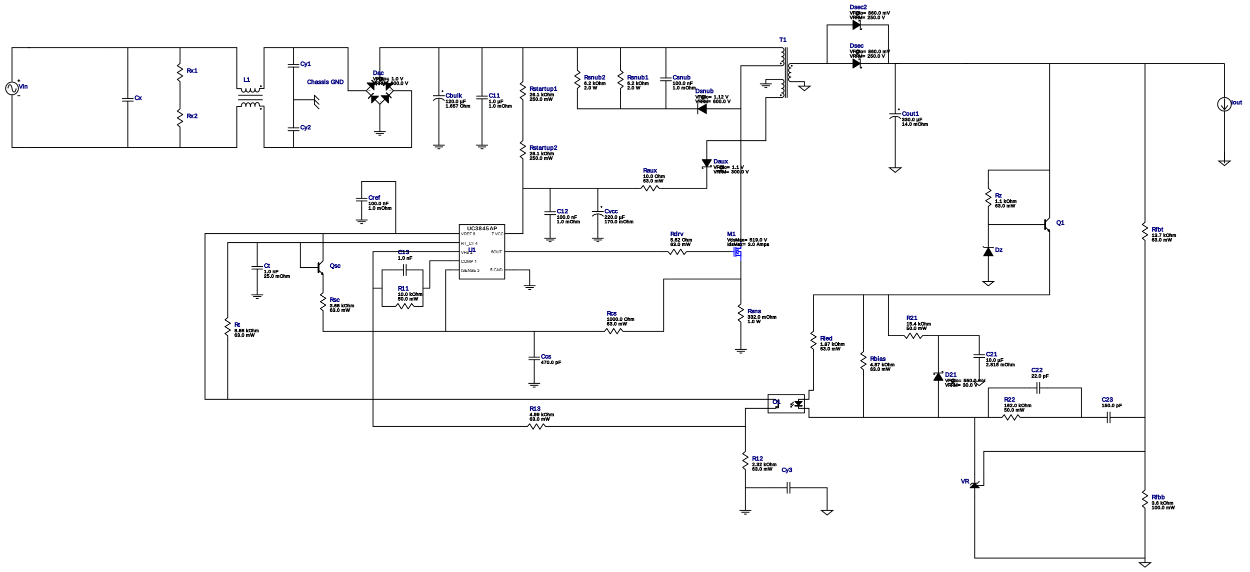
VinMin = 85.0V
VinMax = 265.0V
Vout = 12.0V
Iout = 3.0A

Device = UC3845AN
Topology = Flyback
Created = 2020-01-28 18:17:26.120
BOM Cost = NA
BOM Count = 47
Total Pd =

WEBENCH ® Design Report

Design : 31 UC3845AN
UC3845AN 85V-265V to 12.00V @ 3A



1. The EMI filter shown in the schematic is a placeholder. It has not yet been designed for the application.

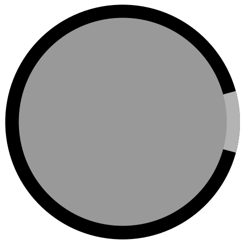
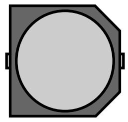
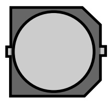
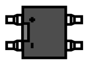
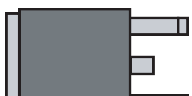
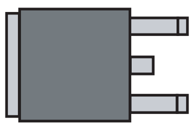
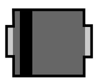
Design Alerts

Component Selection Information

Click on the transformer symbol in the schematic and select "Explore Transformer Core/Bobbin Selection" to design using specific transformer cores and bobbin. With the current design condition, suitable FET could not be found in the current database. Hence, this design is created using an ideal FET. Please note that the resulting FET parameters are ideal, so the efficiency/loss values have been disabled. Also, the schematic/PCB export and Thermal simulations will not work with the ideal FET.

