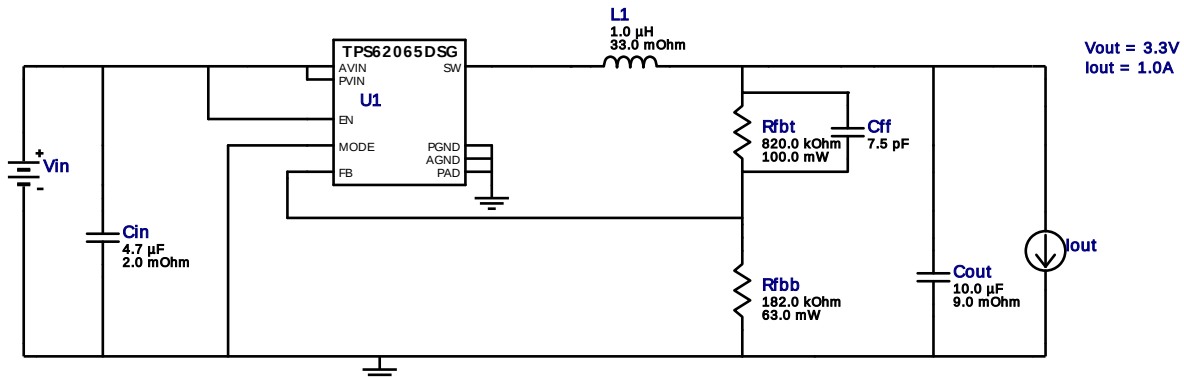


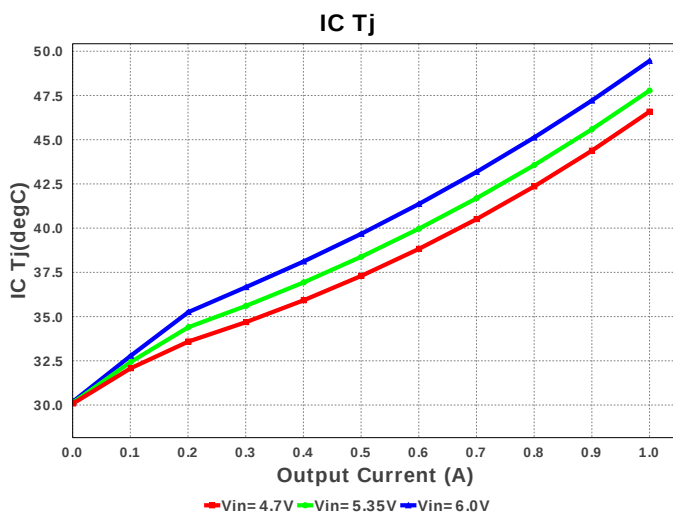
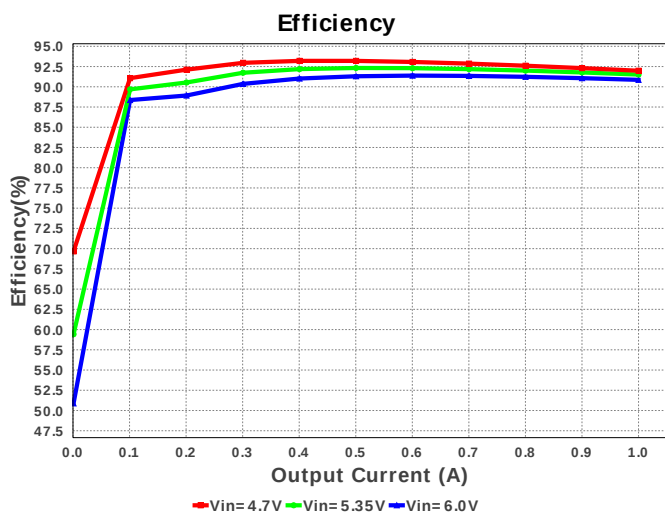
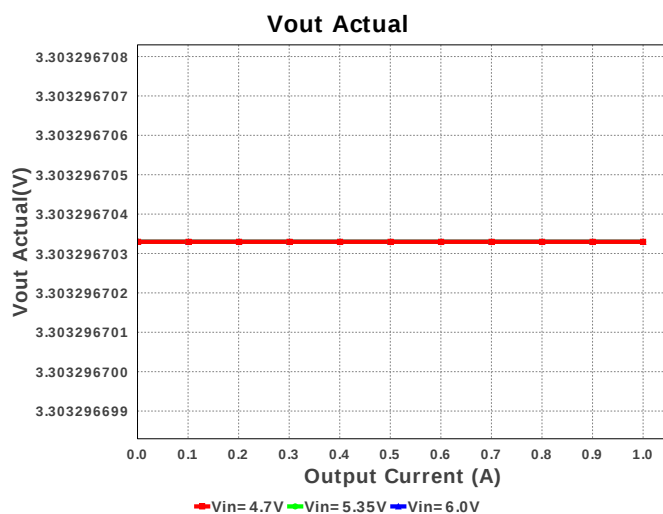
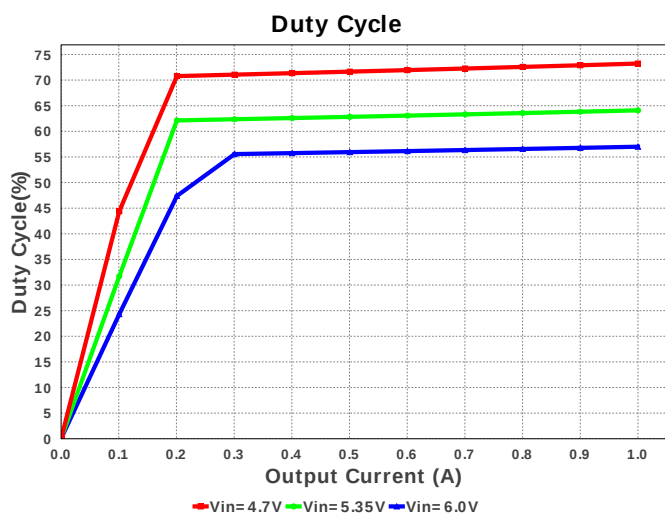
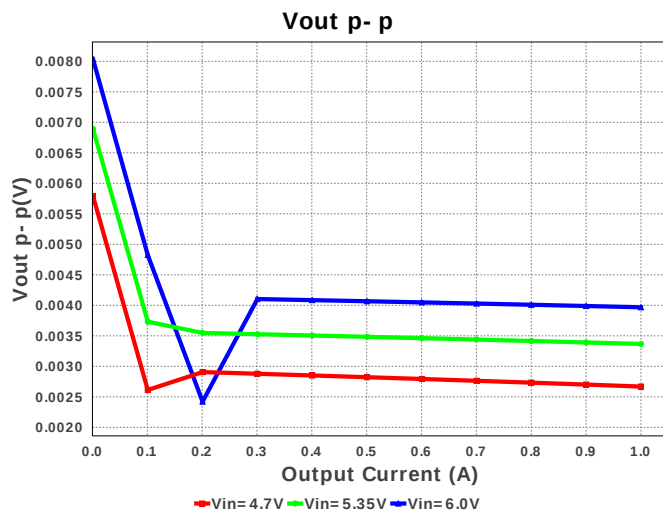
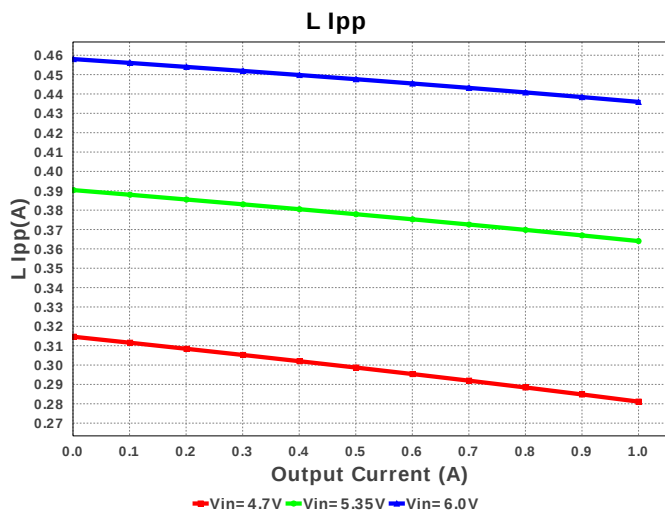
WEBENCH® Design Report

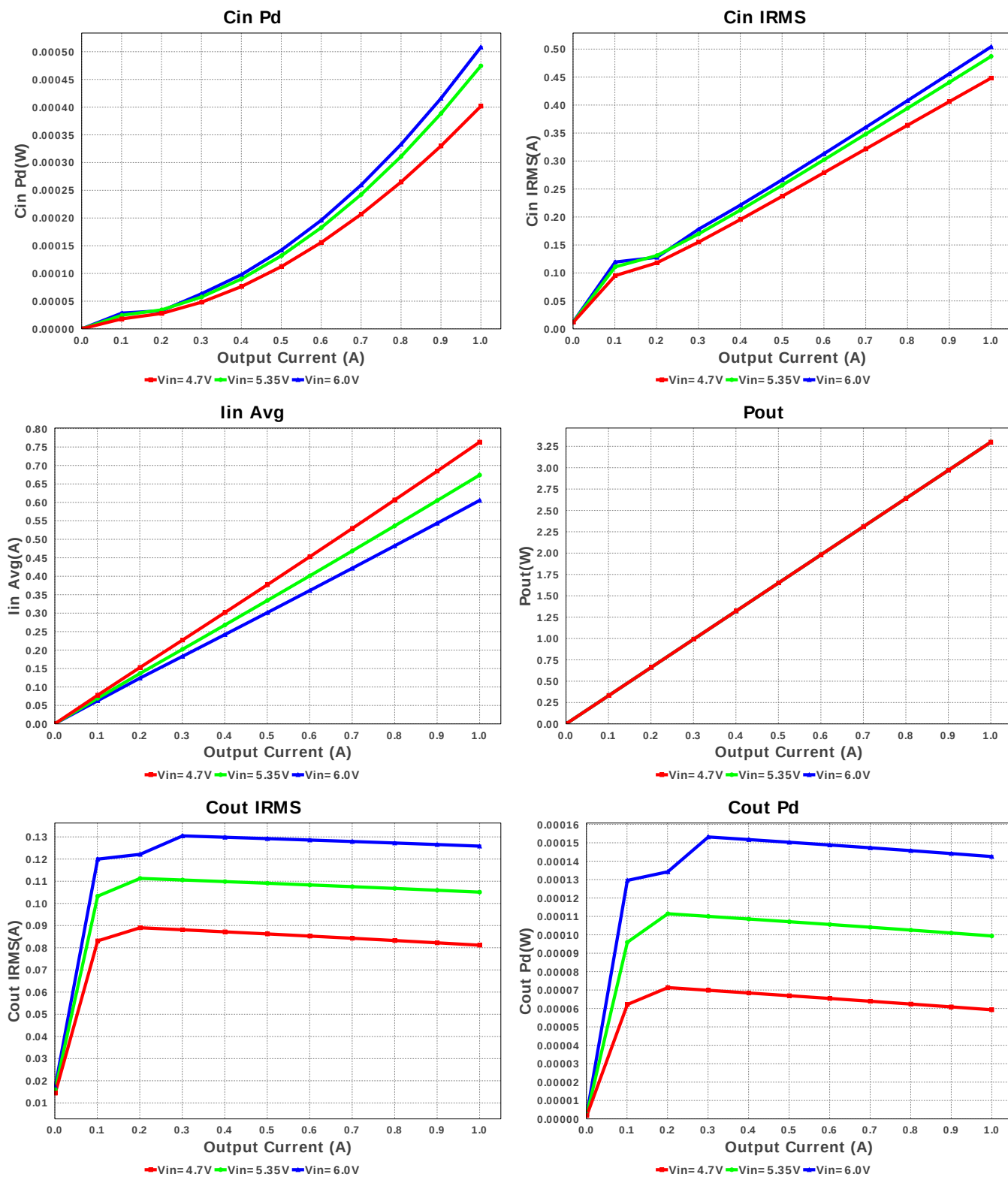
Design : 4446210/43 TPS62065DSGR
TPS62065DSGR 4.7V-6.0V to 3.30V @ 1.0A

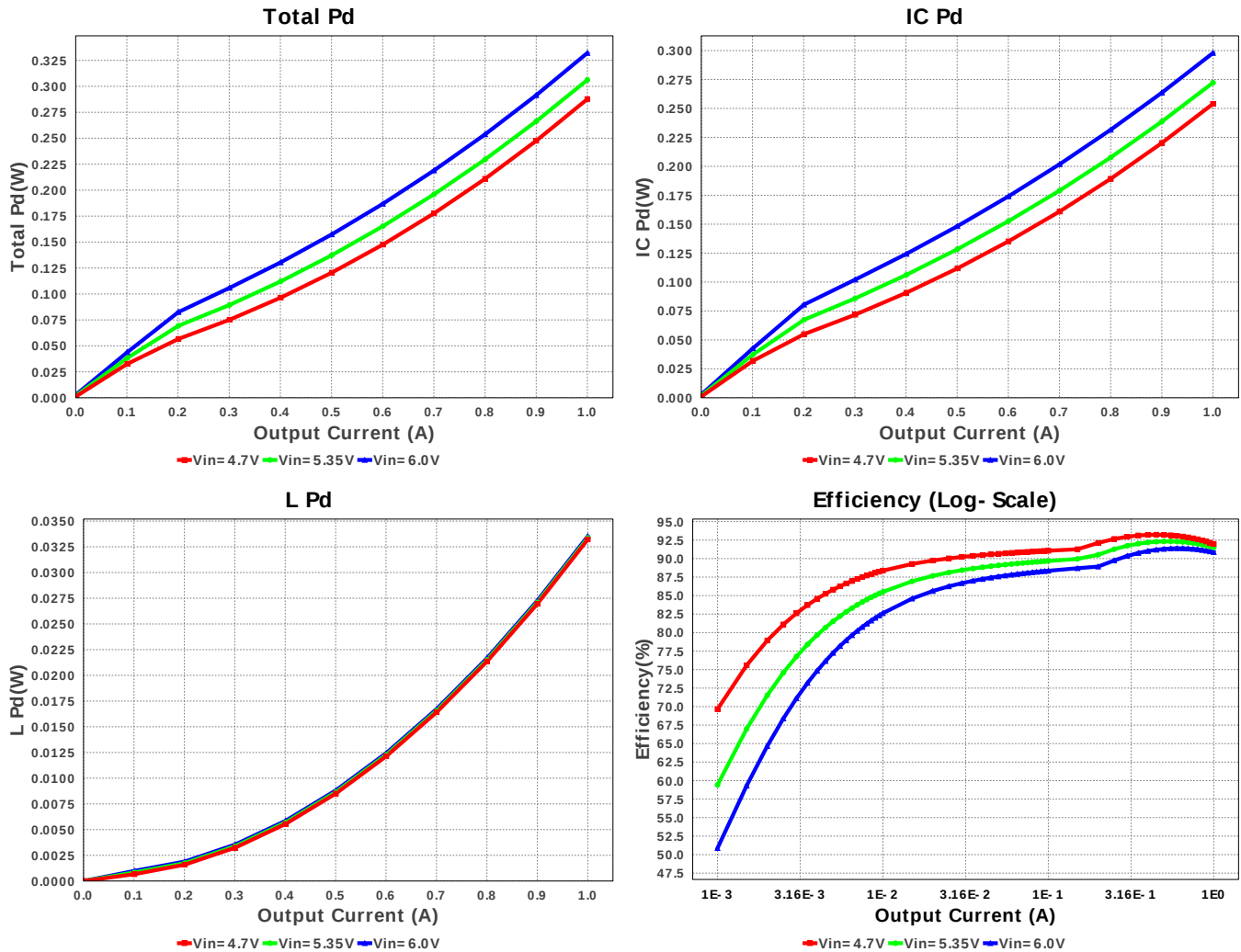


Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cff	MuRata	GRM1555C1H7R5CA01D Series= C0G/NP0	Cap= 7.5 pF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	0402 3 mm ²
