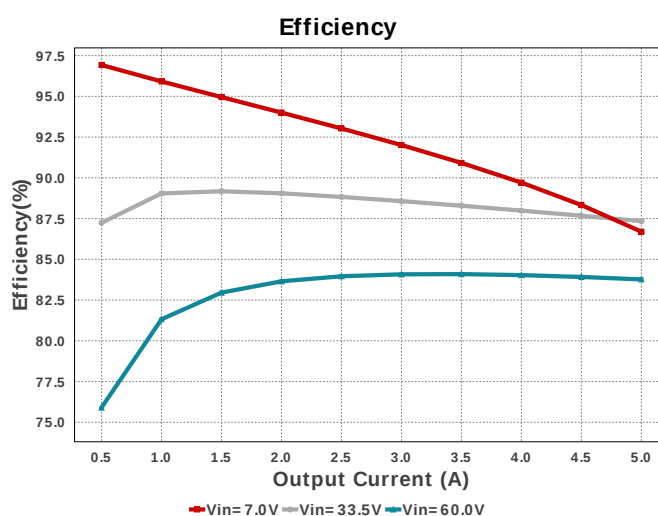
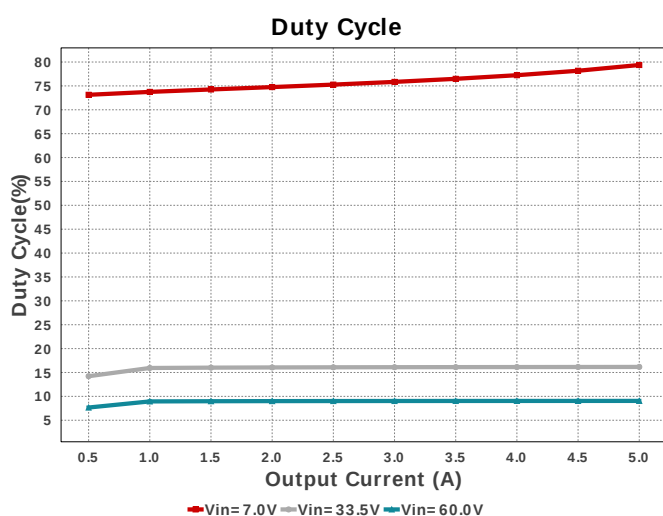
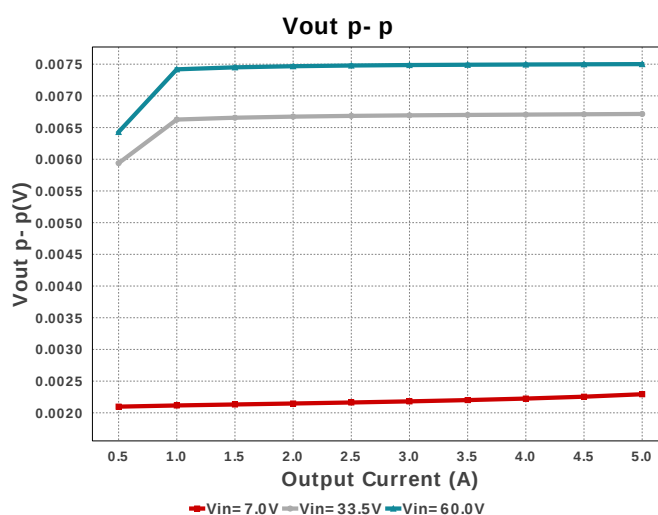
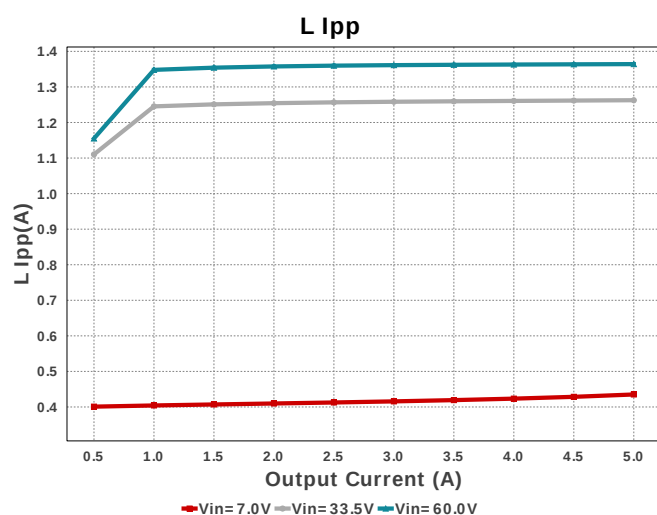
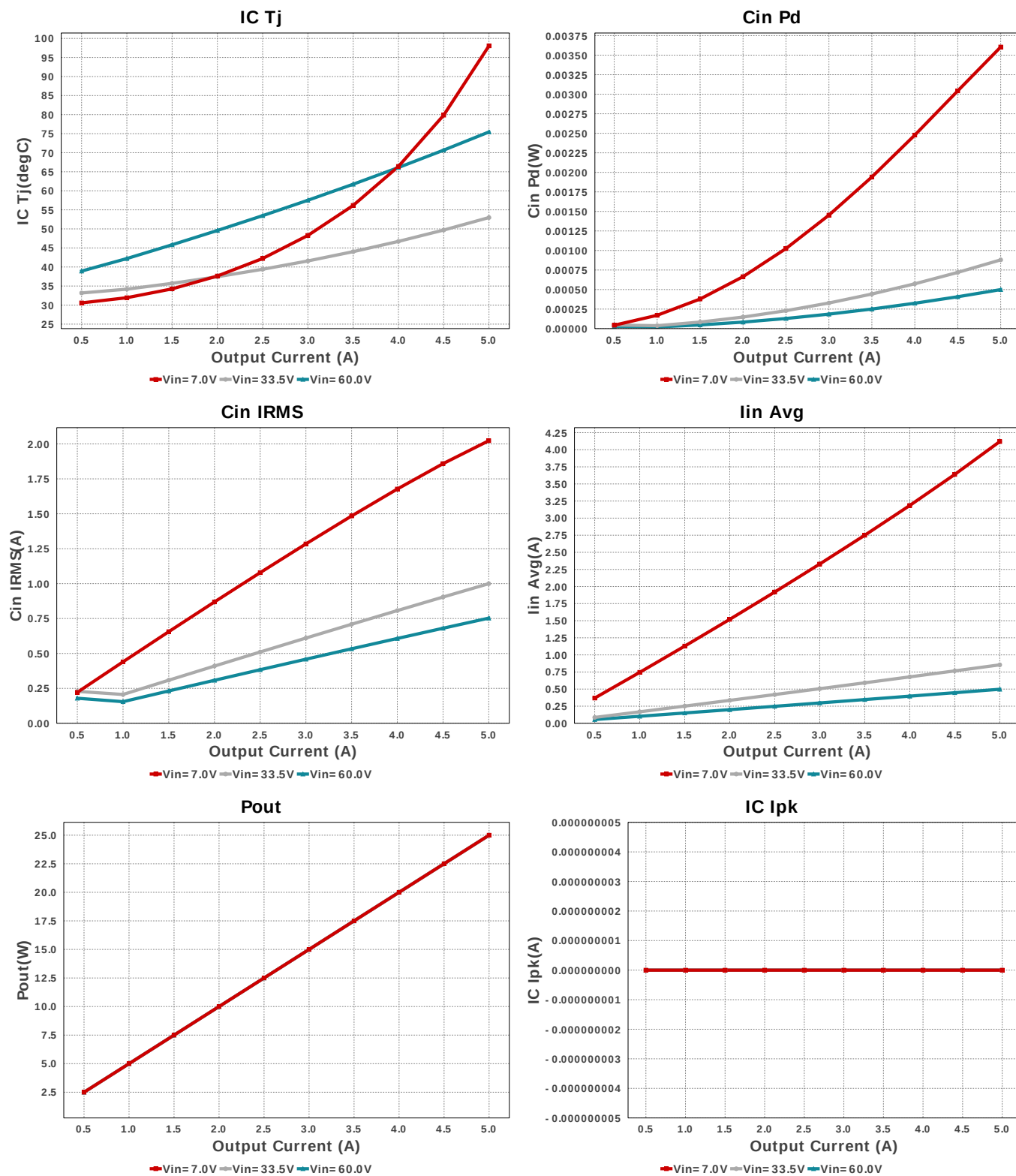


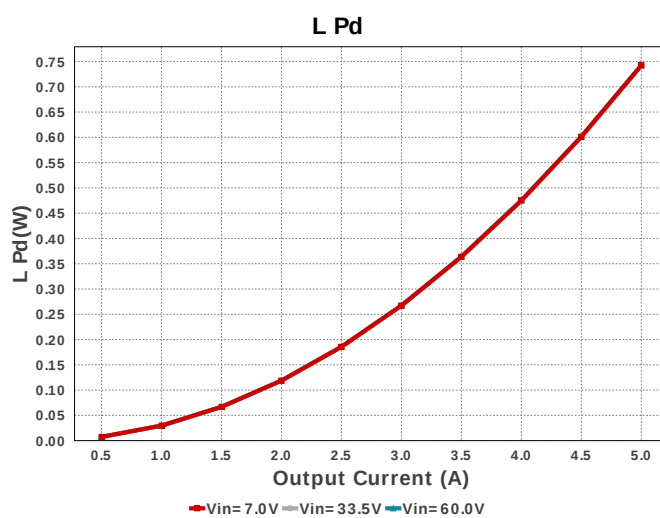
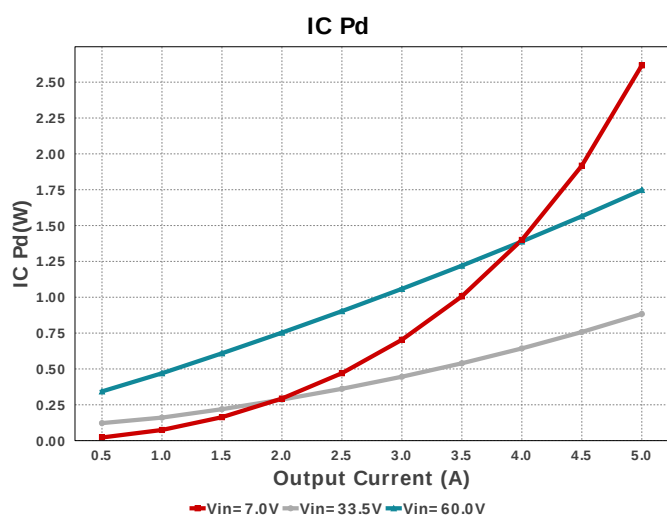
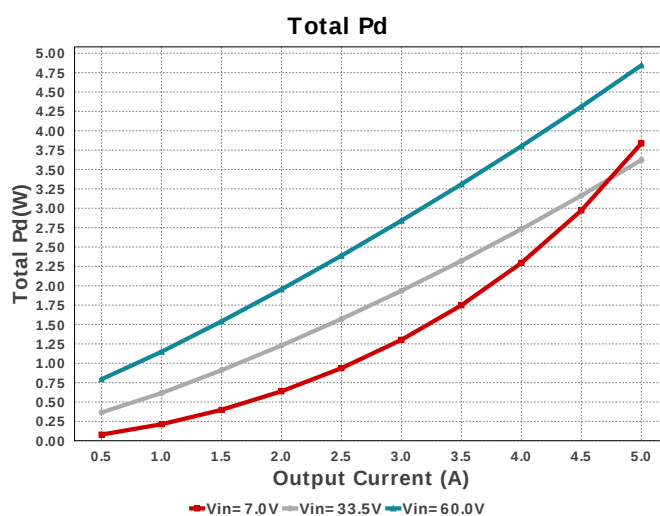
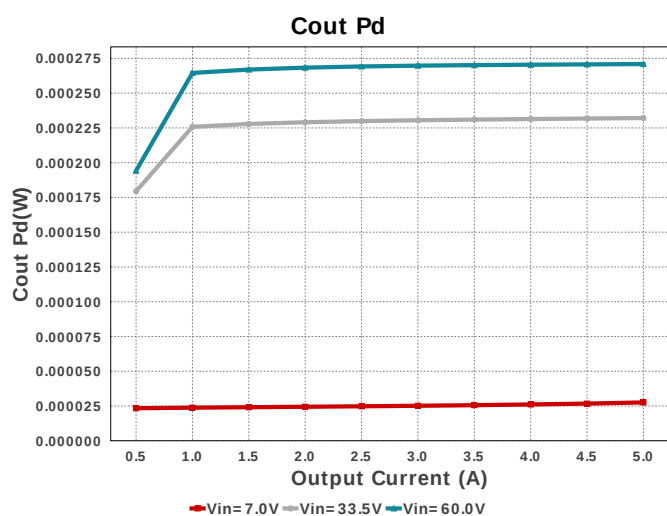
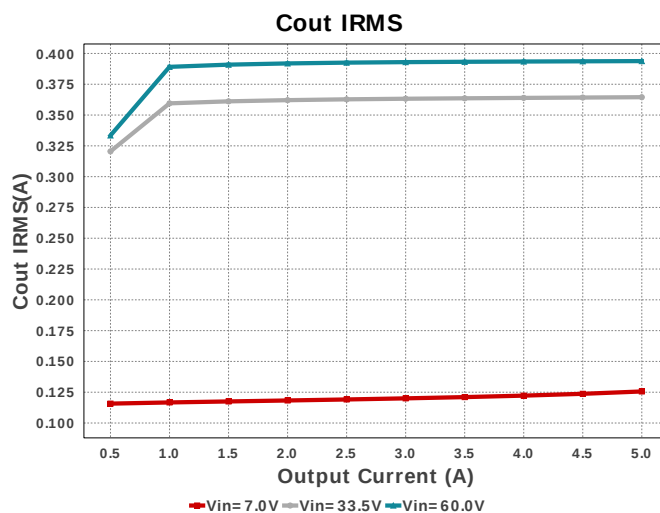
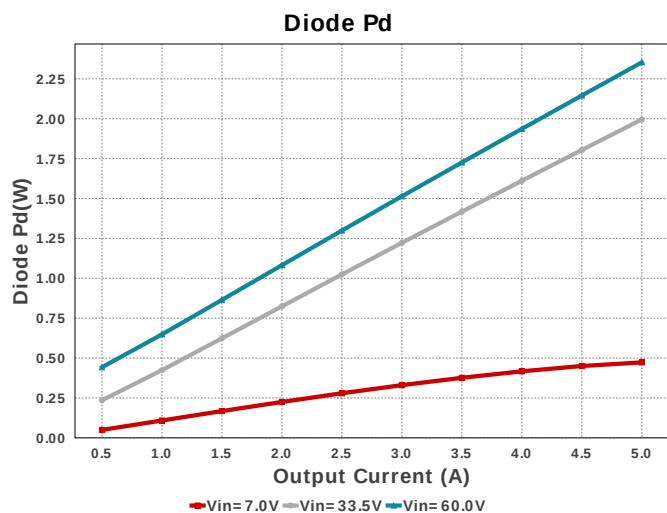


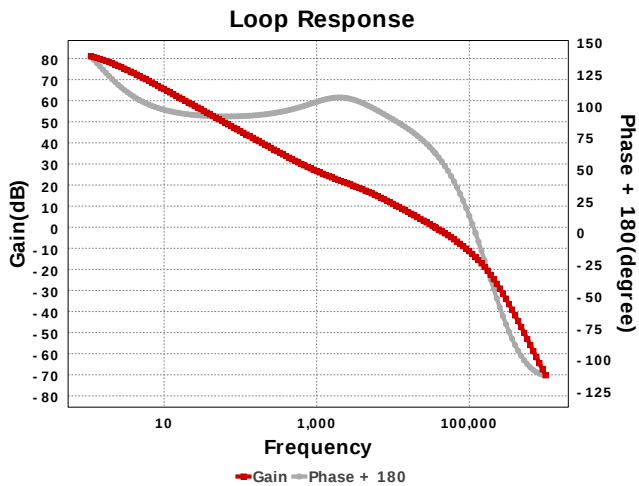
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Topology = Buck
Created = 2018-04-16 00:31:35.381
BOM Cost = \$9.95
BOM Count = 17
Total Pd = 4.84W

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
