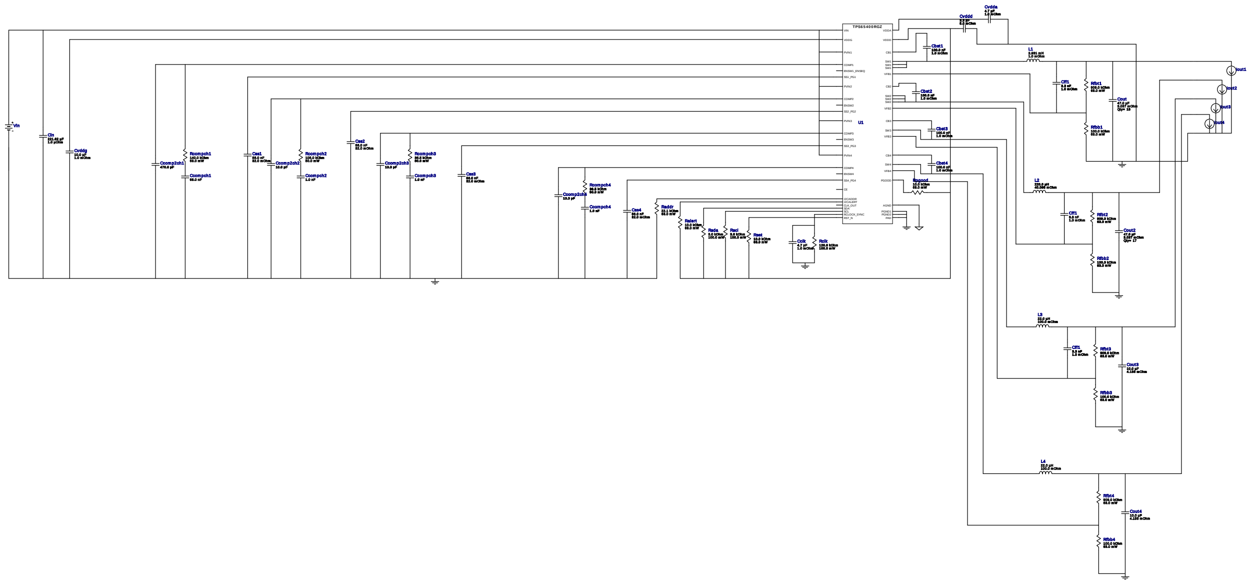
VinMin = 16.8V
VinMax = 17.3V
Vout = 8.0V
Iout = 0.4A

Device = TPS65400RGZR
Topology = Buck
Created = 2024-07-18 08:47:17.103
BOM Cost = NA
BOM Count = 86
Total Pd = 0.38W

WEBENCH ® Design Report

Design : 5 TPS65400RGZR
TPS65400RGZR 16.8V-17.3V to 8.00V @ 0.4A

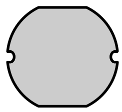


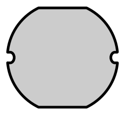
Electrical BOM

Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
Cbst1	MuRata	GRM155R71A104KA01D Series= X7R	Cap= 100.0 nF ESR= 1.0 mOhm VDC= 10.0 V IRMS= 0.0 A	1	$0.01	0402 3 mm²
Cbst2	MuRata	GRM155R71A104KA01D Series= X7R	Cap= 100.0 nF ESR= 1.0 mOhm VDC= 10.0 V IRMS= 0.0 A	1	$0.01	0402 3 mm²
Cbst3	MuRata	GRM155R71A104KA01D Series= X7R	Cap= 100.0 nF ESR= 1.0 mOhm VDC= 10.0 V IRMS= 0.0 A	1	$0.01	0402 3 mm²
Cbst4	MuRata	GRM155R71A104KA01D Series= X7R	Cap= 100.0 nF ESR= 1.0 mOhm VDC= 10.0 V IRMS= 0.0 A	1	$0.01	0402 3 mm²
Cclk	MuRata	GRM1555C1H4R7CA01D Series= C0G/NP0	Cap= 4.7 pF ESR= 1.0 mOhm VDC= 50.0 V IRMS= 0.0 A	1	$0.01	0402 3 mm²
Ccomp2ch1	Samsung Electro-Mechanics	CL21C471JBANNNC Series= C0G/NP0	Cap= 470.0 pF VDC= 50.0 V IRMS= 0.0 A	1	$0.01	0805 7 mm²
Ccomp2ch2	Yageo	CC0805JRNPO9BN100 Series= C0G/NP0	Cap= 10.0 pF VDC= 50.0 V IRMS= 0.0 A	1	$0.01	0805 7 mm²
Ccomp2ch3	Yageo	CC0805JRNPO9BN100 Series= C0G/NP0	Cap= 10.0 pF VDC= 50.0 V IRMS= 0.0 A	1	$0.01	0805 7 mm²
Ccomp2ch4	Yageo	CC0805JRNPO9BN100 Series= C0G/NP0	Cap= 10.0 pF VDC= 50.0 V IRMS= 0.0 A	1	$0.01	0805 7 mm²