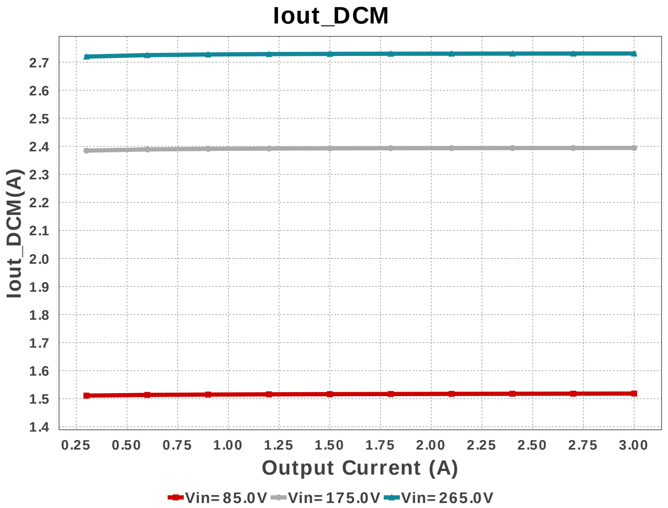
Electrical BOM

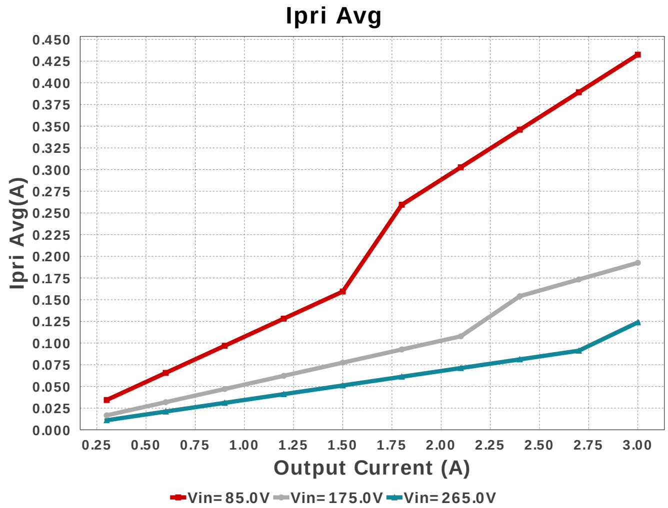
Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
C11	Knowles Capacitors	2220Y6300105KXTWS2 Series= X7R	Cap= 1.0 uF ESR= 1.0 mOhm VDC= 630.0 V IRMS= 0.0 A	1	$3.38	2220_450 54 mm^2
C12	MuRata	GRM155R71C104KA88D Series= X7R	Cap= 100.0 nF ESR= 1.0 mOhm VDC= 16.0 V IRMS= 0.0 A	1	$0.01	0402 3 mm^2
C13	MuRata	GRM1555C1H102JA01J Series= C0G/NP0	Cap= 1.0 nF VDC= 50.0 V IRMS= 0.0 A	1	$0.01	0402 3 mm^2
C21	TDK	C2012X5R1V106K085AC Series= X5R	Cap= 10.0 uF ESR= 2.818 mOhm VDC= 35.0 V IRMS= 3.8868 A	1	$0.17	0805 7 mm^2
C22	Samsung Electro-Mechanics	CL21C220JBANNNC Series= C0G/NP0	Cap= 22.0 pF VDC= 50.0 V IRMS= 0.0 A	1	$0.01	0805 7 mm^2
C23	Samsung Electro-Mechanics	CL21C151JBANNNC Series= C0G/NP0	Cap= 150.0 pF VDC= 50.0 V IRMS= 0.0 A	1	$0.01	0805 7 mm^2

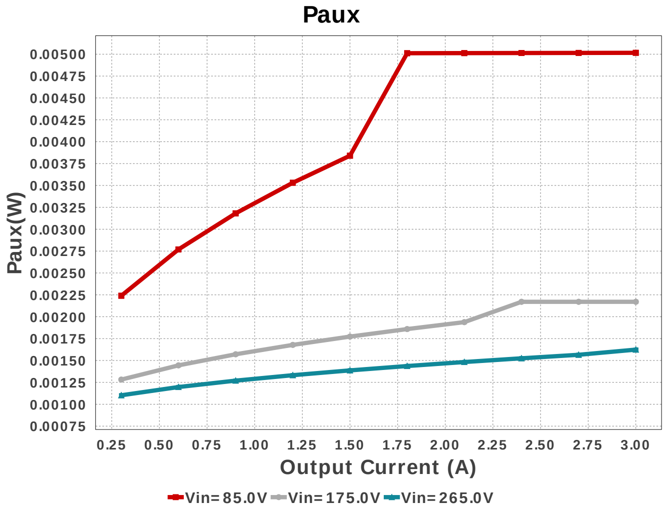
Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
Cbulk	Nichicon	LLS2G121MELZ Series= 2387	Cap= 120.0 uF ESR= 1.657 Ohm VDC= 400.0 V IRMS= 1.09 A	1	$1.28	 Nichicon_2200x3000_Snap 576 mm^2
Ccs	AVX	04025A471JAT2A Series= C0G/NP0	Cap= 470.0 pF VDC= 50.0 V IRMS= 0.0 A	1	$0.01	0402 3 mm^2
Cout1	Panasonic	25SVPF330M Series= SVPF	Cap= 330.0 uF ESR= 14.0 mOhm VDC= 25.0 V IRMS= 5.0 A	1	$0.73	 CAPSMT_62_F12 151 mm^2
Cref	MuRata	GRM155R71C104KA88D Series= X7R	Cap= 100.0 nF ESR= 1.0 mOhm VDC= 16.0 V IRMS= 0.0 A	1	$0.01	0402 3 mm^2
Csnub	TDK	C3216X7T2W104K160AE Series= X7T	Cap= 100.0 nF ESR= 1.0 mOhm VDC= 450.0 V IRMS= 0.0 A	1	$0.13	1206_180 11 mm^2
Ct	Kemet	C0805C102J1GACTU Series= C0G/NP0	Cap= 1.0 nF ESR= 25.0 mOhm VDC= 100.0 V IRMS= 1.71 A	1	$0.09	0805 7 mm^2
Cvcc	Nichicon	UUD1E221MNL1GS Series= uD	Cap= 220.0 uF ESR= 170.0 mOhm VDC= 25.0 V IRMS= 450.0 mA	1	$0.17	 SM_RADIAL_8MM 113 mm^2
D21	Panasonic	DB2S31600L	VF@Io= 550.0 mV VRRM= 30.0 V	1	$0.03	SOD-523 5 mm^2
Dac	Diodes Inc.	HD06-T	VF@Io= 1.0 V VRRM= 600.0 V	1	$0.13	 MiniDIP 62 mm^2
Daux	SMC Diode Solutions	ST1300ATR	VF@Io= 1.1 V VRRM= 300.0 V	1	$0.07	 SMA 37 mm^2
Dsec	ON Semiconductor	MBRB40250TG	VF@Io= 860.0 mV VRRM= 250.0 V	1	$0.94	 DDPAK 210 mm^2
Dsec2	ON Semiconductor	MBRB40250TG	VF@Io= 860.0 mV VRRM= 250.0 V	1	$0.94	 DDPAK 210 mm^2
Dsnub	Bourns	CD214C-F3600	VF@Io= 1.12 V VRRM= 600.0 V	1	$0.23	 SMC 83 mm^2
Dz	ON Semiconductor	MMBZ5239BLT1G	Zener	1	$0.02	 SOT-23 14 mm^2