10.	Rfbb	Panasonic	ERJ-6ENF1152V Series= ERJ-6E	Res= 11.5 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
11.	Rfbt	Vishay-Dale	CRCW040260K4FKED Series= CRCW..e3	Res= 60.4 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
12.	Rpg	Vishay-Dale	CRCW0402976RFKED Series= CRCW..e3	Res= 976.0 Ohm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
13.	Rt	Vishay-Dale	CRCW0402267KFKED Series= CRCW..e3	Res= 267.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
14.	U1	Texas Instruments	TPS54561DPRR	Switcher	1	\$2.30	 S-PWSON-N10 26 mm ²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	752.878 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	393.795 mA	Current	Output capacitor RMS ripple current
3.	IC IpK	0.0 A	Current	Peak switch current in IC
4.	Iin Avg	497.41 mA	Current	Average input current
5.	L Ipp	1.364 A	Current	Peak-to-peak inductor ripple current
6.	BOM Count	17	General	Total Design BOM count
7.	FootPrint	530.0 mm ²	General	Total Foot Print Area of BOM components
8.	Frequency	364.83 kHz	General	Switching frequency
9.	Mode	CCM	General	Conduction Mode
10.	Pout	25.0 W	General	Total output power
11.	Total BOM	\$9.95	General	Total BOM Cost
12.	Cross Freq	35.404 kHz	Op Point	Bode plot crossover frequency
13.	Duty Cycle	9.049 %	Op Point	Duty cycle
14.	Efficiency	83.768 %	Op Point	Steady state efficiency
15.	Gain Marg	-14.239 dB	Op Point	Bode Plot Gain Margin