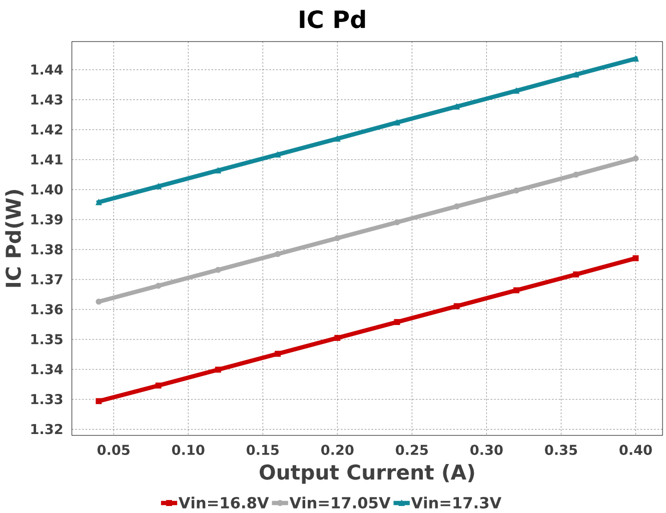
Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
Ccompch1	TDK	C3216C0G1H683J160AA Series= C0G/NP0	Cap= 68.0 nF VDC= 5.0 V IRMS= 0.0 A	1	$0.16	1206 11 mm^2
Ccompch2	Samsung Electro-Mechanics	CL21C102JBCNNNC Series= C0G/NP0	Cap= 1.0 nF VDC= 50.0 V IRMS= 0.0 A	1	$0.01	0805 7 mm^2
Ccompch3	Samsung Electro-Mechanics	CL21C102JBCNNNC Series= C0G/NP0	Cap= 1.0 nF VDC= 50.0 V IRMS= 0.0 A	1	$0.01	0805 7 mm^2
Ccompch4	Samsung Electro-Mechanics	CL21C102JBCNNNC Series= C0G/NP0	Cap= 1.0 nF VDC= 50.0 V IRMS= 0.0 A	1	$0.01	0805 7 mm^2
Cff1	MuRata	GRM033R71C332KA88D Series= X7R	Cap= 3.3 nF ESR= 1.0 mOhm VDC= 16.0 V IRMS= 0.0 A	1	$0.01	0201 2 mm^2
Cff1	MuRata	GRM033R71C332KA88D Series= X7R	Cap= 3.3 nF ESR= 1.0 mOhm VDC= 16.0 V IRMS= 0.0 A	1	$0.01	0201 2 mm^2
Cff1	MuRata	GRM033R71C332KA88D Series= X7R	Cap= 3.3 nF ESR= 1.0 mOhm VDC= 16.0 V IRMS= 0.0 A	1	$0.01	0201 2 mm^2
Cff2	MuRata	GRM033R71C221KA01D Series= X7R	Cap= 220.0 pF ESR= 1.0 mOhm VDC= 16.0 V IRMS= 0.0 A	1	$0.01	0201 2 mm^2
Cff3	CUSTOM	CUSTOM Series= ?	Cap= 966.65 fF VDC= 10.8 V IRMS= 0.0 A	1	NA	CUSTOM 0 mm^2
Cff4	CUSTOM	CUSTOM Series= ?	Cap= 966.65 fF VDC= 10.8 V IRMS= 0.0 A	1	NA	CUSTOM 0 mm^2
Cin	CUSTOM	CUSTOM Series= ?	Cap= 221.62 uF ESR= 1.0 uOhm VDC= 25.95 V IRMS= 517.45 mA	1	NA	CUSTOM 0 mm^2
Cout	MuRata	GRM32ER61C476KE15L Series= X5R	Cap= 47.0 uF ESR= 3.037 mOhm VDC= 16.0 V IRMS= 4.59346 A	18	$0.17	1210_280 15 mm^2
Cout2	MuRata	GRM32ER61C476KE15L Series= X5R	Cap= 47.0 uF ESR= 3.037 mOhm VDC= 16.0 V IRMS= 4.59346 A	17	$0.17	1210_280 15 mm^2
Cout3	MuRata	GRM31CR71C106KAC7L Series= X7R	Cap= 10.0 uF ESR= 4.156 mOhm VDC= 16.0 V IRMS= 2.59073 A	1	$0.08	1206_190 11 mm^2
Cout4	MuRata	GRM31CR71C106KAC7L Series= X7R	Cap= 10.0 uF ESR= 4.156 mOhm VDC= 16.0 V IRMS= 2.59073 A	1	$0.08	1206_190 11 mm^2
Css1	AVX	08055C563KAT2A Series= X7R	Cap= 56.0 nF ESR= 32.0 mOhm VDC= 50.0 V IRMS= 0.0 A	1	$0.02	0805 7 mm^2
Css2	AVX	08055C563KAT2A Series= X7R	Cap= 56.0 nF ESR= 32.0 mOhm VDC= 50.0 V IRMS= 0.0 A	1	$0.02	0805 7 mm^2

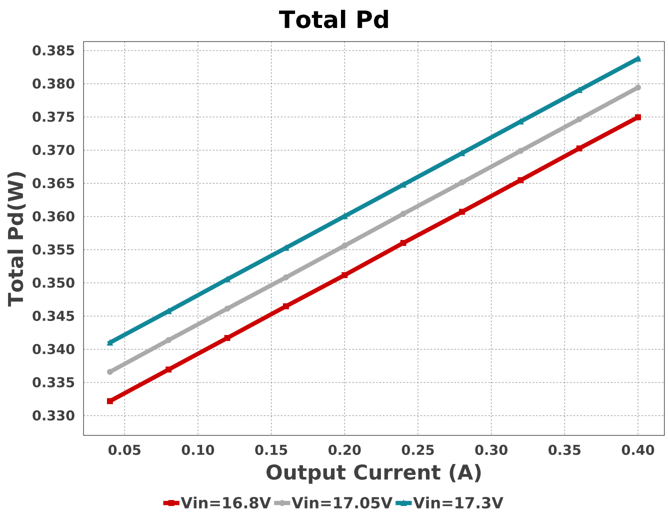
Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
Css3	AVX	08055C563KAT2A Series= X7R	Cap= 56.0 nF ESR= 32.0 mOhm VDC= 50.0 V IRMS= 0.0 A	1	$0.02	0805 7 mm^2
Css4	AVX	08055C563KAT2A Series= X7R	Cap= 56.0 nF ESR= 32.0 mOhm VDC= 50.0 V IRMS= 0.0 A	1	$0.02	0805 7 mm^2
Cvdda	MuRata	GRM155R61A475MEAAD Series= X5R	Cap= 4.7 uF ESR= 1.0 mOhm VDC= 10.0 V IRMS= 0.0 A	1	$0.02	0402_065 3 mm^2
Cvddd	Kemet	C0805C335K8PACTU Series= X5R	Cap= 3.3 uF ESR= 5.0 mOhm VDC= 10.0 V IRMS= 8.13 A	1	$0.07	0805 7 mm^2
Cvddg	Taiyo Yuden	LMK212BJ106KG-T Series= X5R	Cap= 10.0 uF ESR= 1.0 mOhm VDC= 10.0 V IRMS= 0.0 A	1	$0.02	0805 7 mm^2
L1	CUSTOM	CUSTOM	L= 2.931 mH 1.0 mOhm	1	NA	CUSTOM 0 mm^2
L2	Wurth Elektronik	74437529203221	L= 220.0 µH 40.095 mOhm	1	$6.72	WE-HCF Round_2920 0 mm^2
L3	NIC Components	NPI105C220MTRF	L= 22.0 µH 100.0 mOhm	1	$0.14	IND_NPI105C 141 mm^2
L4	NIC Components	NPI105C220MTRF	L= 22.0 µH 100.0 mOhm	1	$0.14	IND_NPI105C 141 mm^2
Raddr	Vishay-Dale	CRCW040222K1FKED Series= CRCW..e3	Res= 22.1 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Ralert	Vishay-Dale	CRCW040210K0FKED Series= CRCW..e3	Res= 10.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rclk	Yageo	RC0603FR-07120KL Series= ?	Res= 120.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	$0.01	0603 5 mm^2
Rcompch1	Vishay-Dale	CRCW0402140KFKED Series= CRCW..e3	Res= 140.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rcompch2	Yageo	RC0201FR-07105KL Series= ?	Res= 105.0 kOhm Power= 50.0 mW Tolerance= 1.0%	1	$0.01	0201 2 mm^2
Rcompch3	Yageo	RC0201FR-0736K5L Series= ?	Res= 36.5 kOhm Power= 50.0 mW Tolerance= 1.0%	1	$0.01	0201 2 mm^2
Rcompch4	Yageo	RC0201FR-0736K5L Series= ?	Res= 36.5 kOhm Power= 50.0 mW Tolerance= 1.0%	1	$0.01	0201 2 mm^2
Rfbb1	Vishay-Dale	CRCW0402100KFKED Series= CRCW..e3	Res= 100.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rfbb2	Vishay-Dale	CRCW0402100KFKED Series= CRCW..e3	Res= 100.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2

