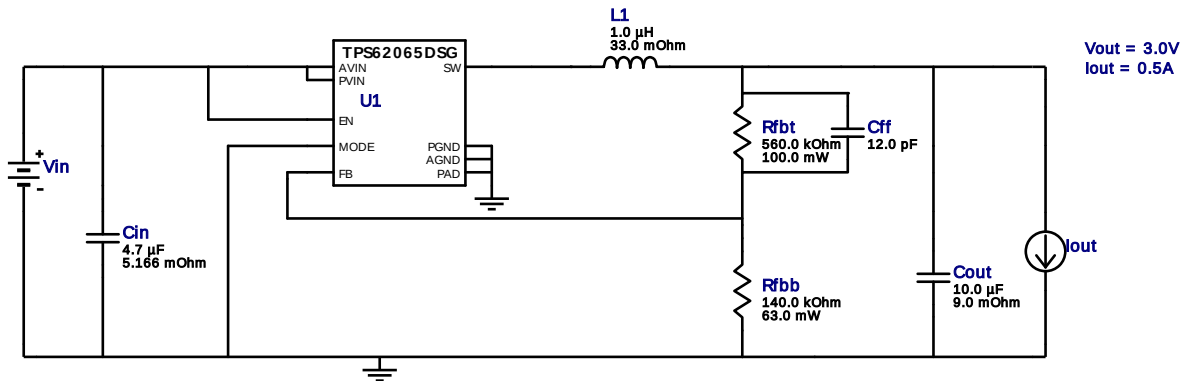


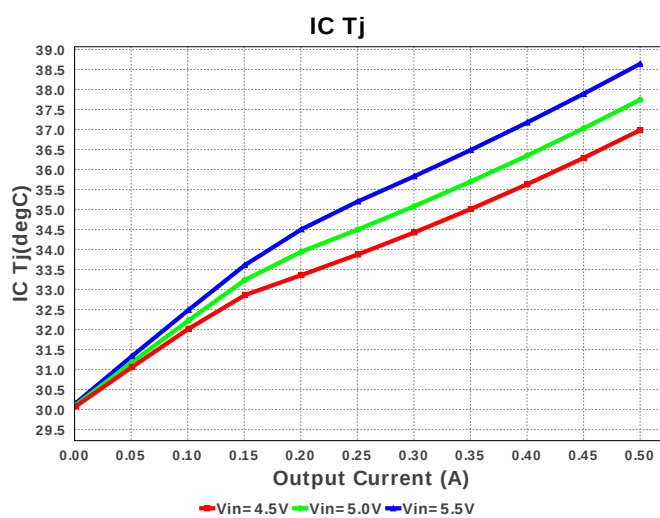
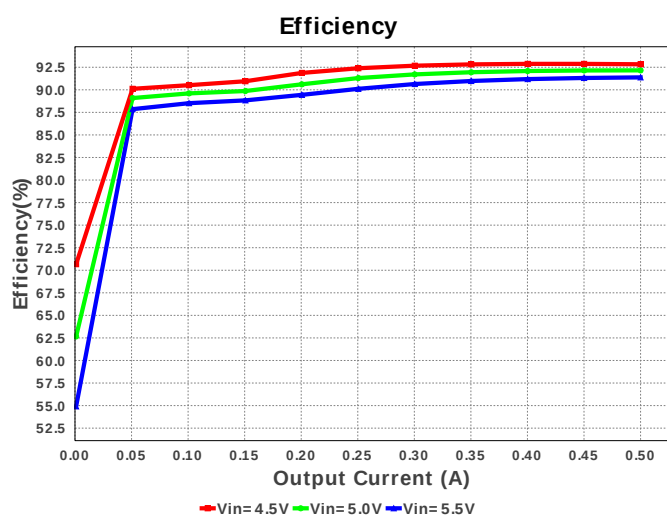
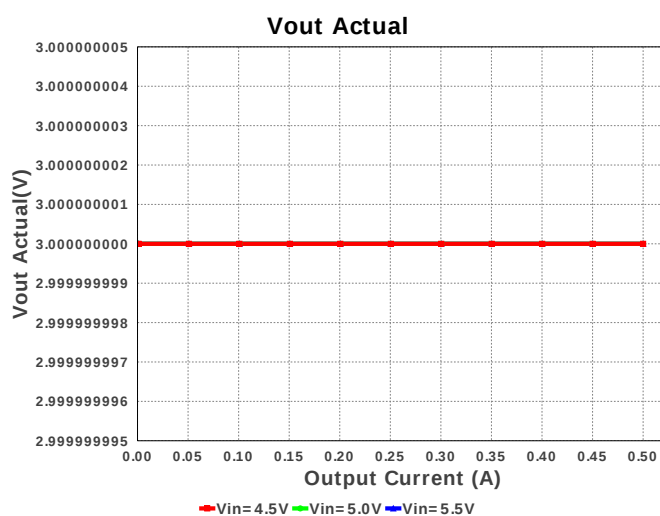
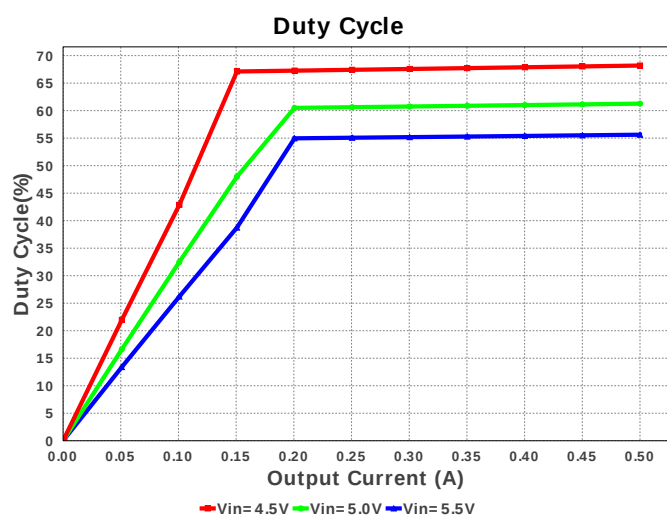
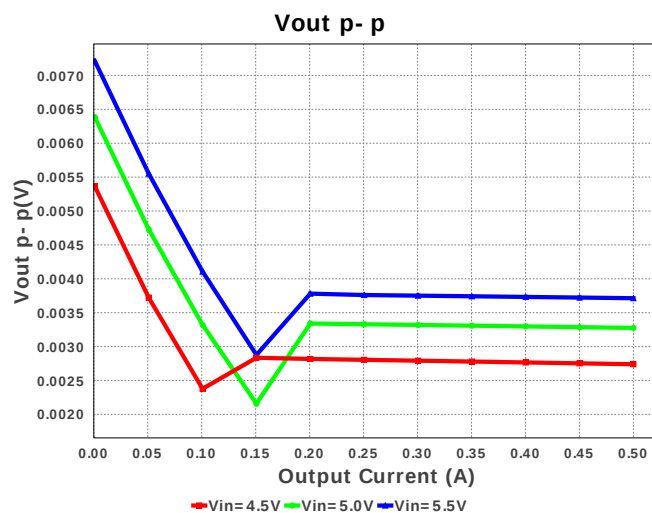
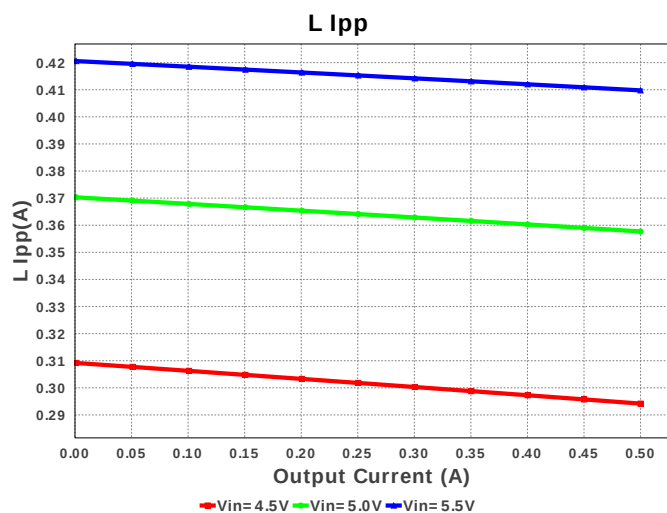
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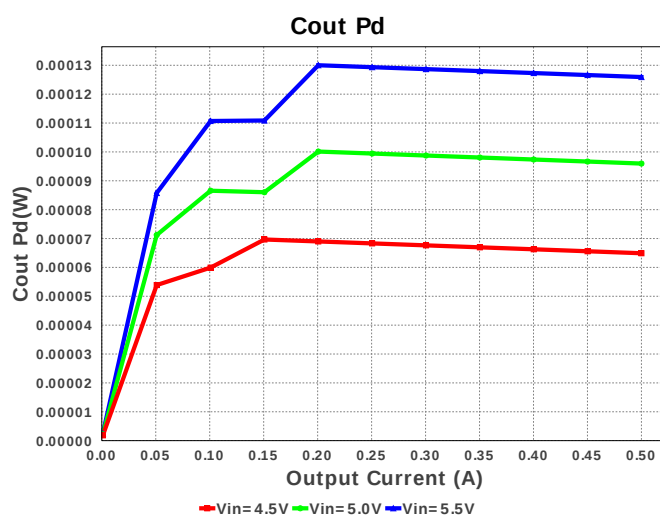
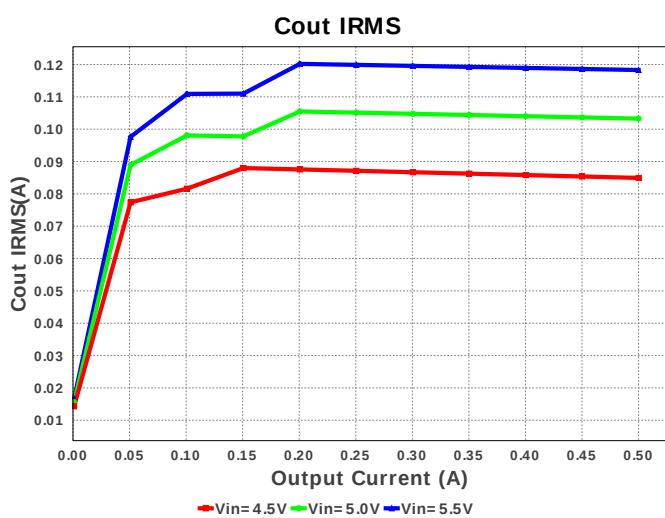
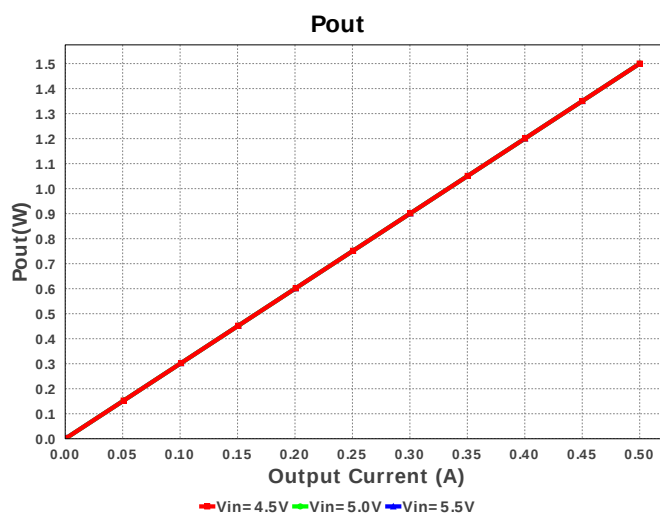
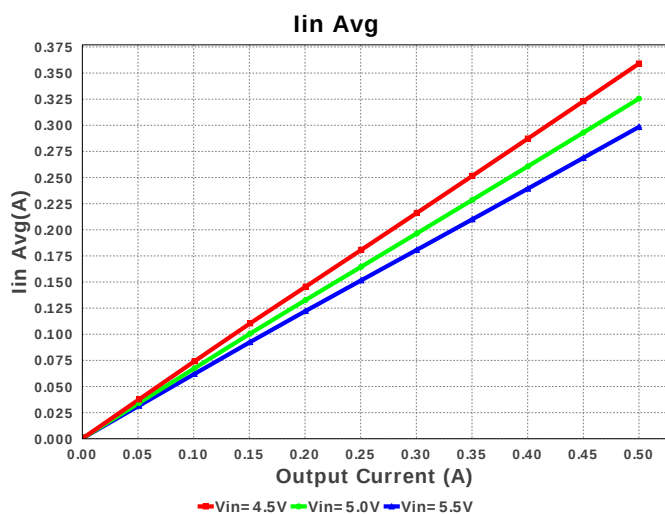
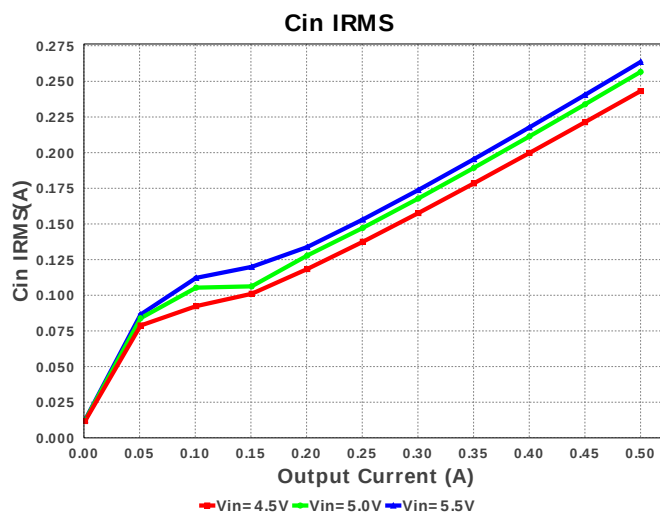
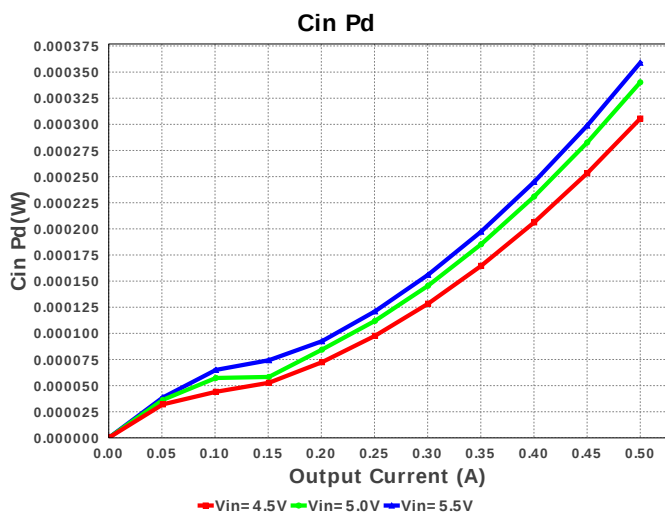
Design : 4742013/142 TPS62065DSGR
TPS62065DSGR 4.5V-5.5V to 3.00V @ 0.5A

