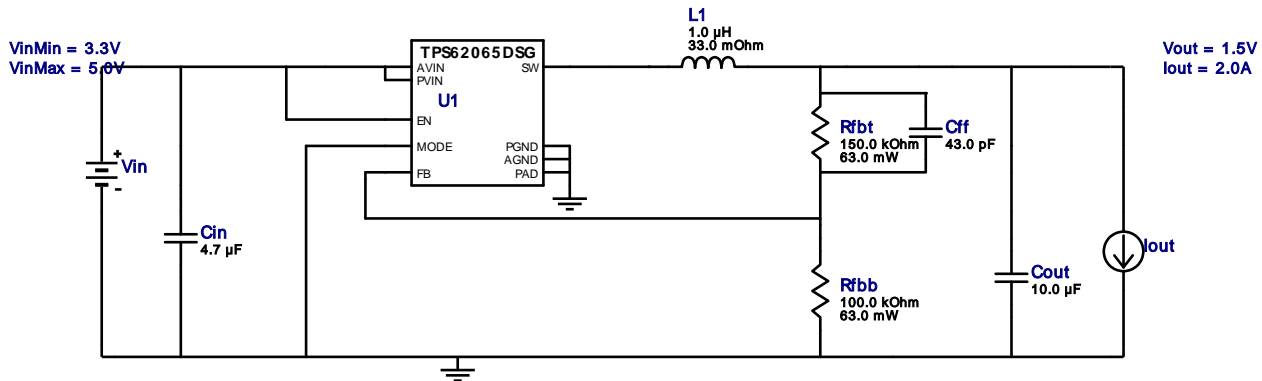







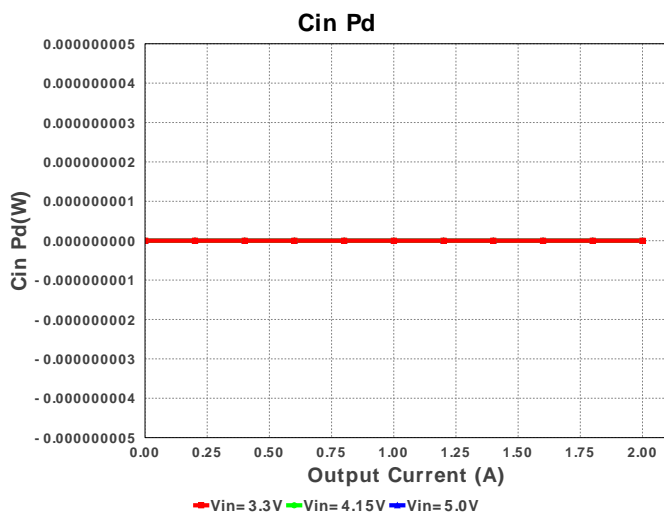
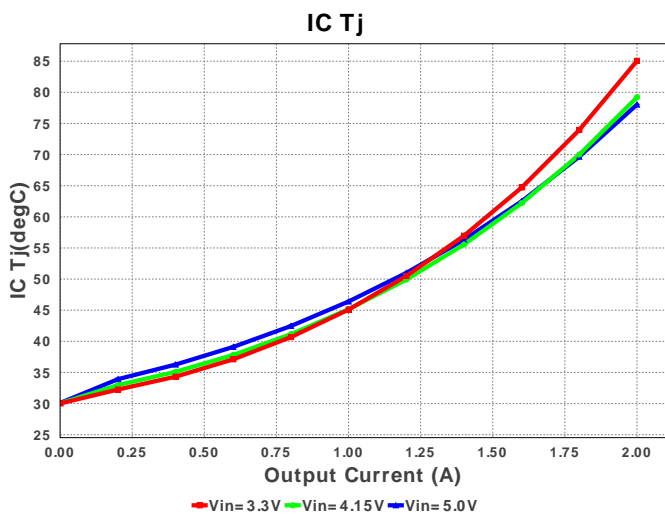
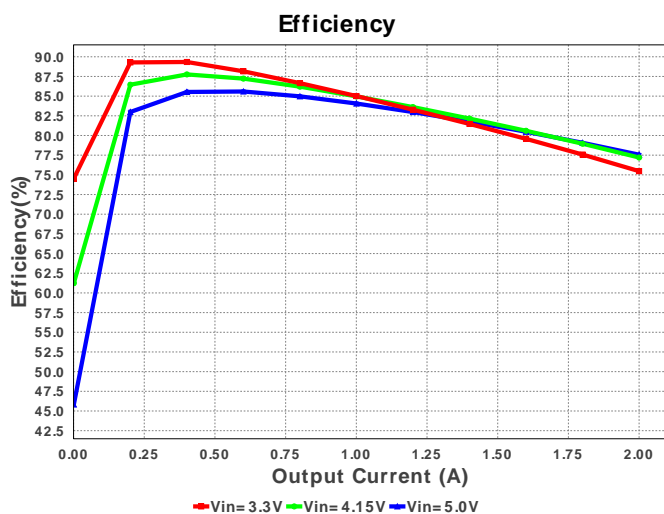