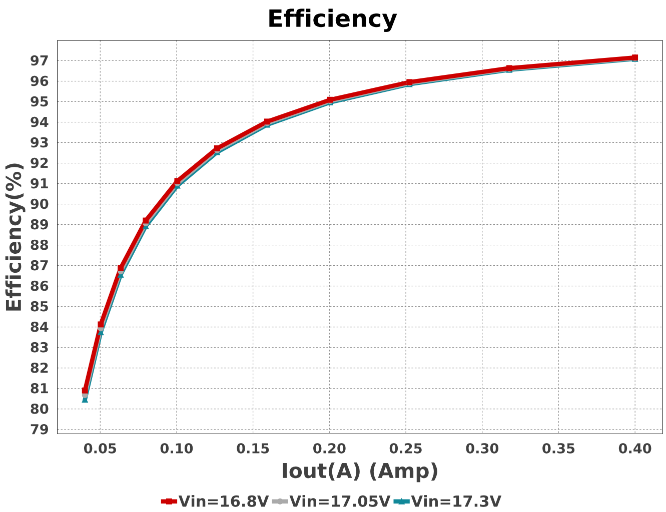


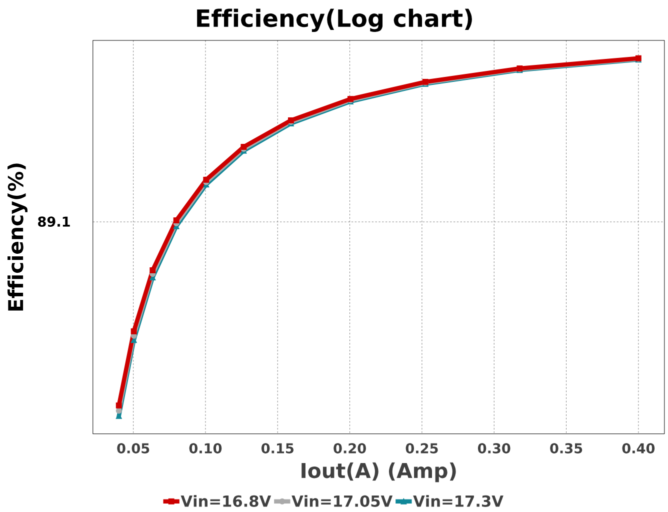


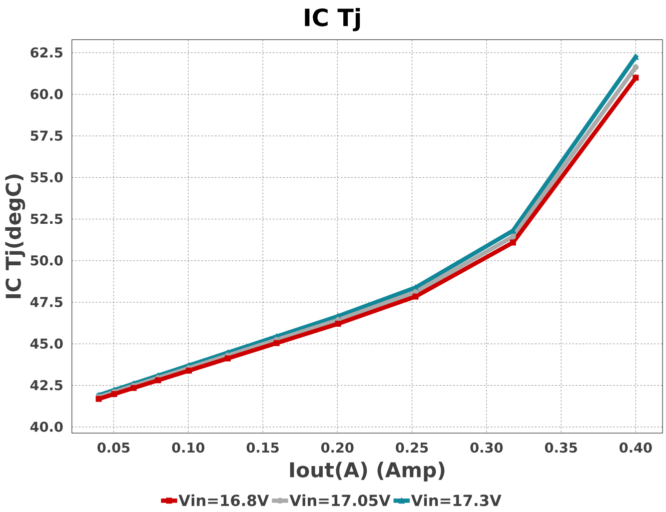
Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
Rfbb3	Vishay-Dale	CRCW0402100KFKED Series= CRCW..e3	Res= 100.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rfbb4	Vishay-Dale	CRCW0402100KFKED Series= CRCW..e3	Res= 100.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rfbt1	Vishay-Dale	CRCW0402909KFKED Series= CRCW..e3	Res= 909.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rfbt2	Vishay-Dale	CRCW0402909KFKED Series= CRCW..e3	Res= 909.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rfbt3	Vishay-Dale	CRCW0402909KFKED Series= CRCW..e3	Res= 909.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rfbt4	Vishay-Dale	CRCW0402909KFKED Series= CRCW..e3	Res= 909.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rpgood	Vishay-Dale	CRCW040210K0FKED Series= CRCW..e3	Res= 10.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rscl	Yageo	RC0603FR-073KL Series= ?	Res= 3.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	$0.01	0603 5 mm^2
Rsda	Yageo	RC0603FR-073KL Series= ?	Res= 3.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	$0.01	0603 5 mm^2
Rset	Vishay-Dale	CRCW040210K0FKED Series= CRCW..e3	Res= 10.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
U1	Texas Instruments	TPS65400RGZR	Switcher	1	$1.82	RGZ0048B 81 mm^2

