




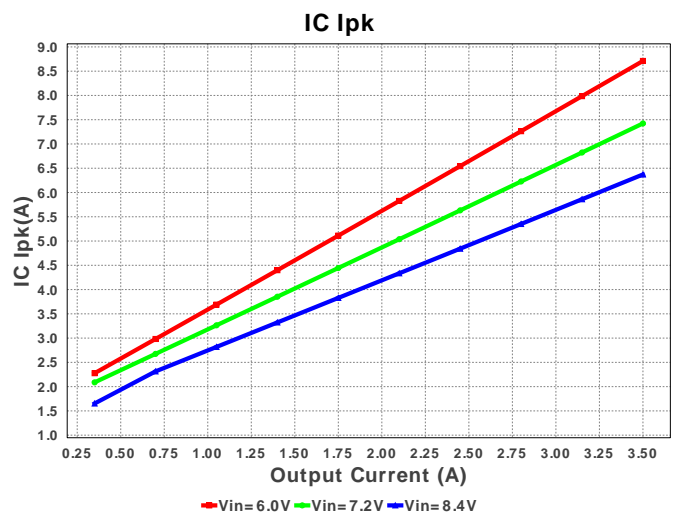
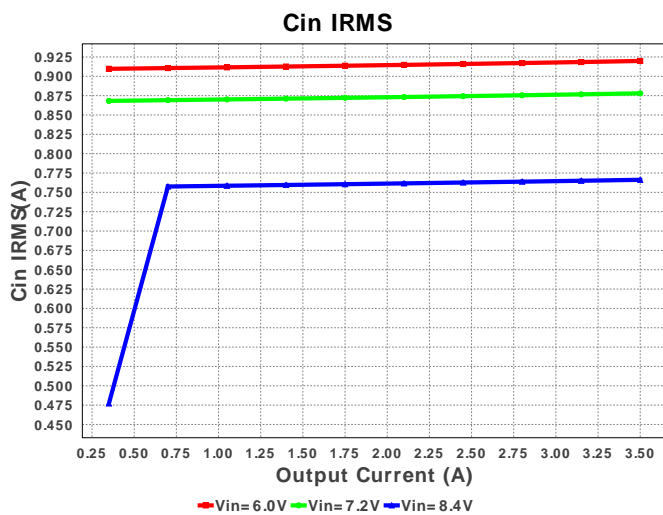
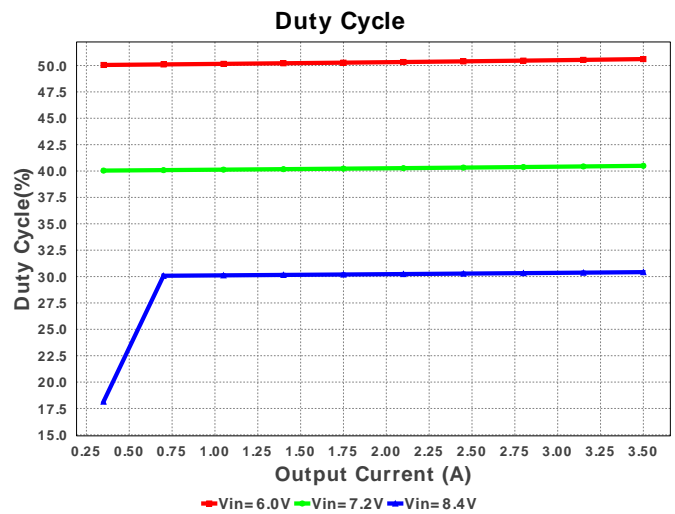
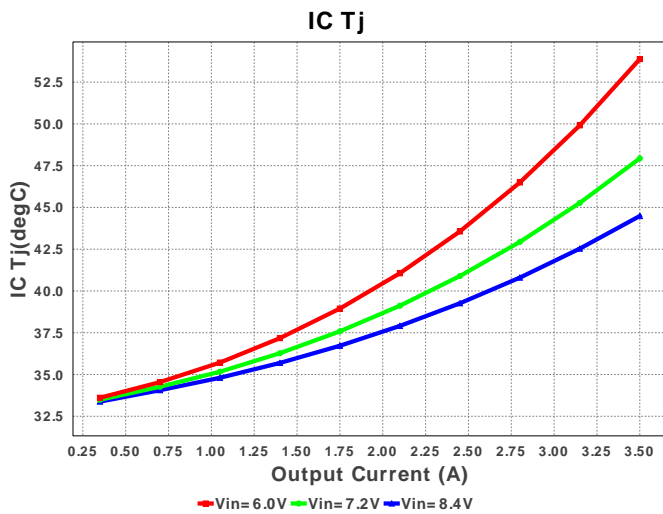
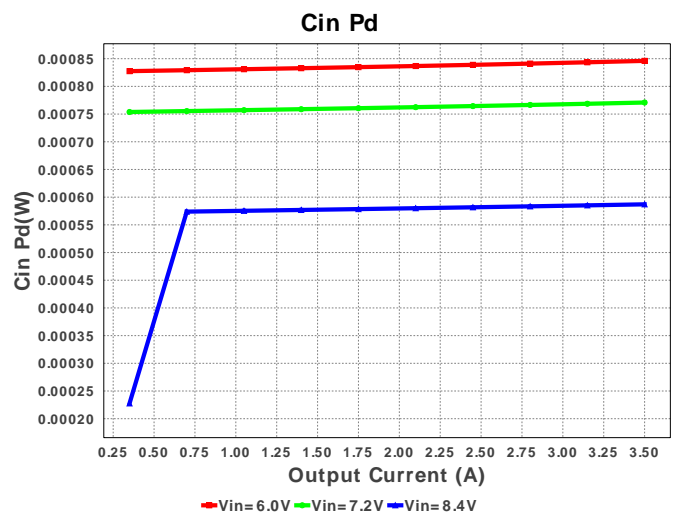
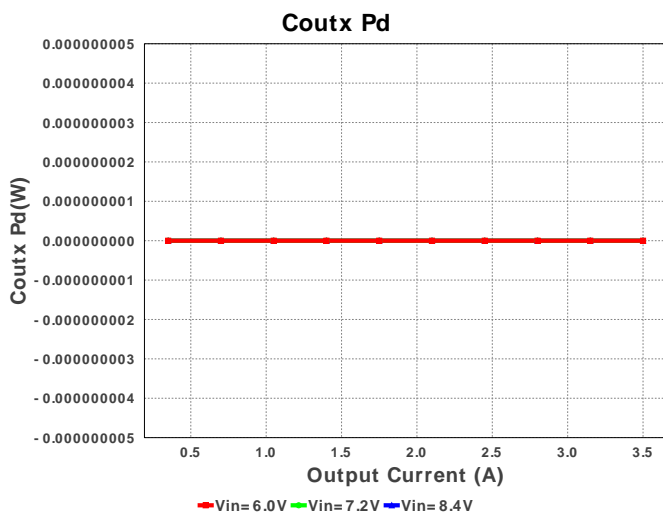
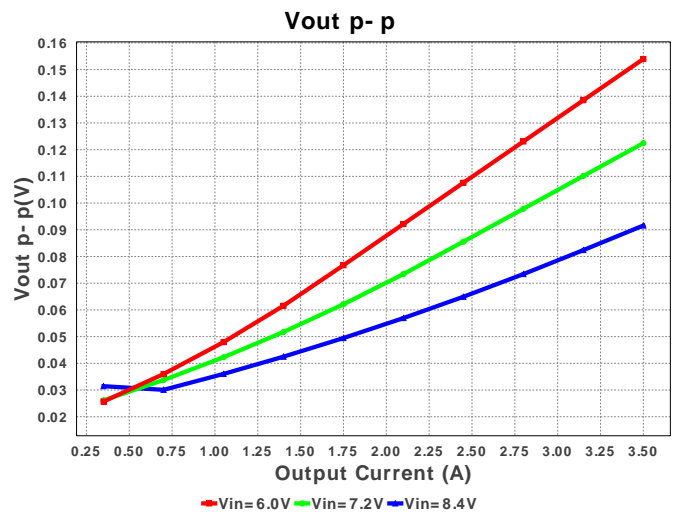
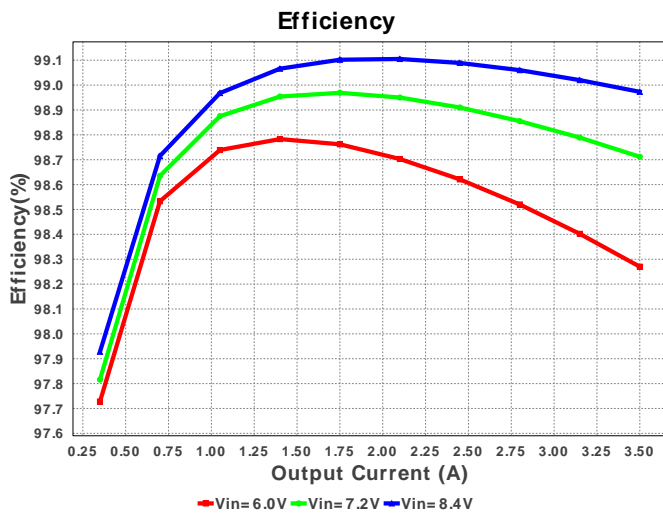
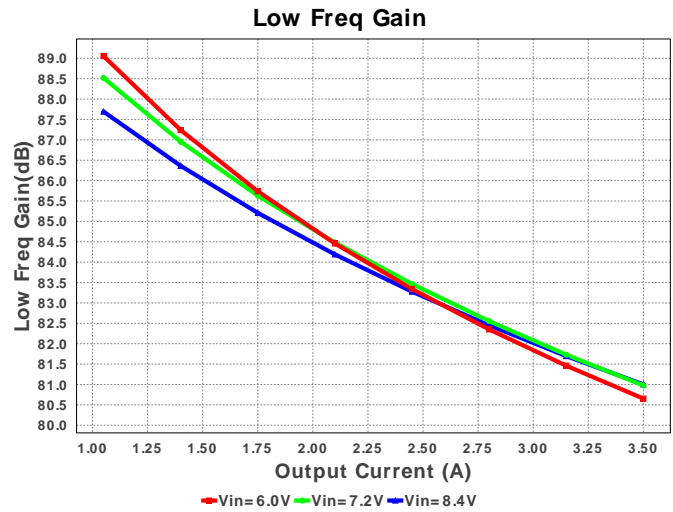
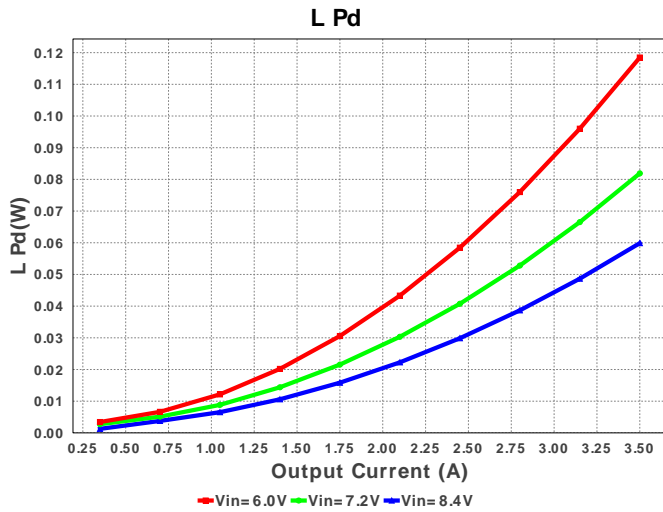


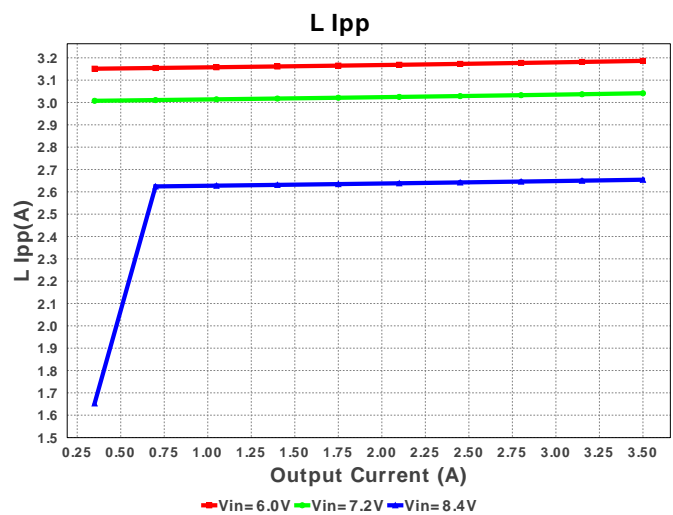
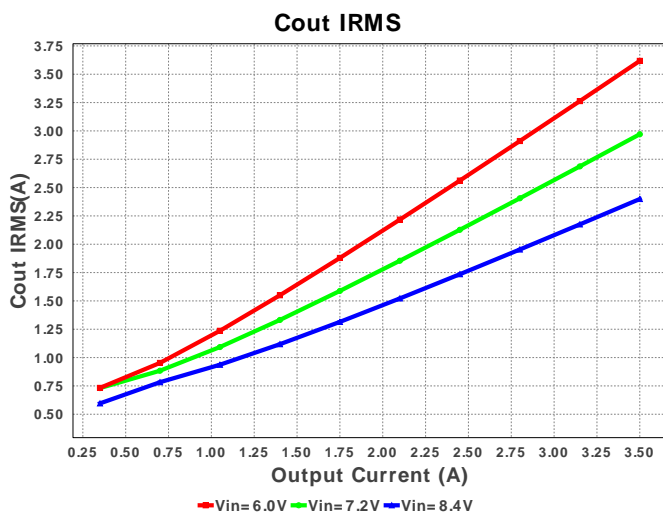
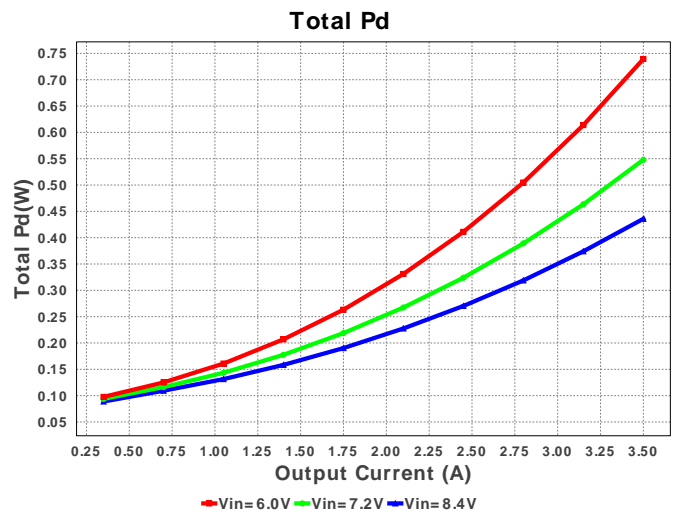
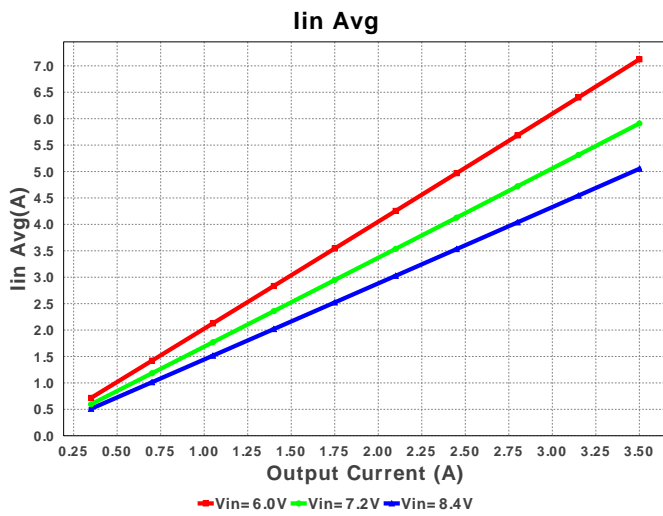
