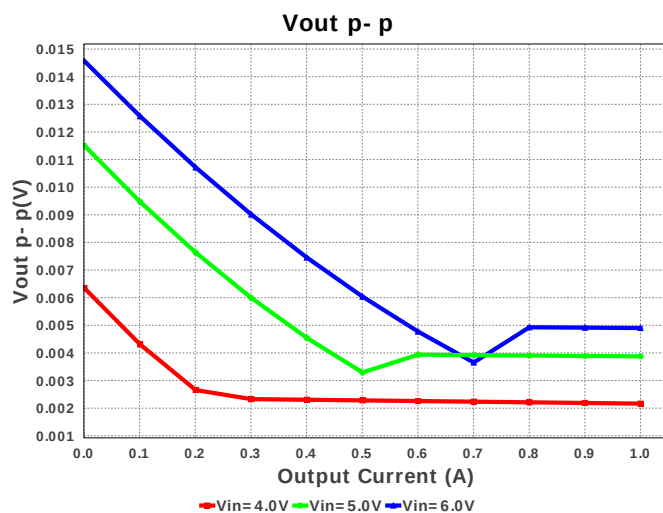
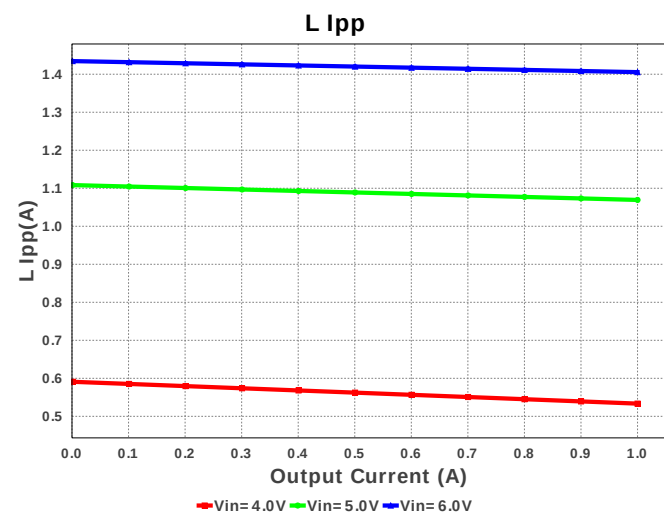
Design : 4108001/6 TPS82084SILR
TPS82084SILR 4.0V-6.0V to 3.30V @ 1.0A