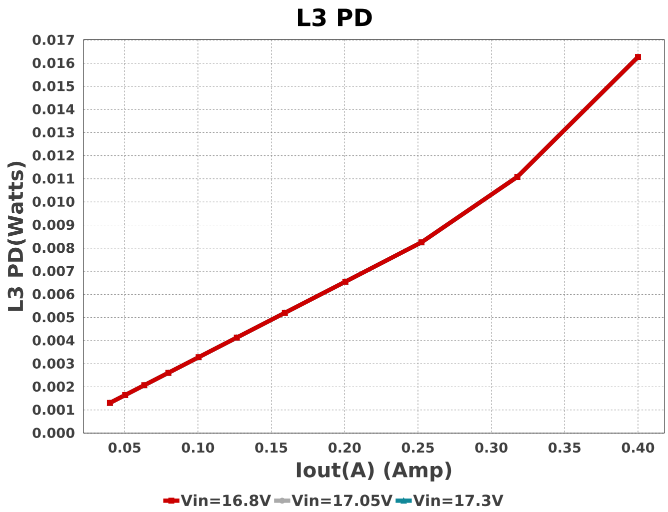


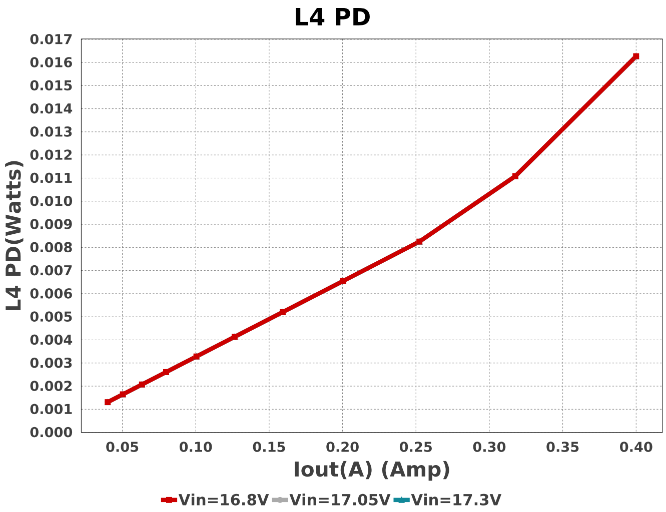


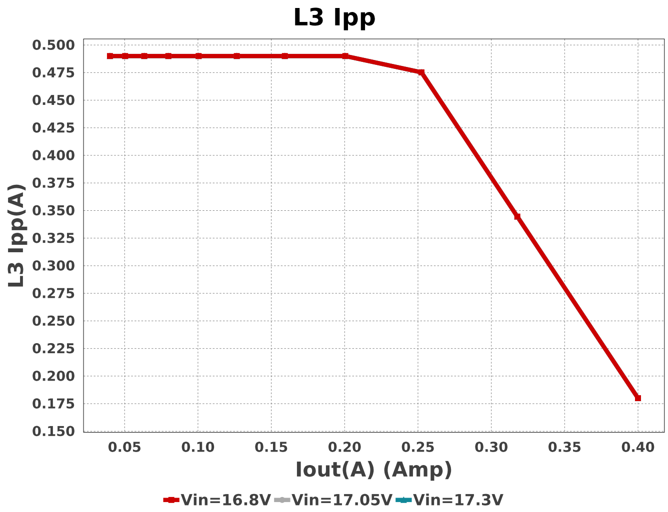

Efficiency
Efficiency(%)
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

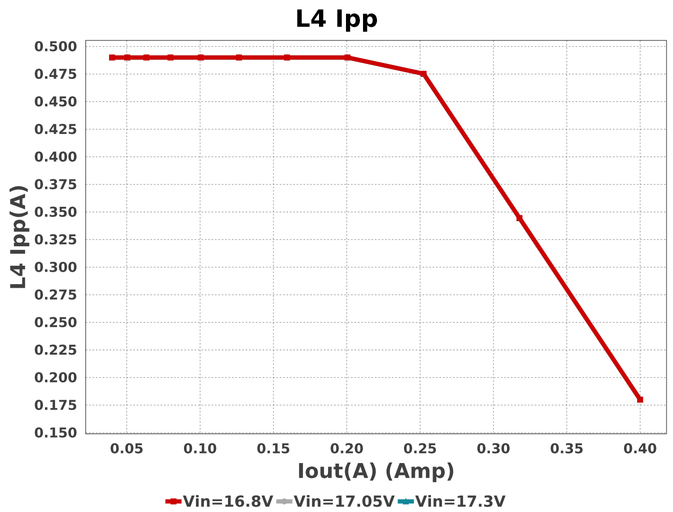

Efficiency(Log chart)
Efficiency(%)
89.1
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