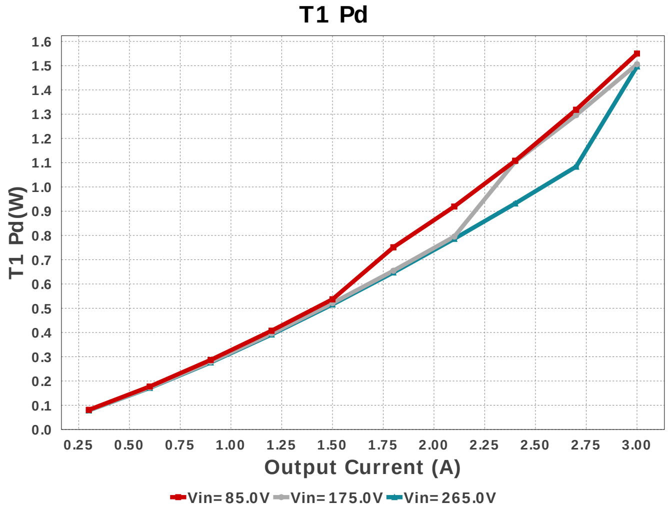
Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
M1	NA	IdealFET	VdsMax= 519.0 V IdsMax= 3.0 Amps	1	NA	NA 0 mm^2
O1	Fairchild Semiconductor	FOD817A	Optocoupler	1	$0.11	DIP-4 71 mm^2
Q1	Diodes Inc.	MMBT4401-7-F	Bipolar Transistor	1	$0.02	SOT-23 14 mm^2
Qsc	STMicroelectronics	2N2222A	Bipolar Transistor	1	$1.11	TO-18 57 mm^2
R11	Yageo	RC0201FR-0710KL Series= ?	Res= 10.0 kOhm Power= 50.0 mW Tolerance= 1.0%	1	$0.01	0201 2 mm^2
R12	Vishay-Dale	CRCW04022K32FKED Series= CRCW..e3	Res= 2.32 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
R13	Vishay-Dale	CRCW04024K99FKED Series= CRCW..e3	Res= 4.99 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
R21	Yageo	RC0201FR-0715K4L Series= ?	Res= 15.4 kOhm Power= 50.0 mW Tolerance= 1.0%	1	$0.01	0201 2 mm^2
R22	Yageo	RC0201FR-07162KL Series= ?	Res= 162.0 kOhm Power= 50.0 mW Tolerance= 1.0%	1	$0.01	0201 2 mm^2
Raux	Vishay-Dale	CRCW040210R0FKED Series= CRCW..e3	Res= 10.0 Ohm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rbias	Vishay-Dale	CRCW04024K87FKED Series= CRCW..e3	Res= 4.87 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rcs	Vishay-Dale	CRCW04021K00FKED Series= CRCW..e3	Res= 1000.0 Ohm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rdrv	Vishay-Dale	CRCW04025R62FKED Series= CRCW..e3	Res= 5.62 Ohm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rfbb	Yageo	RC0603FR-073K6L Series= ?	Res= 3.6 kOhm Power= 100.0 mW Tolerance= 1.0%	1	$0.01	0603 5 mm^2
Rfbt	Vishay-Dale	CRCW040213K7FKED Series= CRCW..e3	Res= 13.7 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rled	Vishay-Dale	CRCW04021K87FKED Series= CRCW..e3	Res= 1.87 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rsc	Vishay-Dale	CRCW04023K65FKED Series= CRCW..e3	Res= 3.65 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm^2
Rsns	Stackpole Electronics Inc	RSMF1FTR332 Series= ?	Res= 332.0 mOhm Power= 1.0 W Tolerance= 1.0%	1	$0.06	RSMF1 107 mm^2
Rsnub1	Vishay-Bccomponents	PR02000206201JR500 Series= ?	Res= 6.2 kOhm Power= 2.0 W Tolerance= 5.0%	1	$0.05	PR02 117 mm^2
Rsnub2	Vishay-Bccomponents	PR02000206201JR500 Series= ?	Res= 6.2 kOhm Power= 2.0 W Tolerance= 5.0%	1	$0.05	PR02 117 mm^2

Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
Rstartup1	Vishay-Dale	CRCW120626K1FKEA Series= CRCW..e3	Res= 26.1 kOhm Power= 250.0 mW Tolerance= 1.0%	1	$0.01	1206 11 mm²
Rstartup2	Vishay-Dale	CRCW120626K1FKEA Series= CRCW..e3	Res= 26.1 kOhm Power= 250.0 mW Tolerance= 1.0%	1	$0.01	1206 11 mm²
Rt	Vishay-Dale	CRCW04028K66FKED Series= CRCW..e3	Res= 8.66 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm²
Rz	Vishay-Dale	CRCW04021K10FKED Series= CRCW..e3	Res= 1.1 kOhm Power= 63.0 mW Tolerance= 1.0%	1	$0.01	0402 3 mm²
T1	Core=TDK , CoilFormer=TDK	Core=B66317G0000X187 , CoilFormer=B66208W1010T001	Lp= 226.0 µH Turns Ratio(Nas)= 11:11 Turns Ratio(Nps)= 38:11 Npri= 38.0 Naux= 11.0 Nsec= 11.0	1	$0.22	TDK_B66305 569 mm²
U1	Texas Instruments	UC3845AN	Switcher	1	$0.54	P0008A 116 mm²
VR	Texas Instruments	TL431IDBVR	Voltage References	1	$0.07	R-PDSO-G3 16 mm²