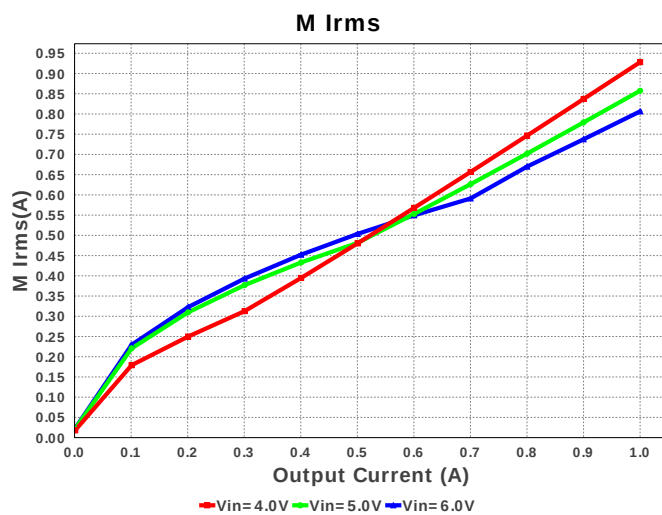
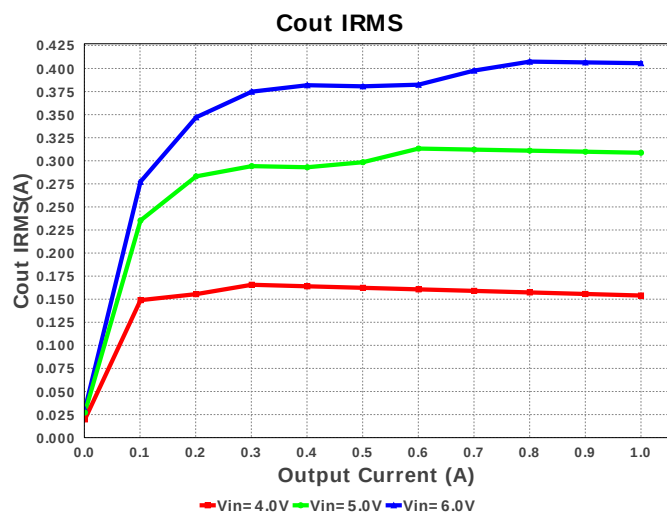
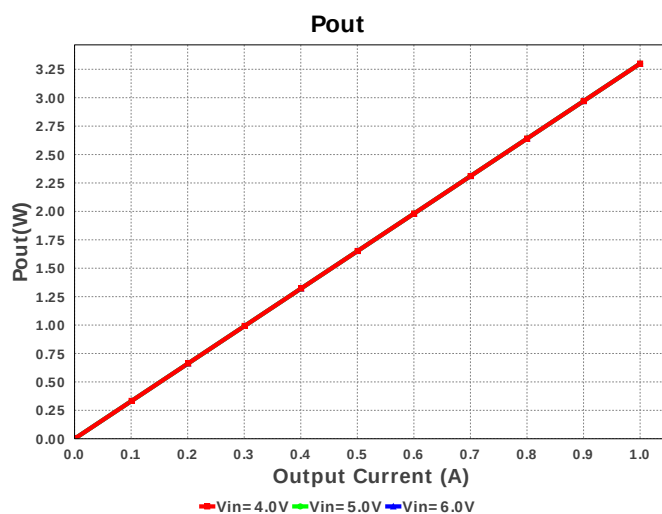
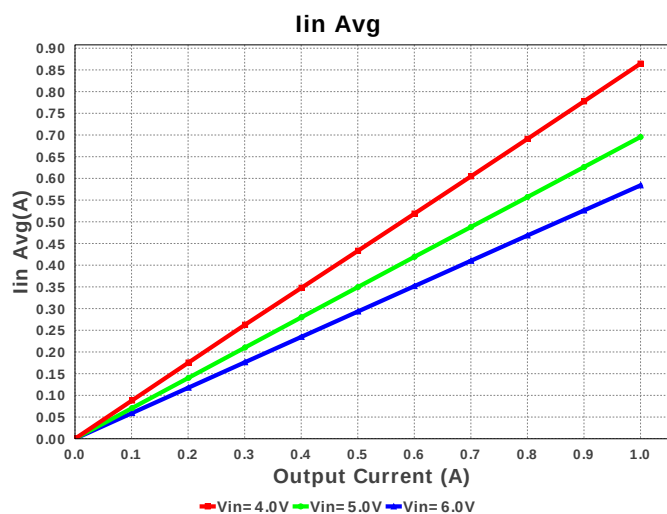
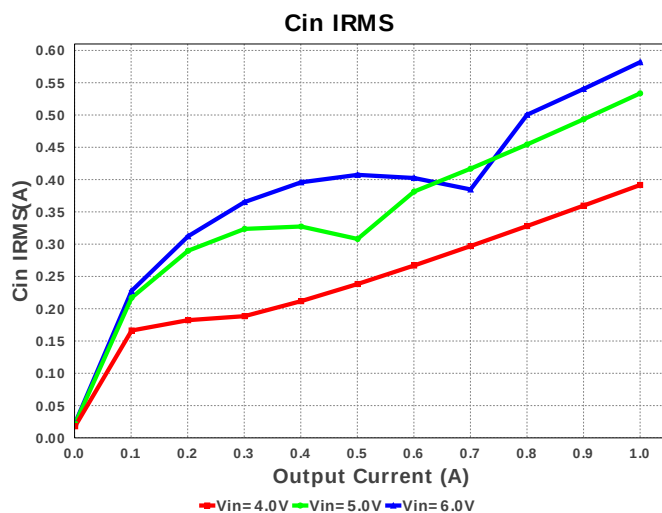
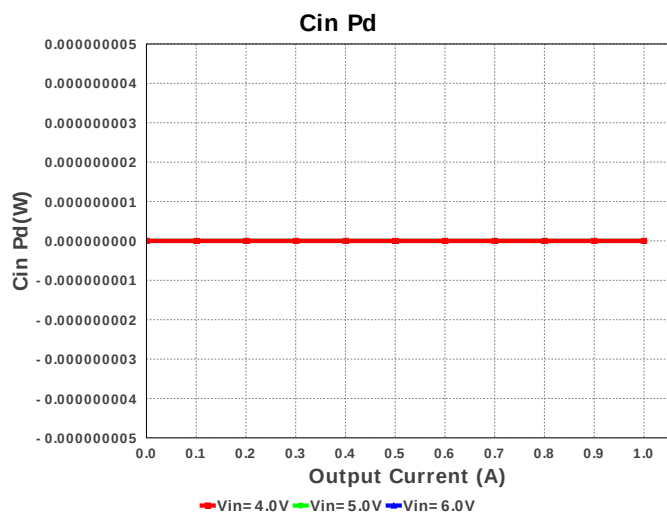
Vout = 3.3V
Iout = 1.0A