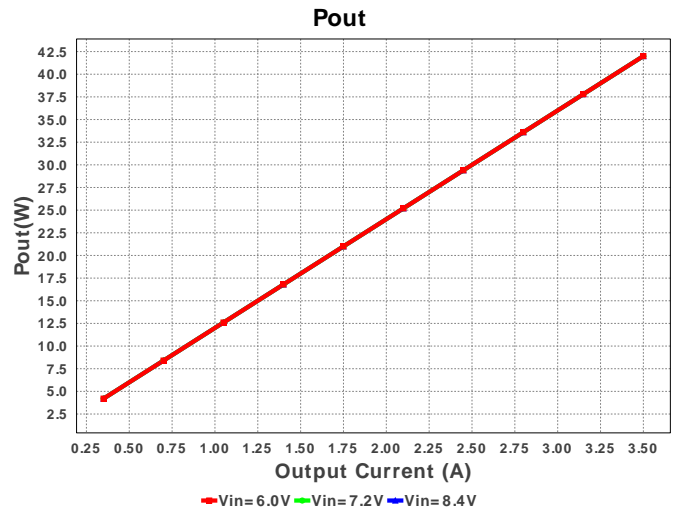
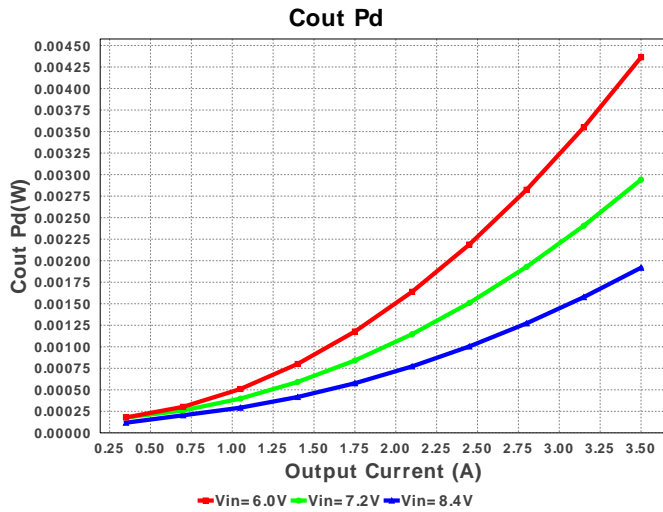


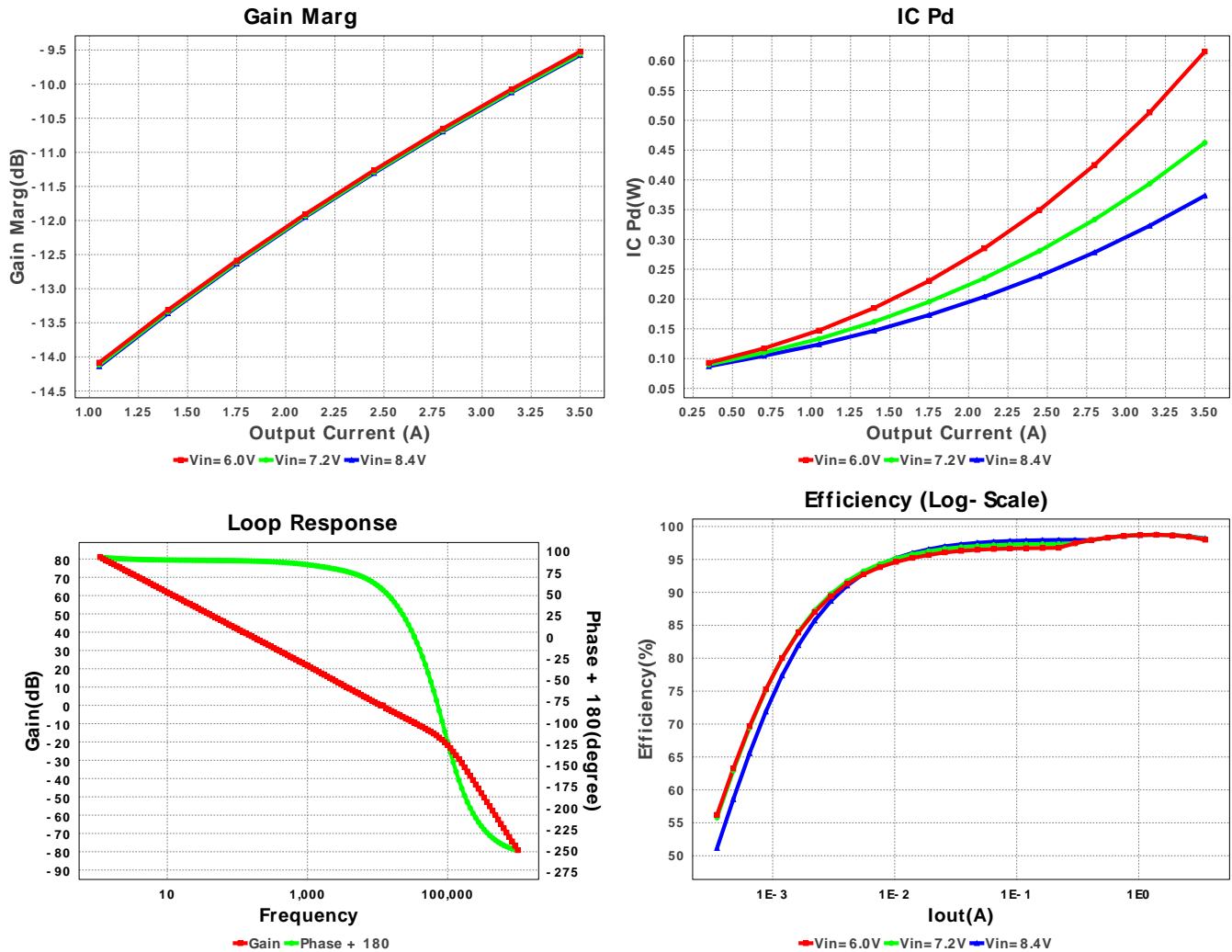
Device = TPS61088RHLR
Topology = Boost
Created = 10/9/15 12:56:47 PM
BOM Cost = \$8.99
Footprint = 420.0 mm²
BOM Count = 21
Total Pd = 0.74W

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
11.	Rfbb	Yageo America	RC0603FR-0782KL Series= ?	Res= 82.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	\$0.01	 0603 5 mm ²
12.	Rfbt	Vishay-Dale	CRCW0402732KFKED Series= CRCW..e3	Res= 732.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