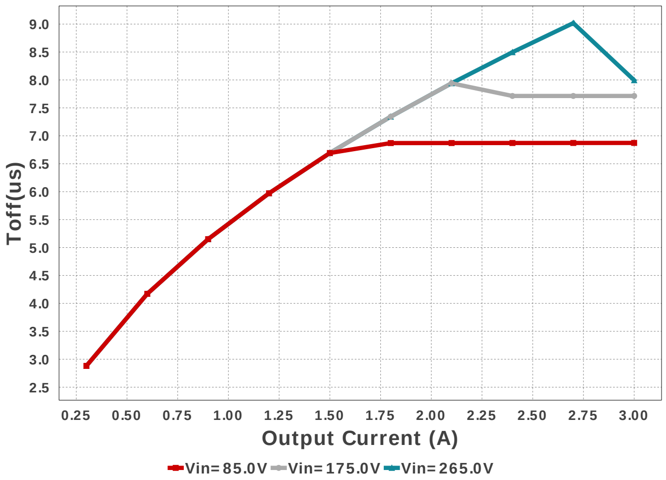




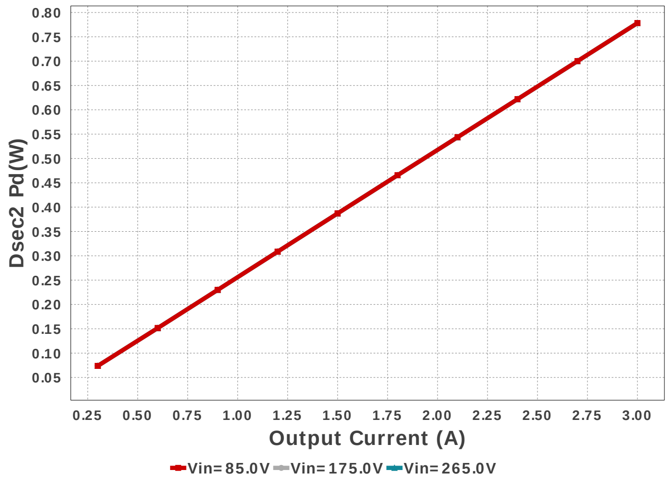




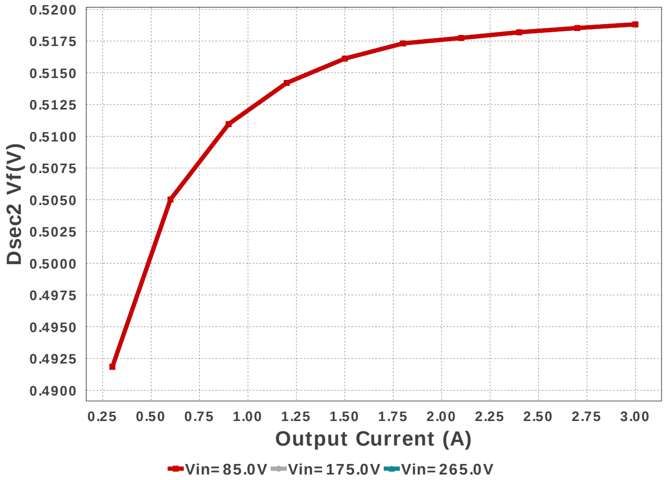
Toff



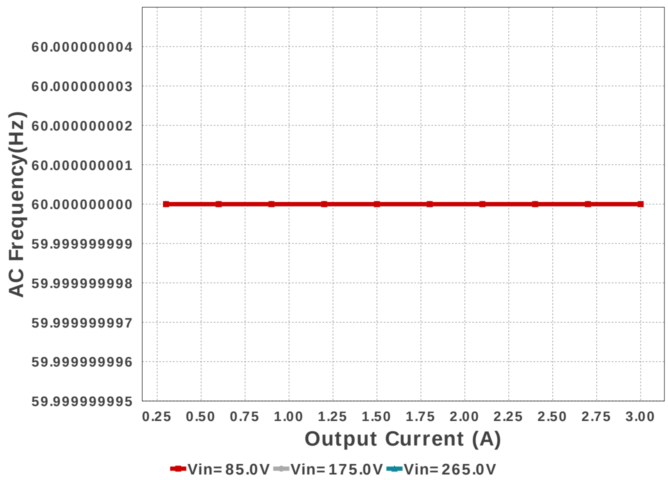
Dsec2 Pd



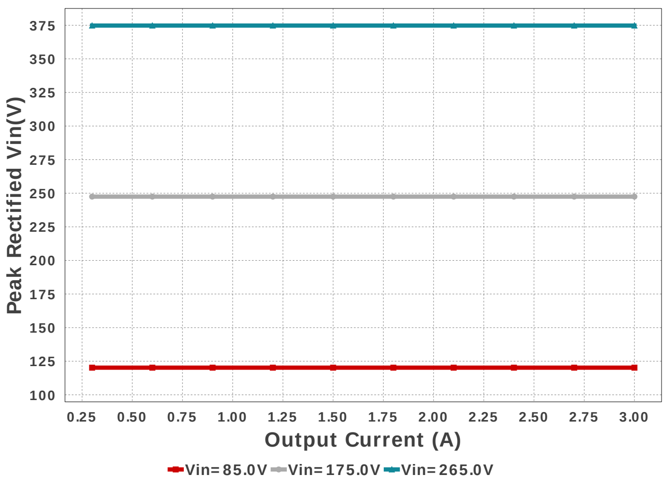
Dsec2 Vf



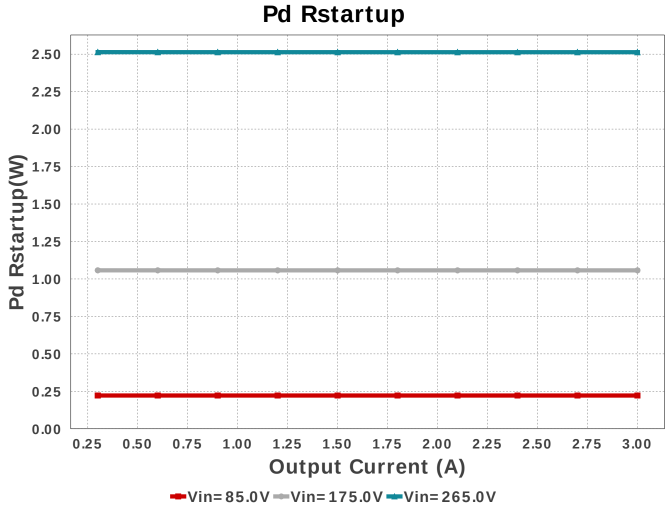
AC Frequency



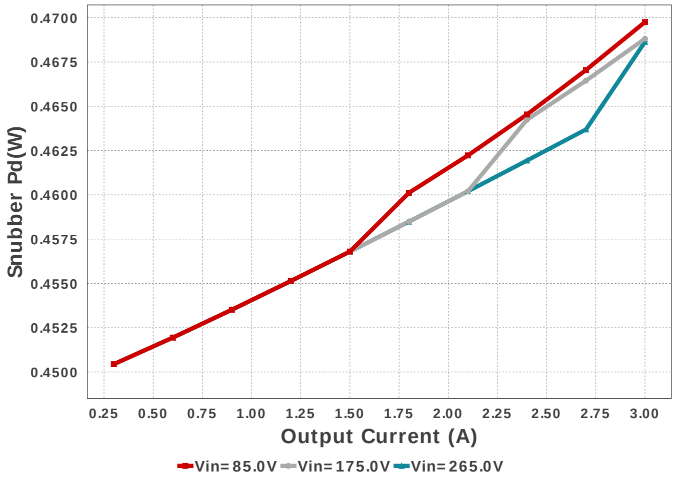
Peak Rectified Vin