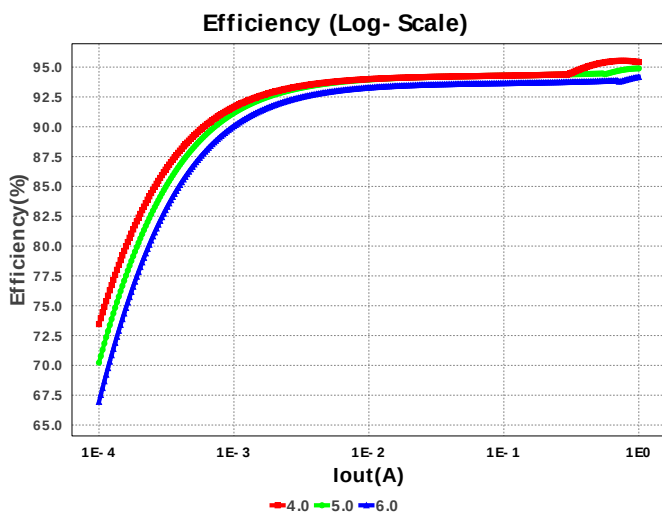
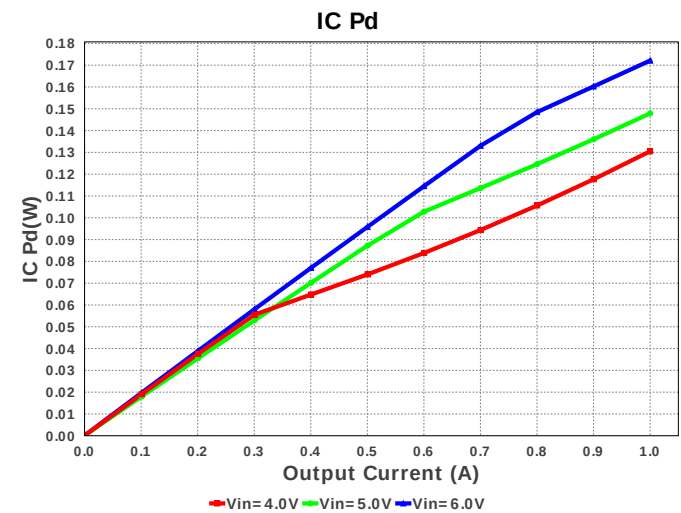
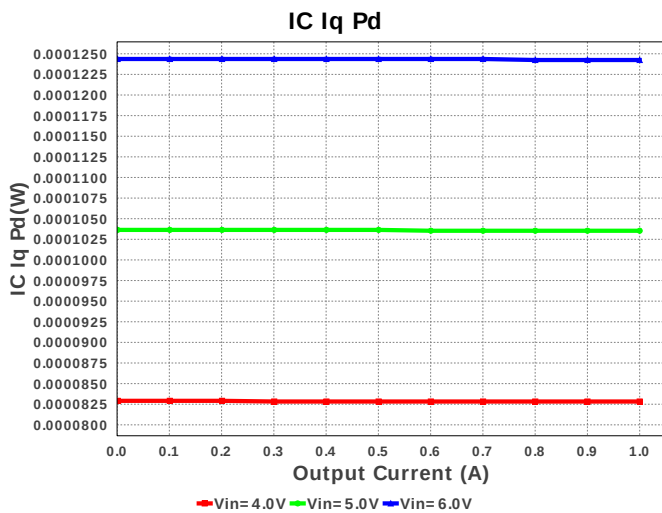
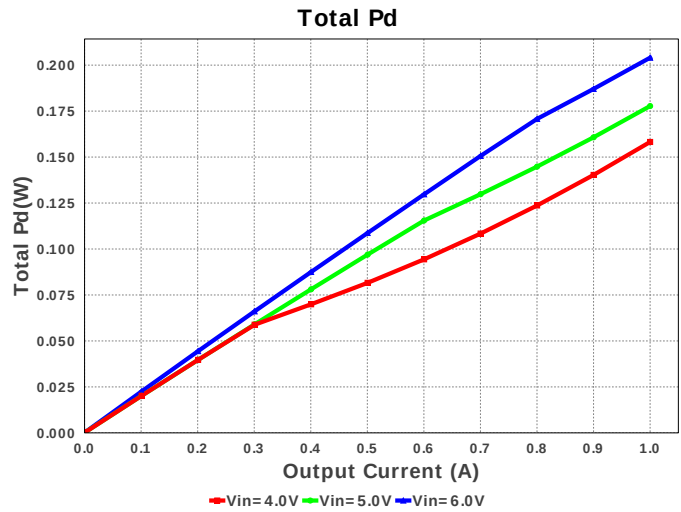
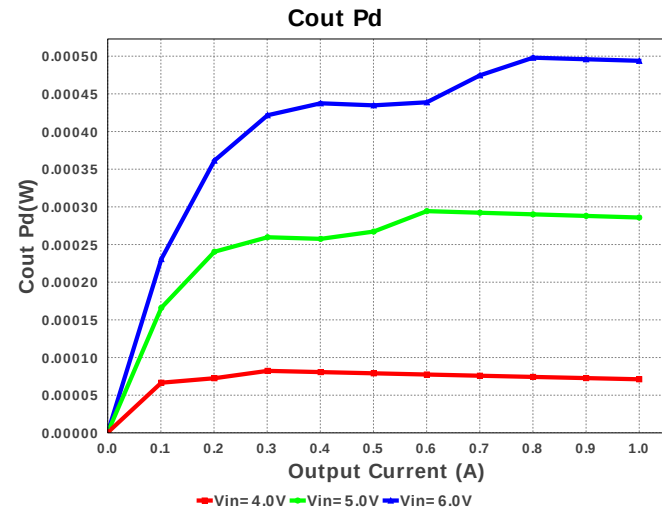