2.	Cin	MuRata	GRM21BR61E475MA12L Series= X5R	Cap= 4.7 uF ESR= 2.0 mOhm VDC= 25.0 V IRMS= 7.29 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	Bourns	SDR0403-1R0ML	L= 1.0 µH DCR= 33.0 mOhm	1	\$0.18	SDR0403 28 mm ²
5.	Rfbb	Vishay-Dale	CRCW0402182KFKED Series= CRCW..e3	Res= 182.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
6.	Rfbs	Yageo America	RC0603FR-07820KL Series= ?	Res= 820.0 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	504.115 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	125.835 mA	Current	Output capacitor RMS ripple current
3.	Iin Avg	605.35 mA	Current	Average input current
4.	L Ipp	435.91 mA	Current	Peak-to-peak inductor ripple current
5.	BOM Count	7	General	Total Design BOM count
6.	FootPrint	59.0 mm ²	General	Total Foot Print Area of BOM components
7.	Frequency	3.0 MHz	General	Switching frequency
8.	Pout	3.3 W	General	Total output power
9.	Total BOM	\$1.05	General	Total BOM Cost
10.	Vout Actual	3.303 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
11.	Vout OP	3.3 V	Op_Point	Operational Output Voltage
12.	Duty Cycle	56.995 %	Op_point	Duty cycle
13.	Efficiency	90.856 %	Op_point	Steady state efficiency
14.	IC Tj	49.456 degC	Op_point	IC junction temperature
15.	ICThetaJA	65.3 degC/W	Op_point	IC junction-to-ambient thermal resistance
16.	IOUT_OP	1.0 A	Op_point	Iout operating point
17.	VIN_OP	6.0 V	Op_point	Vin operating point
18.	Vout p-p	3.926 mV	Op_point	Peak-to-peak output ripple voltage
19.	Cin Pd	508.264 μ W	Power	Input capacitor power dissipation
20.	Cout Pd	142.51 μ W	Power	Output capacitor power dissipation
21.	IC Pd	297.944 mW	Power	IC power dissipation
22.	L Pd	33.523 mW	Power	Inductor power dissipation
23.	Total Pd	332.119 mW	Power	Total Power Dissipation
24.	Vout Tolerance	3.178 %		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

#	Name	Value	Description
3.	VinMin	4.7	Minimum input voltage
4.	Vout	3.3	Output Voltage
5.	base_pn	TPS62065	Texas Instruments Base Part 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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