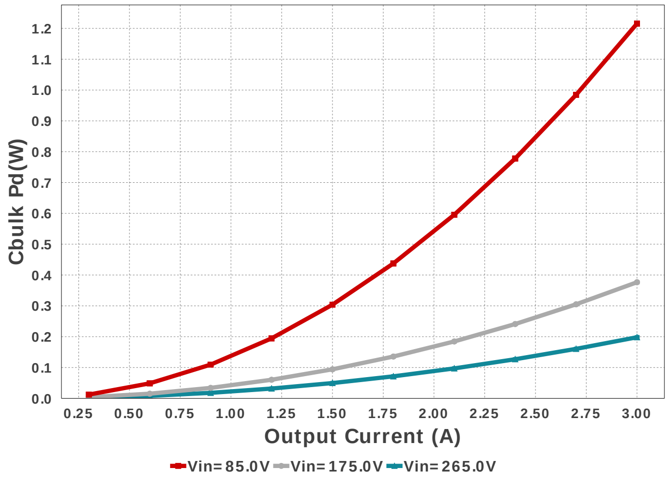
Pd Rstartup



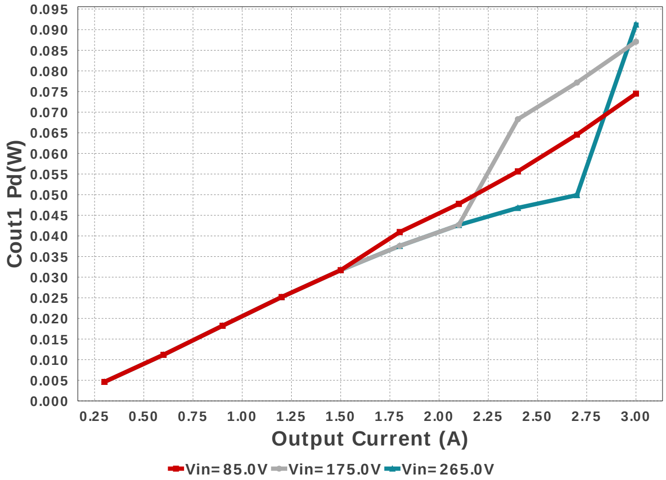
Snubber Pd



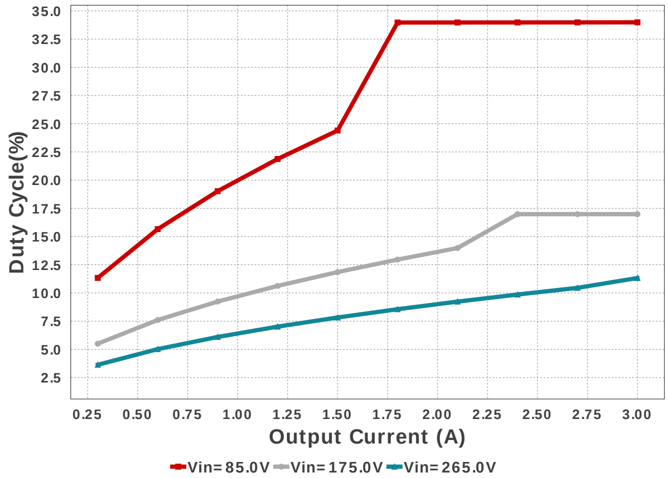
Cbulk Pd



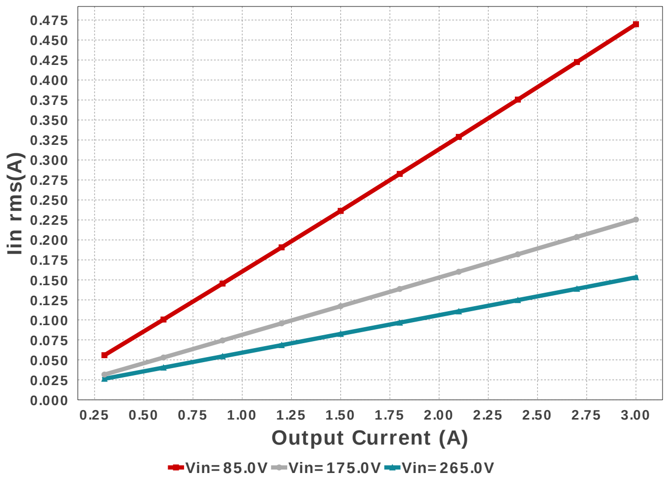
Cout1 Pd



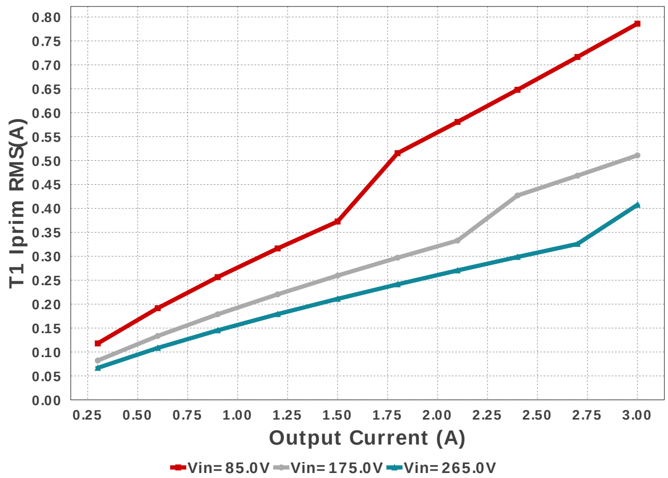
Duty Cycle

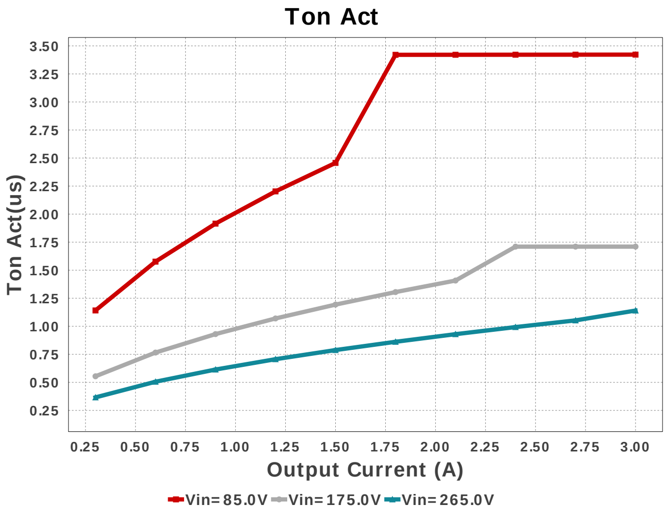


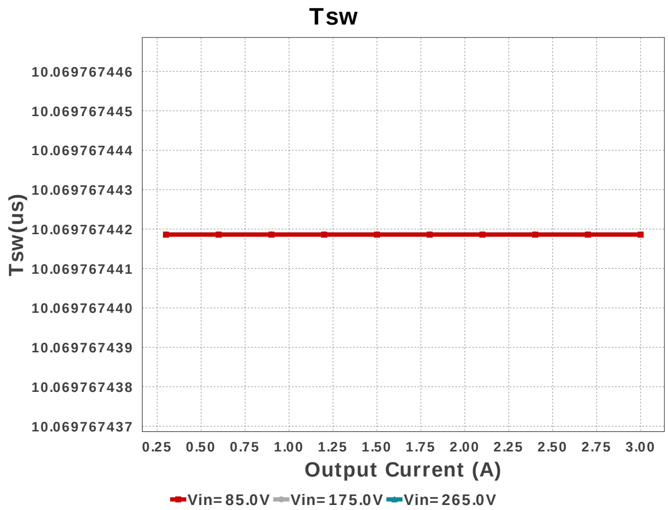