16.	IC Tj	75.447 degC	Op Point	IC junction temperature
17.	ICThetaJA Effective	26.0 degC/W	Op Point	Effective IC Junction-to-Ambient Thermal Resistance
18.	IOUT_OP	5.0 A	Op Point	Iout operating point
19.	Low Freq Gain	80.983 dB	Op Point	Gain at 1Hz
20.	Phase Marg	63.622 deg	Op Point	Bode Plot Phase Margin
21.	VIN_OP	60.0 V	Op Point	Vin operating point
22.	Vout Actual	5.002 V	Op Point	Vout Actual calculated based on selected voltage divider resistors
23.	Vout OP	5.0 V	Op Point	Operational Output Voltage
24.	Vout Tolerance	2.714 %	Op Point	Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable
25.	Vout p-p	7.501 mV	Op Point	Peak-to-peak output ripple voltage
26.	Cin Pd	499.185 μW	Power	Input capacitor power dissipation
27.	Cout Pd	270.916 μW	Power	Output capacitor power dissipation
28.	Diode Pd	2.353 W	Power	Diode power dissipation
29.	IC Pd	1.748 W	Power	IC power dissipation
30.	L Pd	742.5 mW	Power	Inductor power dissipation
31.	Total Pd	4.844 W	Power	Total Power Dissipation

Design Inputs

#	Name	Value	Description
1.	Iout	5.0	Maximum Output Current
2.	VinMax	60.0	Maximum input voltage
3.	VinMin	7.0	Minimum input voltage
4.	Vout	5.0	Output Voltage
5.	base_pn	TPS54561	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **TPS54561** Product Folder : <http://www.ti.com/product/TPS54561> : contains the data sheet and other resources.

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