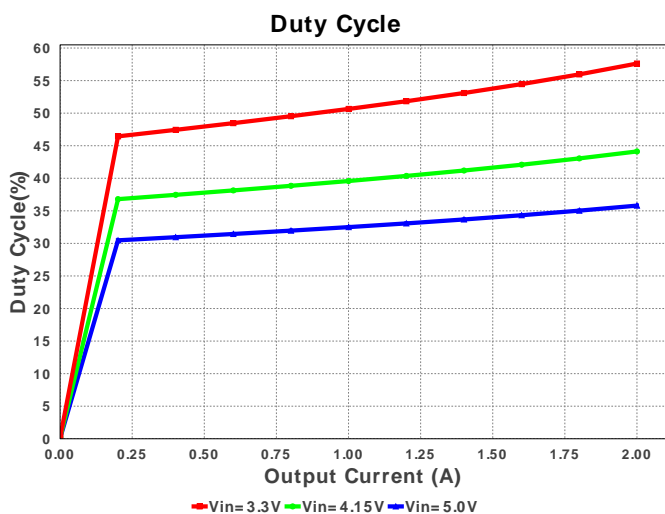
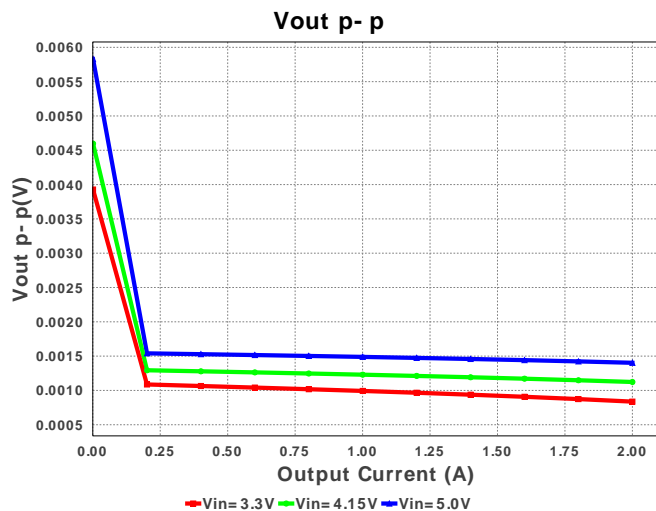
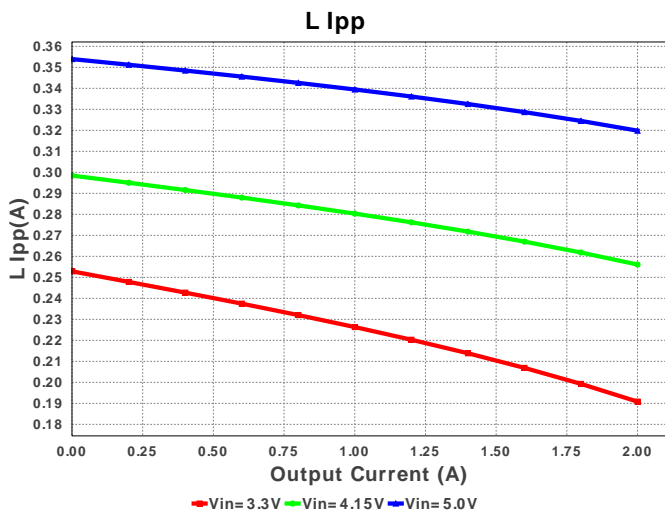
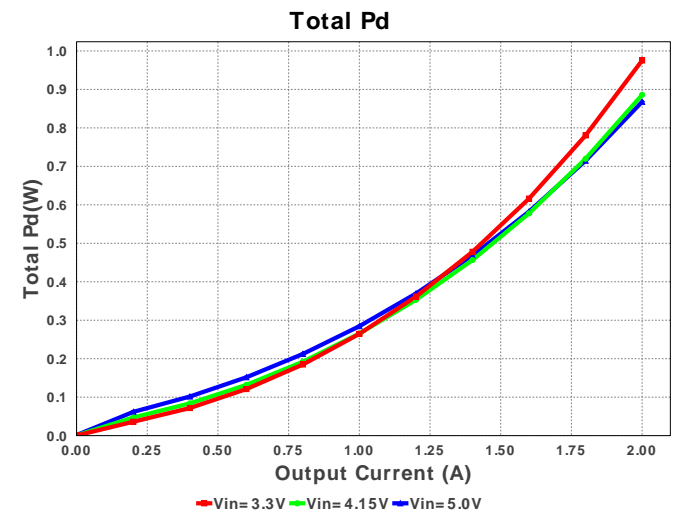
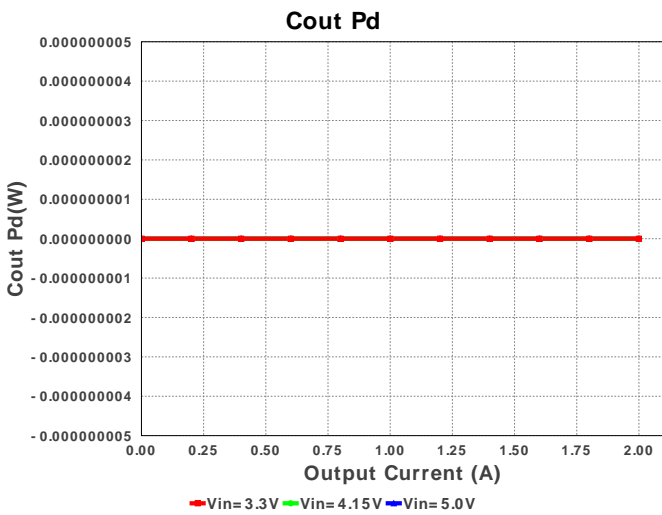