Iin rms

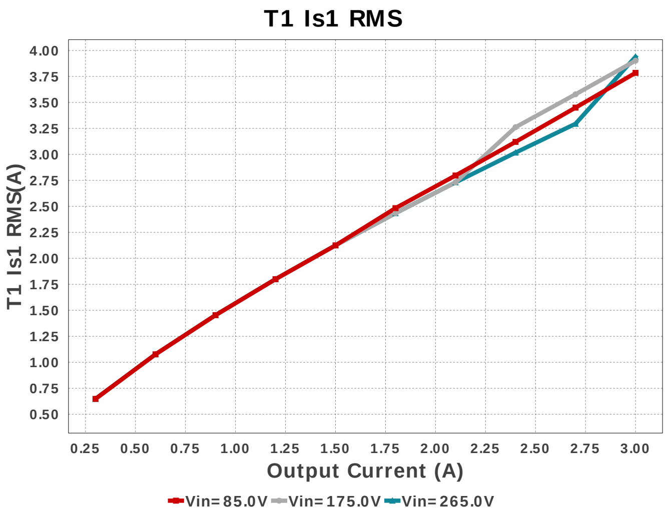


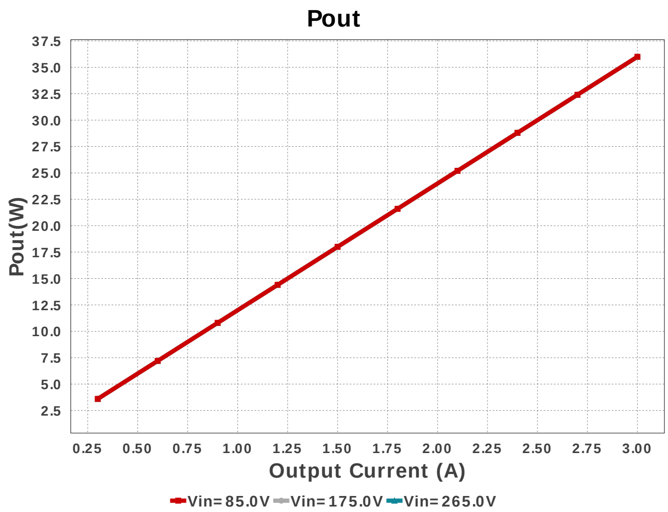
T1 Iprim RMS

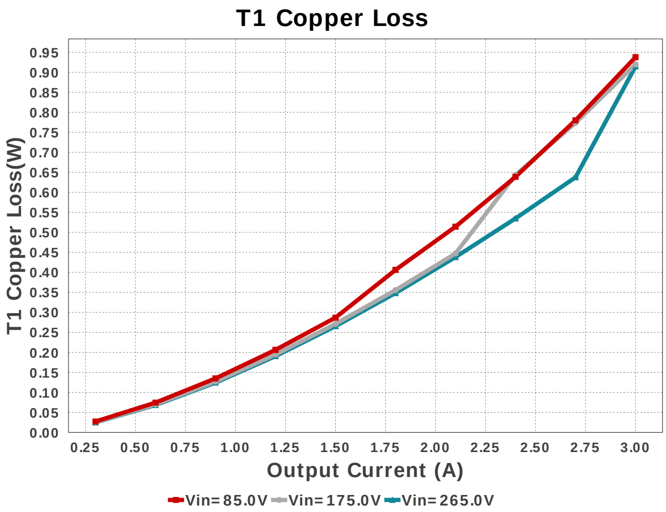


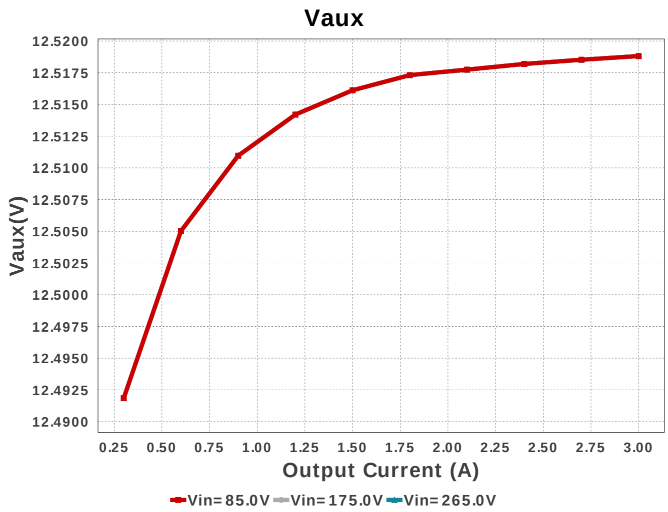

Ton Act
Ton Act(us)
Output Current (A)
Vin=85.0V Vin=175.0V Vin=265.0V

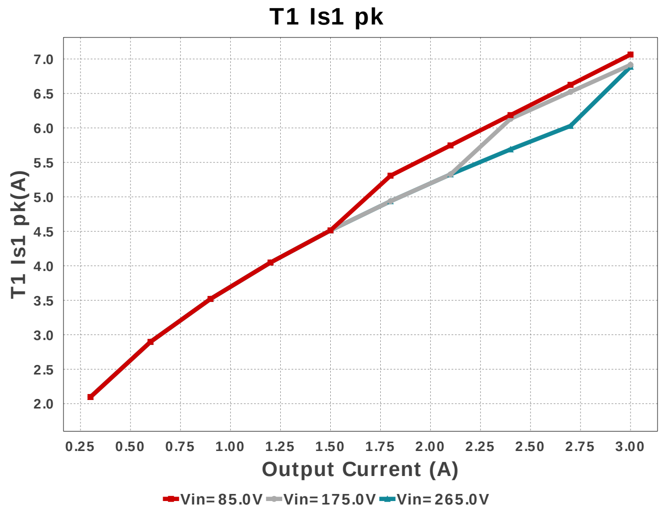

Tsw
Tsw(us)
Output Current (A)
Vin=85.0V Vin=175.0V Vin=265.0V