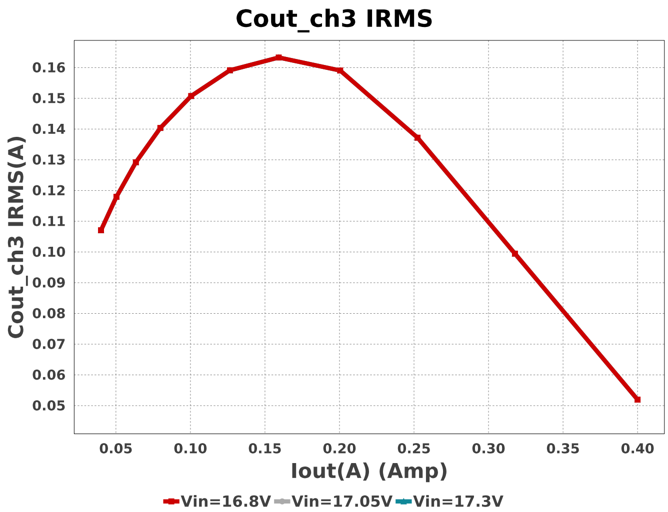

IC Tj
IC Tj(degC)
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

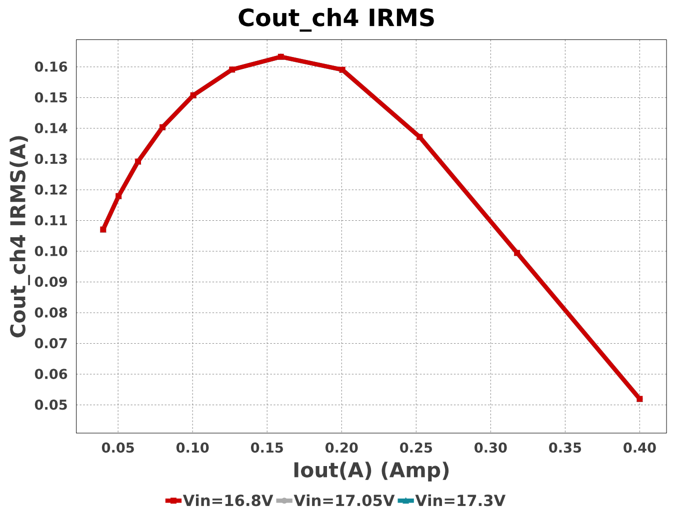

L3 PD
L3 PD(Watts)
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

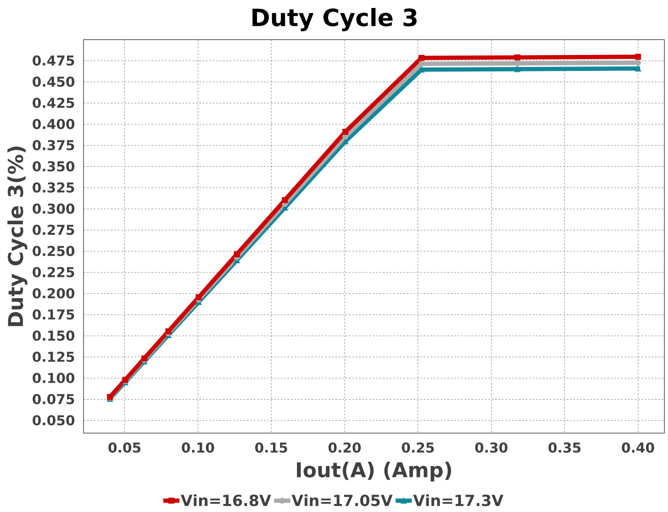

L4 PD
L4 PD(Watts)
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

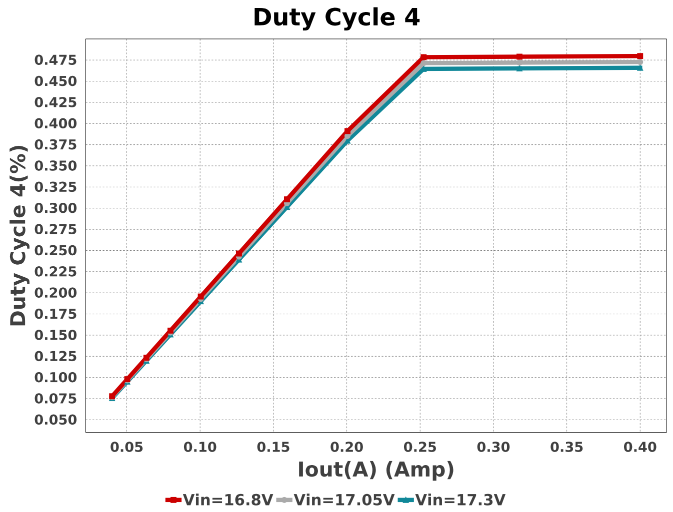

L3 Ipp
L3 Ipp(A)
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

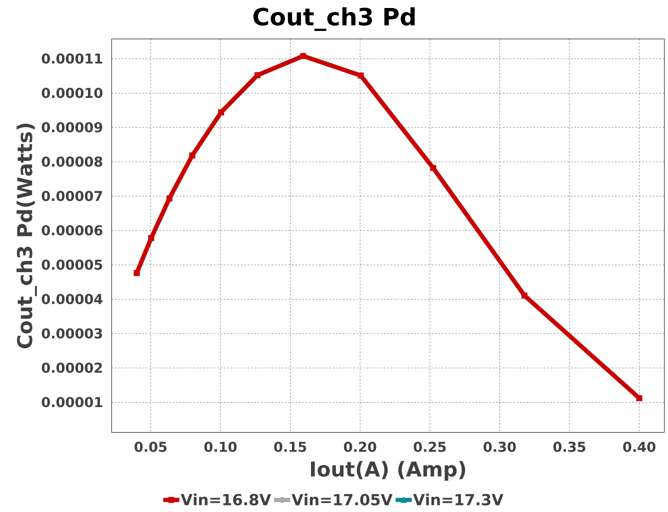

L4 Ipp
L4 Ipp(A)
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

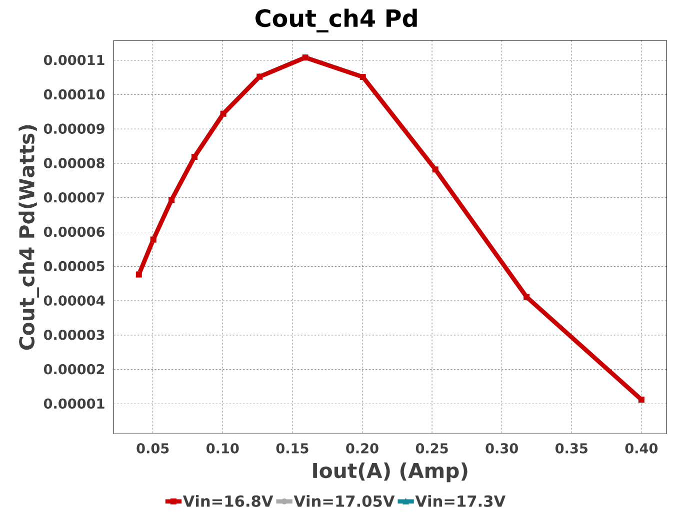

Cout_ch3 IRMS
Cout_ch3 IRMS(A)
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

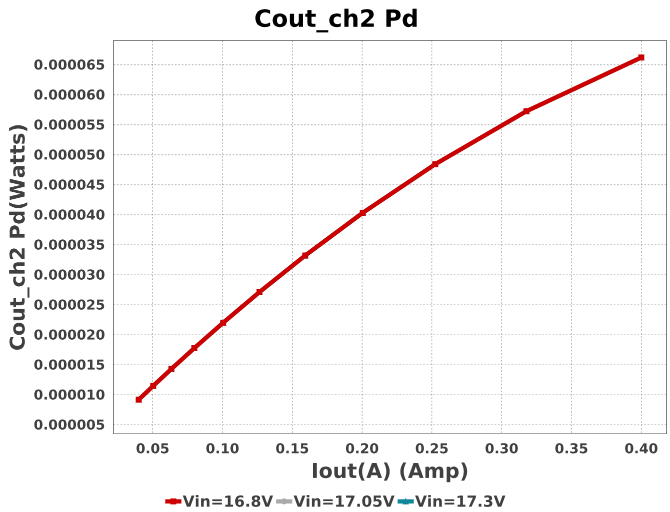

Cout_ch4 IRMS
Cout_ch4 IRMS(A)
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

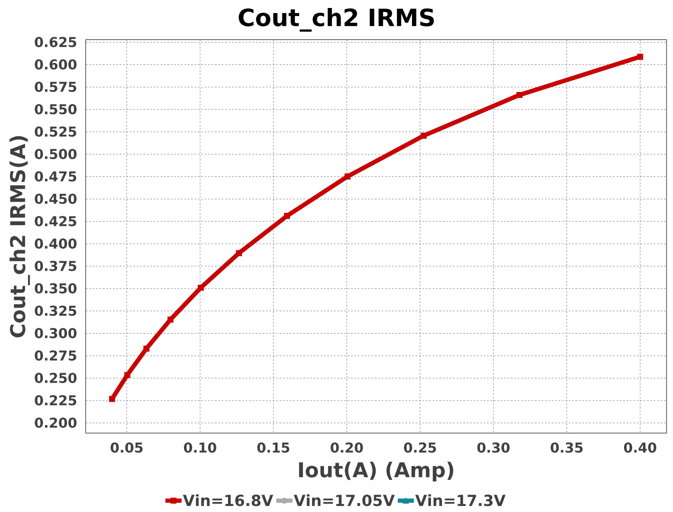

Duty Cycle 3
Duty Cycle 3(%)
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