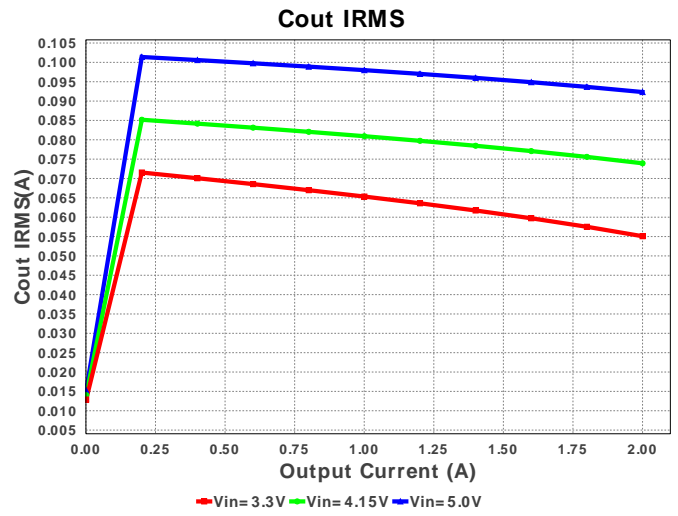
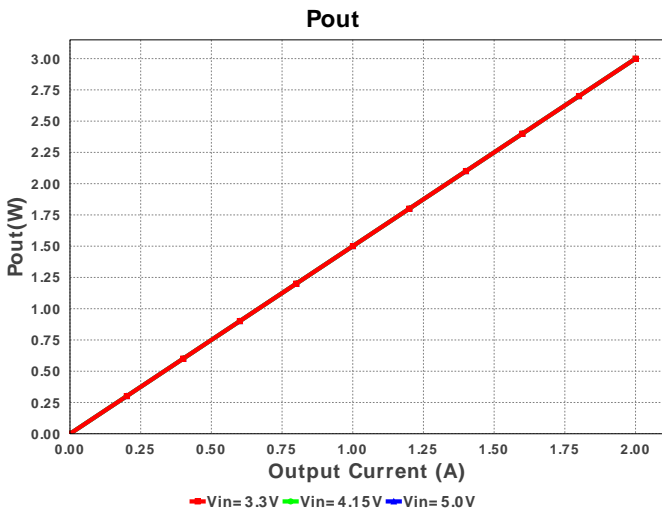
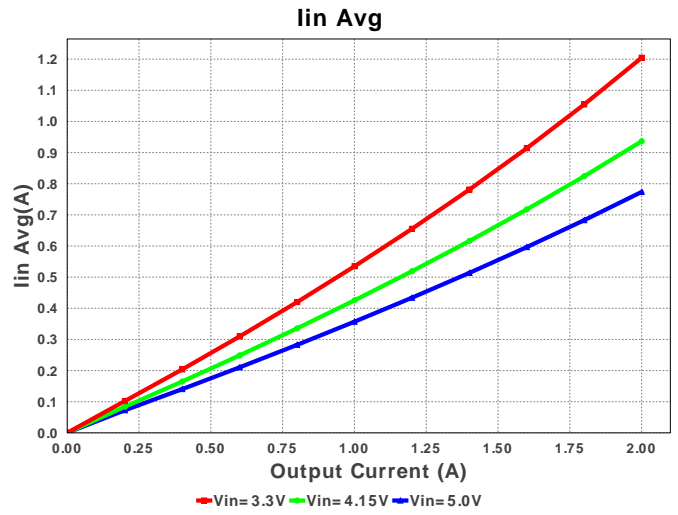
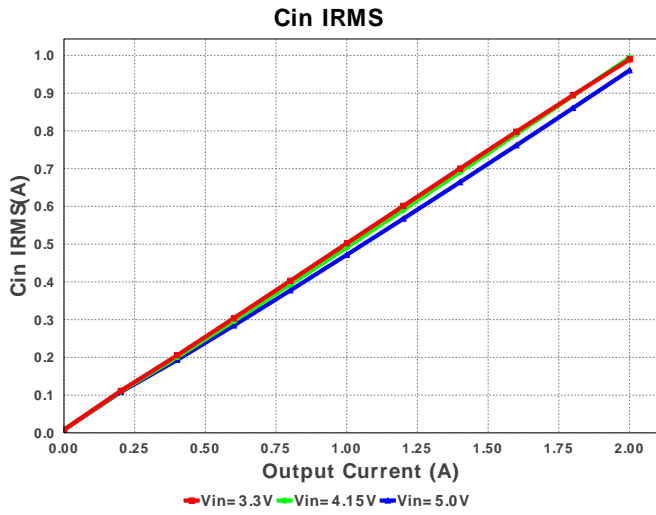