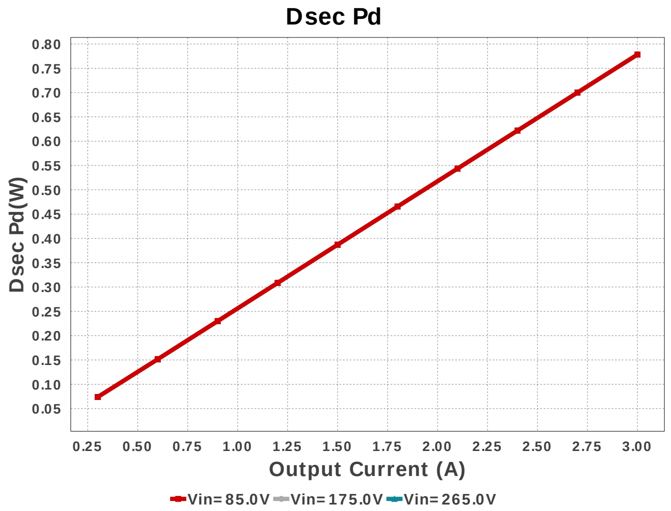

T1 Is1 RMS
T1 Is1 RMS(A)
Output Current (A)
Vin=85.0V Vin=175.0V Vin=265.0V

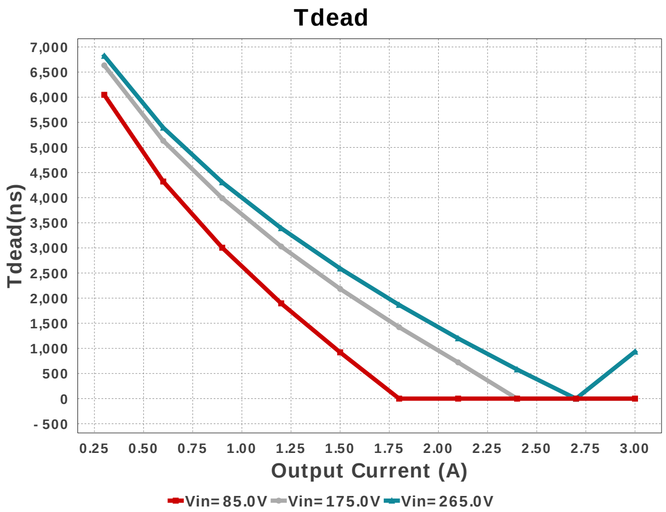

Pout
Pout(W)
Output Current (A)
Vin=85.0V Vin=175.0V Vin=265.0V

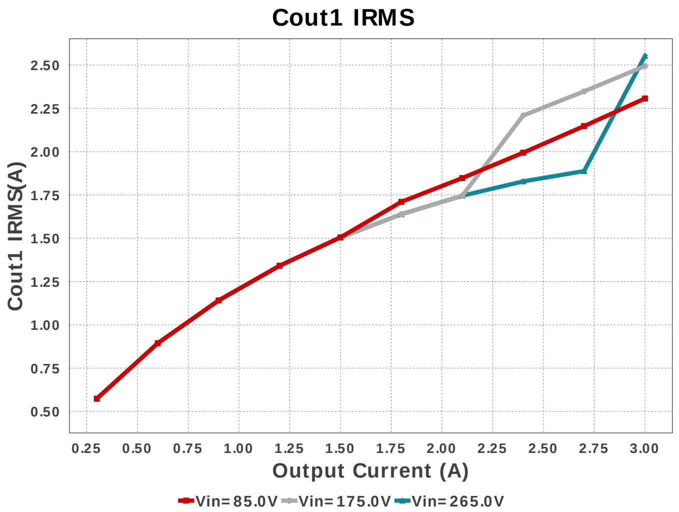

T1 Copper Loss
T1 Copper Loss(W)
Output Current (A)
Vin=85.0V Vin=175.0V Vin=265.0V