13.	Rlim	Panasonic	ERJ-8ENF1023V Series= ERJ-8E	Res= 102.0 kOhm Power= 250.0 mW Tolerance= 1.0%	1	\$0.01	 1206 11 mm ²
14.	Rt	Panasonic	ERJ-8ENF8453V Series= ERJ-8E	Res= 845.0 kOhm Power= 250.0 mW Tolerance= 1.0%	1	\$0.01	 1206 11 mm ²
15.	U1	Texas Instruments	TPS61088RHLR	Switcher	1	\$2.30	 RHL0020A 25 mm ²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	919.818 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	3.618 A	Current	Output capacitor RMS ripple current
3.	IC IpK	8.71 A	Current	Peak switch current in IC
4.	Iin Avg	7.123 A	Current	Average input current
5.	L Ipp	3.186 A	Current	Peak-to-peak inductor ripple current
6.	BOM Count	21	General	Total Design BOM count
7.	FootPrint	420.0 mm ²	General	Total Foot Print Area of BOM components
8.	Frequency	198.541 kHz	General	Switching frequency
9.	Pout	42.0 W	General	Total output power
10.	Total BOM	\$8.99	General	Total BOM Cost
11.	Low Freq Gain	80.653 dB	Op_Point	Gain at 10Hz
12.	Cross Freq	11.113 kHz	Op_point	Bode plot crossover frequency
13.	Duty Cycle	50.609 %	Op_point	Duty cycle
14.	Efficiency	98.27 %	Op_point	Steady state efficiency
15.	Gain Marg	-9.522 dB	Op_point	Bode Plot Gain Margin
16.	IC Tj	53.879 degC	Op_point	IC junction temperature