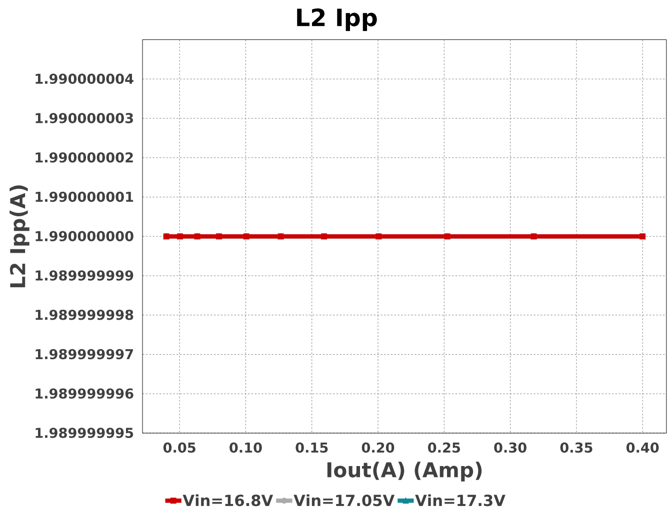

Duty Cycle 4
Duty Cycle 4(%)
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

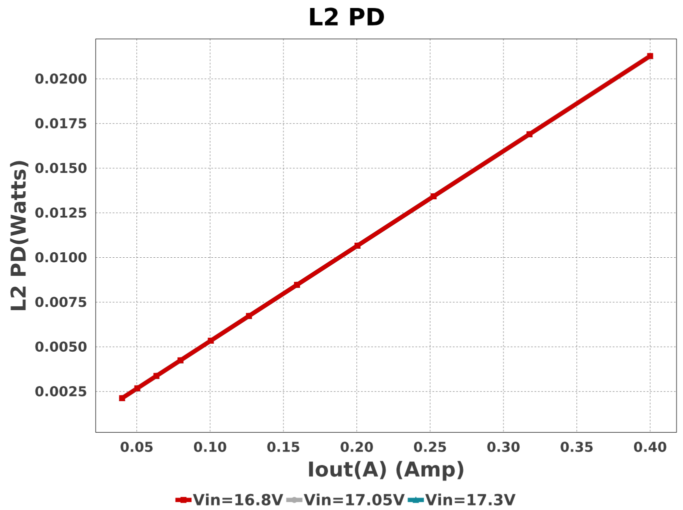

Cout_ch3 Pd
Cout_ch3 Pd(Watts)
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

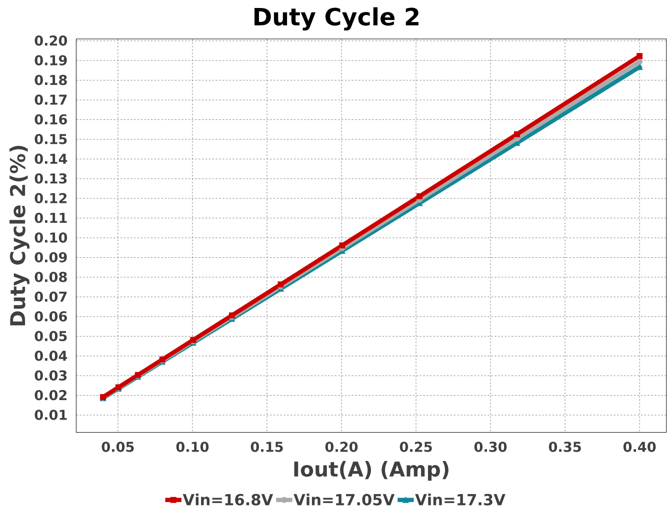

Cout_ch4 Pd
Cout_ch4 Pd(Watts)
0.00011
0.00010
0.00009
0.00008
0.00007
0.00006
0.00005
0.00004
0.00003
0.00002
0.00001
0.05 0.10 0.15 0.20 0.25 0.30 0.35 0.40
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

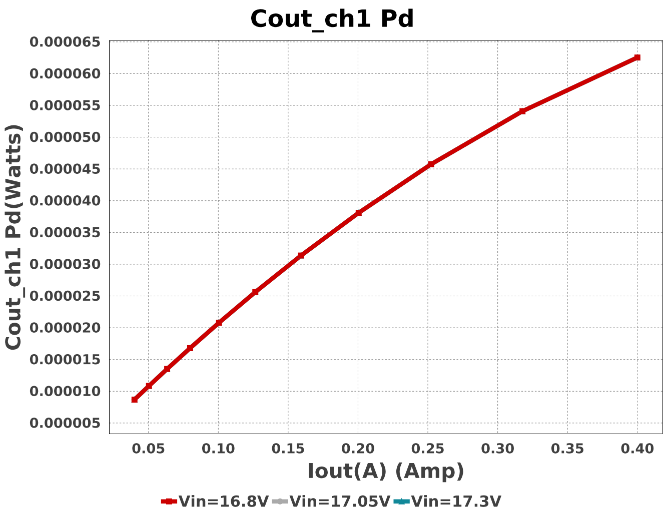

Cout_ch2 Pd
Cout_ch2 Pd(Watts)
0.000065
0.000060
0.000055
0.000050
0.000045
0.000040
0.000035
0.000030
0.000025
0.000020
0.000015
0.000010
0.000005
0.05 0.10 0.15 0.20 0.25 0.30 0.35 0.40
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

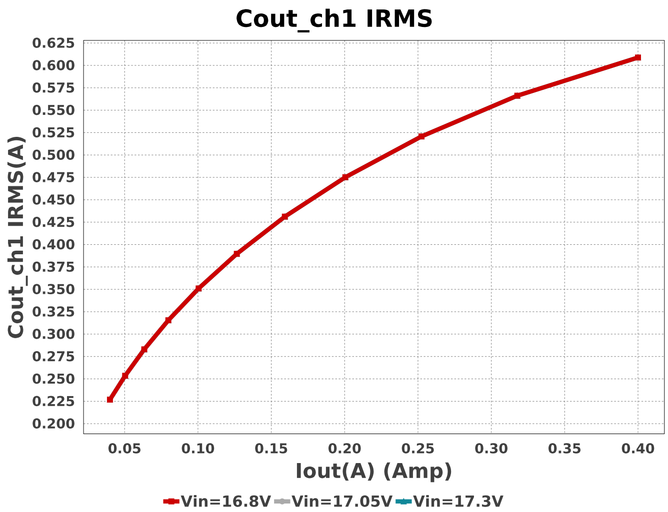

Cout_ch2 IRMS
Cout_ch2 IRMS(A)
0.625
0.600
0.575
0.550
0.525
0.500
0.475
0.450
0.425
0.400
0.375
0.350
0.325
0.300
0.275
0.250
0.225
0.200
0.05 0.10 0.15 0.20 0.25 0.30 0.35 0.40
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