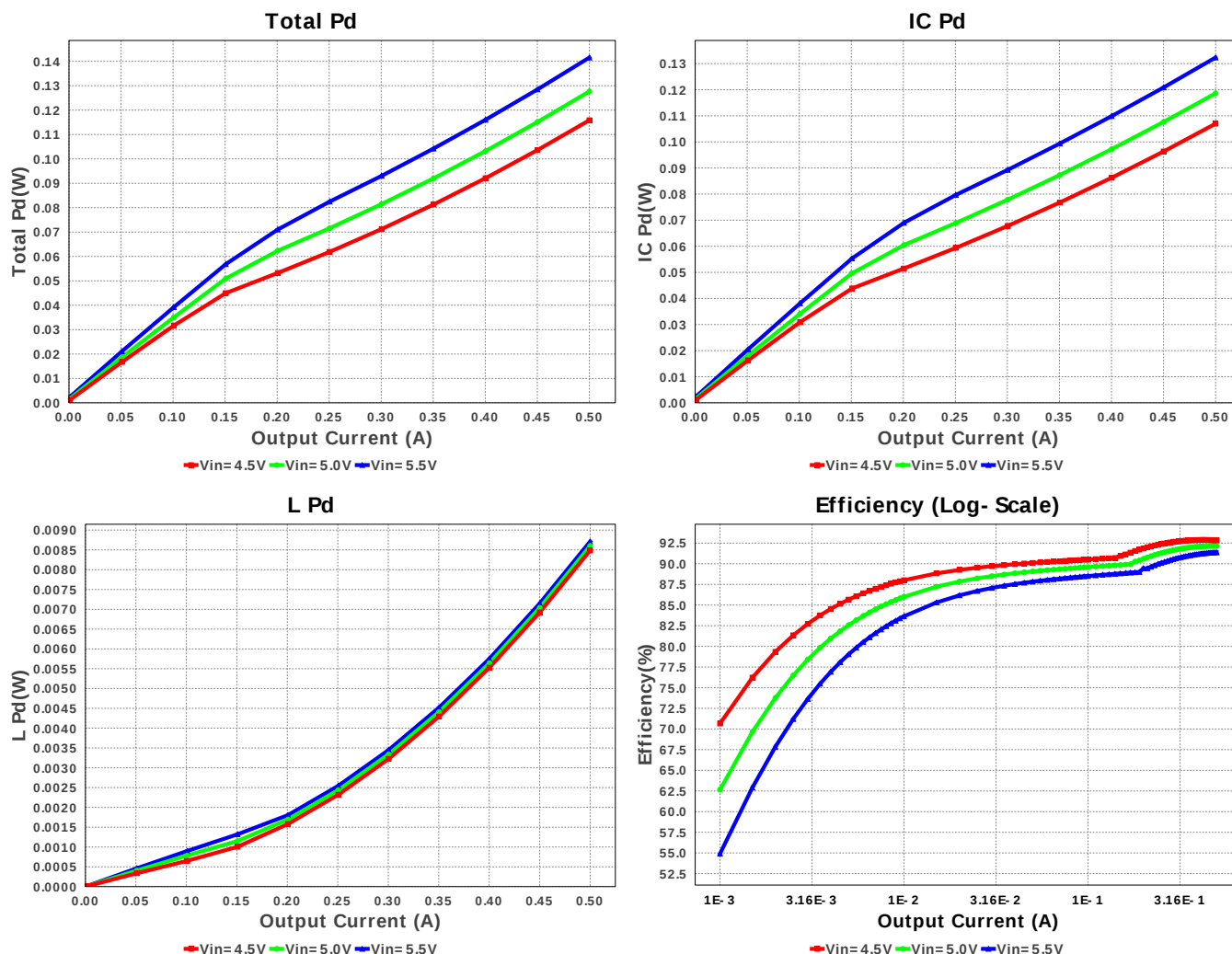


Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cff	Yageo America	CC0805JRNPO9BN120 Series= C0G/NP0	Cap= 12.0 pF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	0805 7 mm ²
2.	Cin	MuRata	GRM21BC81E475KA12L Series= X6S	Cap= 4.7 uF ESR= 5.166 mOhm VDC= 25.0 V IRMS= 2.03531 A	1	\$0.02	0805 7 mm ²
3.	Cout	MuRata	GRM188R60J106ME47D Series= X5R	Cap= 10.0 uF ESR= 9.0 mOhm VDC= 6.3 V IRMS= 2.74 A	1	\$0.02	0603 5 mm ²
4.	L1	Vishay-Dale	IHLP1212AEER1R0M11	L= 1.0 µH DCR= 33.0 mOhm	1	\$0.56	IHLP-1212AE 19 mm ²
5.	Rfbb	Vishay-Dale	CRCW0402140KFKED Series= CRCW..e3	Res= 140.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