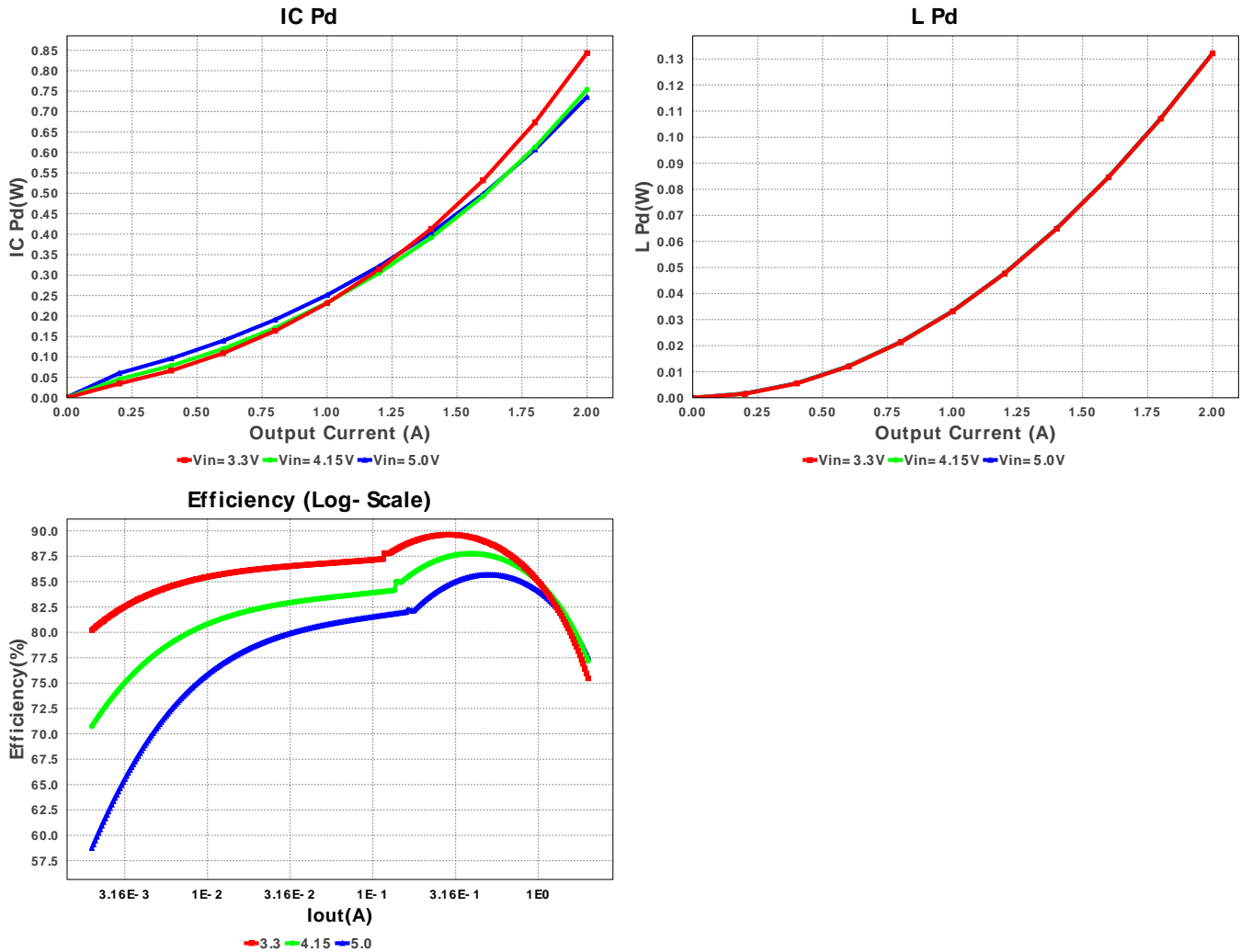
WEBENCH® Design Report

 Design : 4427995/1 TPS62065DSGR
 TPS62065DSGR 3.3V-5.0V to 1.50V @ 2.0A

Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cff	Samsung Electro-Mechanics	CL21C430JBANNNC Series= C0G/NP0	Cap= 43.0 pF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	 0805 7 mm ²
2.	Cin	MuRata	GRM21BR61A475KA73L Series= X5R	Cap= 4.7 uF VDC= 10.0 V IRMS= 0.0 A	1	\$0.03	 0805 7 mm ²
3.	Cout	Samsung Electro-Mechanics	CL10A106MQ8NNNC Series= X5R	Cap= 10.0 uF VDC= 6.3 V IRMS= 0.0 A	1	\$0.02	 0603 5 mm ²
4.	L1	Bourns	SDR0403-1R0ML	L= 1.0 uH DCR= 33.0 mOhm	1	\$0.18	 SDR0403 28 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	CRCW0402150KFKED Series= CRCW..e3	Res= 150.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
7.	U1	Texas Instruments	TPS62065DSGR	Switcher	1	\$0.85	 DSG0008A 55 mm ²







Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	960.426 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	92.333 mA	Current	Output capacitor RMS ripple current
3.	Iin Avg	773.57 mA	Current	Average input current
4.	L Ipp	319.85 mA	Current	Peak-to-peak inductor ripple current
5.	BOM Count	7	General	Total Design BOM count
6.	FootPrint	107.0 mm ²	General	Total Foot Print Area of BOM components
7.	Frequency	3.0 MHz	General	Switching frequency
8.	Pout	3.0 W	General	Total output power