Electrical BOM

#	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	TPS82084SILR	Switcher	1	\$1.46	SIL0008C_SMD 15 mm ²







Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	581.818 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	405.733 mA	Current	Output capacitor RMS ripple current
3.	Iin Avg	584.01 mA	Current	Average input current
4.	L Ipp	1.406 A	Current	Peak-to-peak inductor ripple current
5.	M Irms	806.405 mA	Current	MOSFET RMS current
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	2.14 MHz	General	Switching frequency
9.	Mode	CCM	General	Conduction Mode
10.	Pout	3.3 W	General	Total output power
11.	Total BOM	\$1.8	General	Total BOM Cost

#	Name	Value	Category	Description
12.	Vout Actual	3.319 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
13.	Vout OP	3.3 V	Op_Point	Operational Output Voltage
14.	Duty Cycle	55.837 %	Op_point	Duty cycle
15.	Efficiency	94.177 %	Op_point	Steady state efficiency
16.	IC Tj	42.047 degC	Op_point	IC junction temperature
17.	ICThetaJA	70.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
18.	IOUT_OP	1.0 A	Op_point	Iout operating point
19.	VIN_OP	6.0 V	Op_point	Vin operating point
20.	Vout p-p	4.902 mV	Op_point	Peak-to-peak output ripple voltage
21.	Cin Pd	0.0 W	Power	Input capacitor power dissipation
22.	Cout Pd	493.859 μ W	Power	Output capacitor power dissipation
23.	IC Iq Pd	124.245 μ W	Power	IC Iq Pd
24.	IC Pd	172.101 mW	Power	IC power dissipation
25.	Total Pd	204.041 mW	Power	Total Power Dissipation
26.	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	1.0	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	TPS82084	Texas Instruments Base Part Number
6.	source	DC	Input Source Type
7.	ta	30.0	Ambient temperature

Design Assistance

1. TPS82084 Product Folder : <http://www.ti.com/product/TPS82084> : contains the data sheet and other resources.

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