6.	Rfbbt	Yageo America	RC0603FR-07560KL Series= ?	Res= 560.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	\$0.01	0603 5 mm ²
7.	U1	Texas Instruments	TPS62065DSGR	Switcher	1	\$0.80	DSG0008A 9 mm ²







Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	263.614 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	118.289 mA	Current	Output capacitor RMS ripple current
3.	Iin Avg	298.46 mA	Current	Average input current
4.	L Ipp	409.76 mA	Current	Peak-to-peak inductor ripple current
5.	BOM Count	7	General	Total Design BOM count
6.	FootPrint	54.0 mm ²	General	Total Foot Print Area of BOM components
7.	Frequency	3.0 MHz	General	Switching frequency
8.	Pout	1.5 W	General	Total output power
9.	Total BOM	\$1.43	General	Total BOM Cost
10.	Vout Actual	3.0 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
11.	Vout OP	3.0 V	Op_Point	Operational Output Voltage
12.	Duty Cycle	55.622 %	Op_point	Duty cycle
13.	Efficiency	91.378 %	Op_point	Steady state efficiency
14.	IC Tj	38.641 degC	Op_point	IC junction temperature
15.	ICThetaJA	65.3 degC/W	Op_point	IC junction-to-ambient thermal resistance
16.	IOUT_OP	500.0 mA	Op_point	Iout operating point
17.	VIN_OP	5.5 V	Op_point	Vin operating point
18.	Vout p-p	3.689 mV	Op_point	Peak-to-peak output ripple voltage
19.	Cin Pd	358.999 μW	Power	Input capacitor power dissipation
20.	Cout Pd	125.93 μW	Power	Output capacitor power dissipation
21.	IC Pd	132.325 mW	Power	IC power dissipation
22.	L Pd	8.712 mW	Power	Inductor power dissipation
23.	Total Pd	141.533 mW	Power	Total Power Dissipation
24.	Vout Tolerance	3.14 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	500.0 m	Maximum Output Current
2.	VinMax	5.5	Maximum input voltage

#	Name	Value	Description
3.	VinMin	4.5	Minimum input voltage
4.	Vout	3.0	Output Voltage
5.	base_pn	TPS62065	Base Product Number
6.	source	DC	Input Source Type
7.	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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