17.	ICThetaJA	38.8 degC/W	Op_point	IC junction-to-ambient thermal resistance
18.	IOUT_OP	3.5 A	Op_point	Iout operating point
19.	Phase Marg	57.788 deg	Op_point	Bode Plot Phase Margin
20.	VIN_OP	6.0 V	Op_point	Vin operating point
21.	Vout p-p	153.964 mV	Op_point	Peak-to-peak output ripple voltage
22.	Cin Pd	846.065 μW	Power	Input capacitor power dissipation
23.	Cout Pd	4.363 mW	Power	Output capacitor power dissipation
24.	Coutx Pd	0.0 W	Power	Output capacitor_x power loss
25.	IC Pd	615.444 mW	Power	IC power dissipation
26.	L Pd	118.454 mW	Power	Inductor power dissipation
27.	Total Pd	739.388 mW	Power	Total Power Dissipation

Design Inputs

#	Name	Value	Description
1.	Iout	3.5	Maximum Output Current
2.	Iout1	3.5	Output Current #1
3.	VinMax	8.4	Maximum input voltage
4.	VinMin	6.0	Minimum input voltage
5.	Vout	12.0	Output Voltage
6.	Vout1	12.0	Output Voltage #1
7.	base_pn	TPS61088	Base Product Number
8.	source	DC	Input Source Type
9.	Ta	30.0	Ambient temperature

Design Assistance

1. **TPS61088** Product Folder : <http://www.ti.com/product/TPS61088> : contains the data sheet and other resources.

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