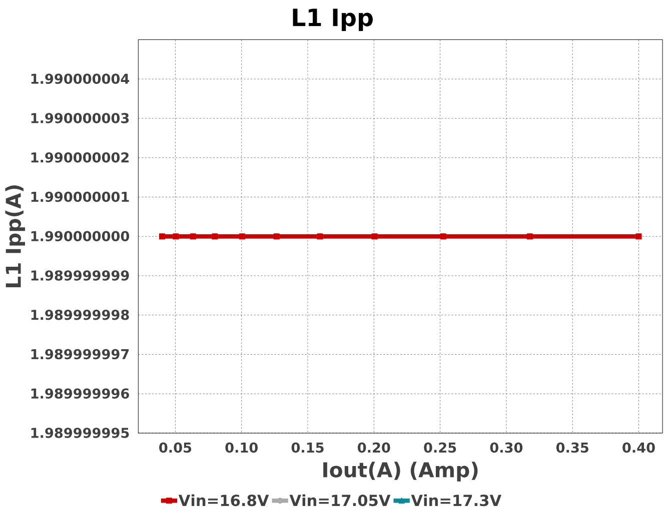

L2 Ipp
L2 Ipp(A)
1.990000004
1.990000003
1.990000002
1.990000001
1.990000000
1.989999999
1.989999998
1.989999997
1.989999996
1.989999995
0.05 0.10 0.15 0.20 0.25 0.30 0.35 0.40
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

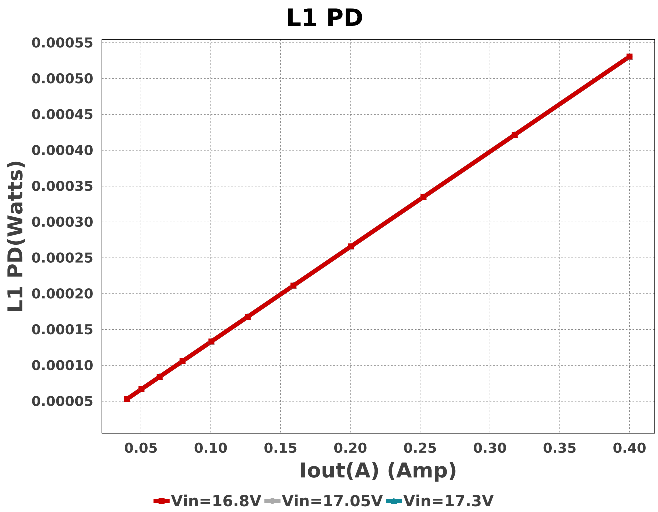

L2 PD
L2 PD(Watts)
0.0200
0.0175
0.0150
0.0125
0.0100
0.0075
0.0050
0.0025
0.05 0.10 0.15 0.20 0.25 0.30 0.35 0.40
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V

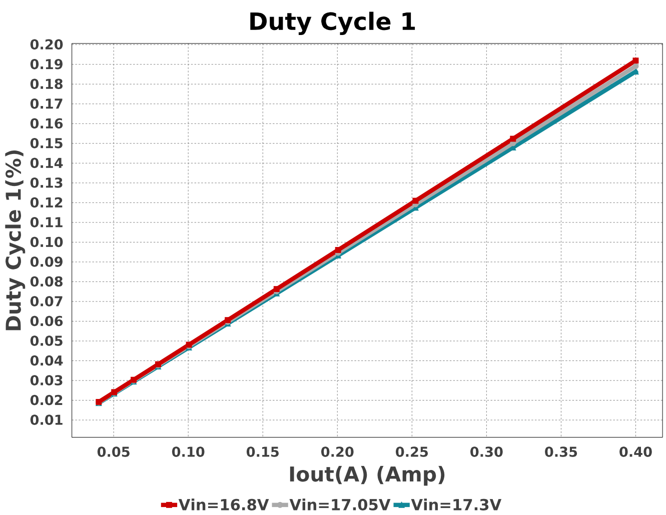

Duty Cycle 2
Duty Cycle 2(%)
0.20
0.19
0.18
0.17
0.16
0.15
0.14
0.13
0.12
0.11
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.05 0.10 0.15 0.20 0.25 0.30 0.35 0.40
Iout(A) (Amp)
Vin=16.8V Vin=17.05V Vin=17.3V











Operating Values

#	Name	Value	Category	Description
1.	Cout_ch1 IRMS	608.824 mA	Capacitor	Output Channel 1 Capacitor RMS ripple current
2.	Cout_ch2 IRMS	608.824 mA	Capacitor	Output Channel 2 Capacitor RMS ripple current
3.	Cout_ch3 IRMS	51.962 mA	Capacitor	Output Channel 3 Capacitor RMS ripple current
4.	Cout_ch4 IRMS	51.962 mA	Capacitor	Output Channel 4 Capacitor RMS ripple current
5.	IC Pd	1.444 W	IC	IC power dissipation
6.	IC Tj	62.257 degC	IC	IC junction temperature
7.	IC Tolerance	10.0 mV	IC	IC Feedback Tolerance
8.	ICThetaJA Effective	18.88 degC/W	IC	Effective IC Junction-to-Ambient Thermal Resistance
9.	Iin Avg	762.07 mA	IC	Average input current
10.	L1 Ipp	1.99 A	Inductor	Inductor 1 peak to peak current
11.	L2Ipp	1.99 A	Inductor	Channel 2 Inductor Peak to peak Current

#	Name	Value	Category	Description
12.	L3 Ipp	180.0 mA	Inductor	Inductor 3 peak to peak current
13.	L4 Ipp	180.0 mA	Inductor	Inductor 4 peak to peak current
14.	Cout_ch1 Pd	62.54 µ	Power	Ouput channel 1 capacitor power dissipation
15.	Cout_ch2 Pd	66.219 µ	Power	Ouput channel 2 capacitor power dissipation
16.	Cout_ch3 Pd	11.221 µ	Power	Ouput channel 3 capacitor power dissipation
17.	Cout_ch4 Pd	11.221 µ	Power	Ouput channel 3 capacitor power dissipation
18.	IC Pd	1.444 W	Power	IC power dissipation
19.	L1 Pd	530.667 µ	Power	Inductor1 power loss
20.	L2 Pd	21.277 m	Power	Inductor2 power loss
21.	L3 Pd	16.27 m	Power	Inductor3 power loss
22.	L4 Pd	16.27 m	Power	Inductor3 power loss
23.	Total Pd	383.781 mW	Power	Total Power Dissipation
24.	BOM Count	86	System Information	Total Design BOM count
25.	Duty Cycle 1	18.636 %	System Information	Duty cycle for Channel 1
26.	Duty Cycle 2	18.672 %	System Information	Duty cycle for Channel 2
27.	Duty Cycle 3	46.585 %	System Information	Duty cycle for Channel 3
28.	Duty Cycle 4	46.585 %	System Information	Duty Cycle channel 4
29.	Efficiency	97.089 %	System Information	Steady state efficiency
30.	FootPrint	1.87 k mm^2	System Information	Total Foot Print Area of BOM components
31.	Frequency	296.435 Hz	System Information	Switching frequency
32.	Frequency Ch2	3.95 kHz	System Information	Switching frequency
33.	Frequency Ch3	1.087 MHz	System Information	Switching frequency
34.	Frequency Ch4	1.087 MHz	System Information	Switching frequency
35.	Iout1	400.0 mA	System Information	Iout1 operating point
36.	Iout2	400.0 mA	System Information	Iout2 operating point
37.	Iout3	400.0 mA	System Information	Output Current channel 3
38.	Iout4	400.0 mA	System Information	Output Current channel 4
39.	Ch1 Mode	PFM	System Information	Channel 1 Conduction Mode
40.	Ch2 Mode	PFM	System Information	Channel 2 Conduction Mode
41.	Mode	PFM	System Information	Channel 3 Conduction Mode
42.	Mode	PFM	System Information	Channel 4 Conduction Mode
43.	Pout1	3.2 W	System Information	Total output power
44.	Pout2	3.2 W	System Information	Total output power
45.	Pout3	3.2 W	System Information	Total output power
46.	Pout4	3.2 W	System Information	Total output power
47.	Total BOM	NA	System Information	Total BOM Cost
48.	Vin	17.3 V	System Information	Vin operating point
49.	Vout Tolerance	3.093 %	System Information	Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable
50.	Vout1	8.0 V	System Information	Operational Voltage 1
51.	Vout1_Actual	8.072 V	System Information	Vout Actual calculated based on selected voltage divider resistors
52.	Vout2	8.0 V	System Information	Operational Voltage 2
53.	Vout2Tolerance	3.093 %	System Information	Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable
54.	Vout2_Actual	8.072 V	System Information	Vout Actual calculated based on selected voltage divider resistors
55.	Vout3	8.0 V	System Information	Operational Voltage 3