9.	Total BOM	\$1.11	General	Total BOM Cost
10.	Vout OP	1.5 V	Op_Point	Operational Output Voltage
11.	Duty Cycle	35.802 %	Op_point	Duty cycle
12.	Efficiency	77.562 %	Op_point	Steady state efficiency
13.	IC Tj	78.033 degC	Op_point	IC junction temperature
14.	ICThetaJA	65.3 degC/W	Op_point	IC junction-to-ambient thermal resistance
15.	IOUT_OP	2.0 A	Op_point	Iout operating point
16.	VIN_OP	5.0 V	Op_point	Vin operating point
17.	Vout p-p	1.333 mV	Op_point	Peak-to-peak output ripple voltage
18.	Cin Pd	0.0 W	Power	Input capacitor power dissipation
19.	Cout Pd	0.0 W	Power	Output capacitor power dissipation
20.	IC Pd	735.574 mW	Power	IC power dissipation
21.	L Pd	132.281 mW	Power	Inductor power dissipation
22.	Total Pd	867.868 mW	Power	Total Power Dissipation

Design Inputs

#	Name	Value	Description
1.	Iout	2.0	Maximum Output Current
2.	Iout1	2.0	Output Current #1
3.	VinMax	5.0	Maximum input voltage
4.	VinMin	3.3	Minimum input voltage
5.	Vout	1.5	Output Voltage

#	Name	Value	Description
6.	Vout1	1.5	Output Voltage #1
7.	base_pn	TPS62065	Base Product Number
8.	source	DC	Input Source Type
9.	Ta	30.0	Ambient temperature

Design Assistance

1. **TPS62065** Product Folder : <http://www.ti.com/product/TPS62065> : contains the data sheet and other resources.

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