#	Name	Value	Category	Description
56.	Vout3Tolerance	3.093 %	System Information	Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable
57.	Vout3_Actual	8.072 V	System Information	Vout Actual calculated based on selected voltage divider resistors
58.	Vout4	8.0 V	System Information	Operational Voltage 4
59.	Vout4Tolerance	3.093 %	System Information	Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable
60.	Vout4_Actual	8.072 V	System Information	Vout Actual calculated based on selected voltage divider resistors

Design Inputs

Name	Value	Description
Iout	400.0 m	Maximum Output Current
Iout1	400.0 m	Output Current #1
Iout2	400.0 m	Output Current #2
VinMax	17.3	Maximum input voltage
VinMin	16.8	Minimum input voltage
Vout	8.0	Output Voltage
Vout1	8.0	Output Voltage #1
Vout2	8.0	Output Voltage #2
base_pn	TPS65400	Base Product Number
source	DC	Input Source Type
Ta	35.0	Ambient temperature
UserFsw	1.482 M	Customer Selected Frequency

WEBENCH® Assembly

Component Testing

Some published data on components in datasheets such as Capacitor ESR and Inductor DC resistance is based on conservative values that will guarantee that the components always exceed the specification. For design purposes it is usually better to work with typical values. Since this data is not always available it is a good practice to measure the Capacitance and ESR values of Cin and Cout, and the inductance and DC resistance of L1 before assembly of the board. Any large discrepancies in values should be electrically simulated in WEBENCH to check for instabilities and thermally simulated in WebTHERM to make sure critical temperatures are not exceeded.

Soldering Component to Board

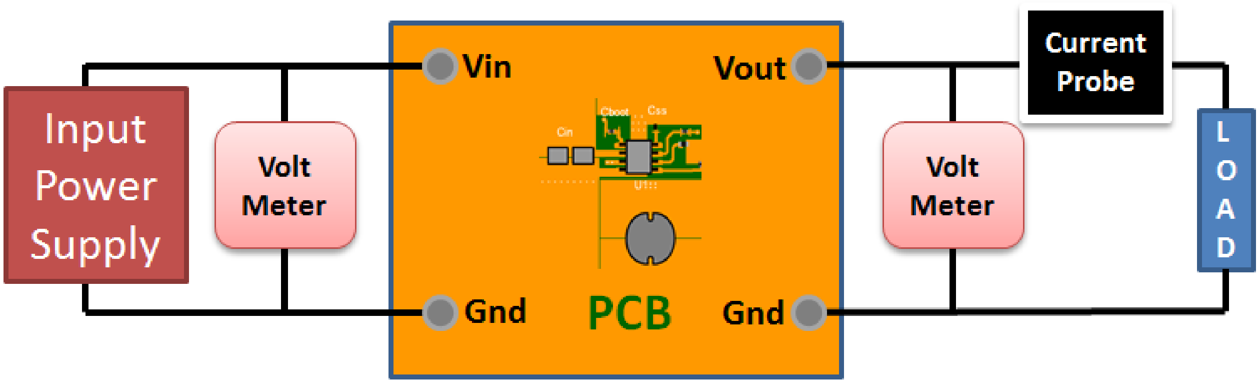
If board assembly is done in house it is best to tack down one terminal of a component on the board then solder the other terminal. For surface mount parts with large tabs, such as the DPAK, the tab on the back of the package should be pre-tinned with solder, then tacked into place by one of the pins. To solder the tab town to the board place the iron down on the board while resting against the tab, heating both surfaces simultaneously. Apply light pressure to the top of the plastic case until the solder flows around the part and the part is flush with the PCB. If the solder is not flowing around the board you may need a higher wattage iron (generally 25W to 30W is enough).

Initial Startup of Circuit

It is best to initially power up the board by setting the input supply voltage to the lowest operating input voltage 16.8V and set the input supply's current limit to zero. With the input supply off connect up the input supply to Vin and GND. Connect a digital volt meter and a load if needed to set the minimum Iout of the design from Vout and GND. Turn on the input supply and slowly turn up the current limit on the input supply. If the voltage starts to rise on the input supply continue increasing the input supply current limit while watching the output voltage. If the current increases on the input supply, but the voltage remains near zero, then there may be a short or a component misplaced on the board. Power down the board and visually inspect for solder bridges and recheck the diode and capacitor polarities. Once the power supply circuit is operational then more extensive testing may include full load testing, transient load and line tests to compare with simulation results.

Load Testing

The setup is the same as the initial startup, except that an additional digital voltmeter is connected between Vin and GND, a load is connected between Vout and GND and a current meter is connected in series between Vout and the load. The load must be able to handle at least rated output power + 50% (7.5 watts for this design). Ideally the load is supplied in the form of a variable load test unit. It can also be done in the form of suitably large power resistors. When using an oscilloscope to measure waveforms on the prototype board, the ground leads of the oscilloscope probes should be as short as possible and the area of the loop formed by the ground lead should be kept to a minimum. This will help reduce ground lead inductance and eliminate EMI noise that is not actually present in the circuit.



Design Assistance

1. Master key : F1324BD9B65441B1[v1]

2. **TPS65400** Product Folder : http://www.ti.com/product/TPS65400 : contains the data sheet and other resources.

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