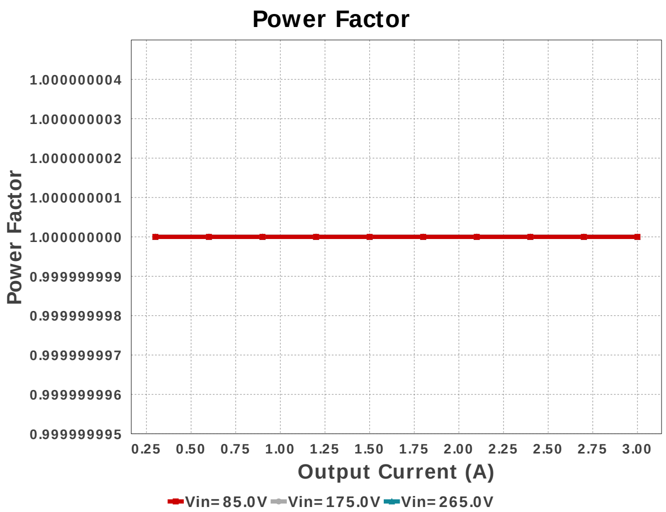

Vaux
Vaux(V)
Output Current (A)
Vin=85.0V Vin=175.0V Vin=265.0V

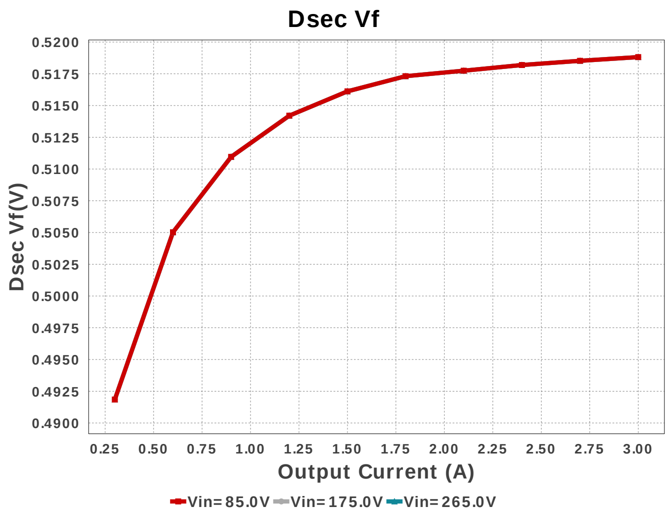

T1 Is1 pk
T1 Is1 pk(A)
Output Current (A)
Vin=85.0V Vin=175.0V Vin=265.0V

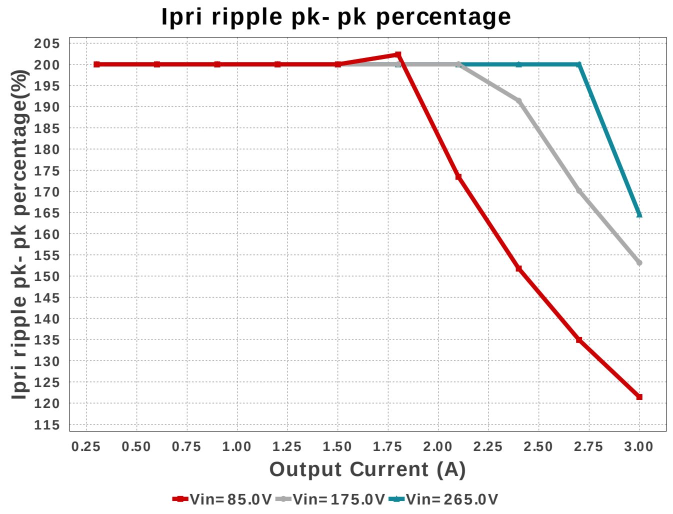

Dsec Pd
Dsec Pd(W)
Output Current (A)
Vin=85.0V Vin=175.0V Vin=265.0V

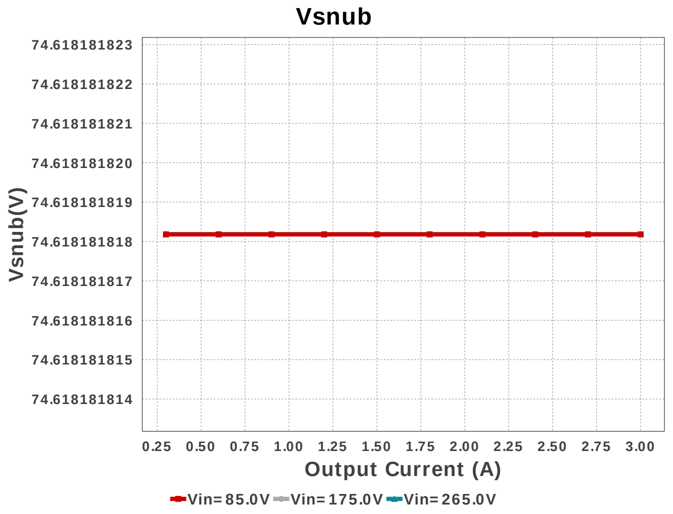

Tdead
Tdead(ns)
Output Current (A)
Vin=85.0V Vin=175.0V Vin=265.0V

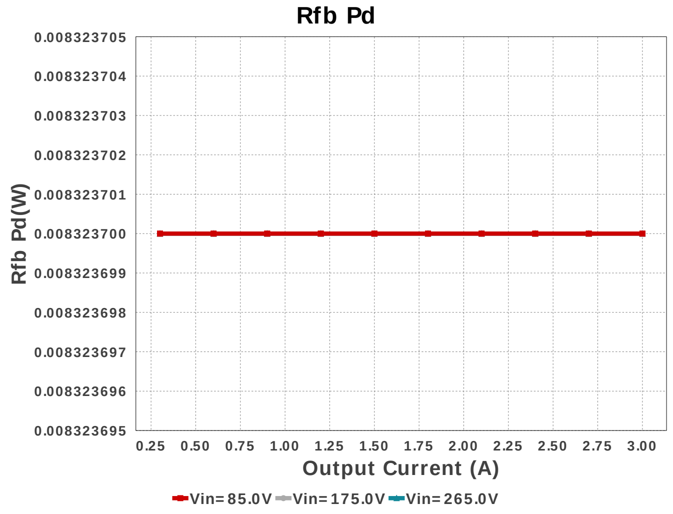

Cout1 IRMS
Cout1 IRMS(A)
Output Current (A)
Vin=85.0V Vin=175.0V Vin=265.0V

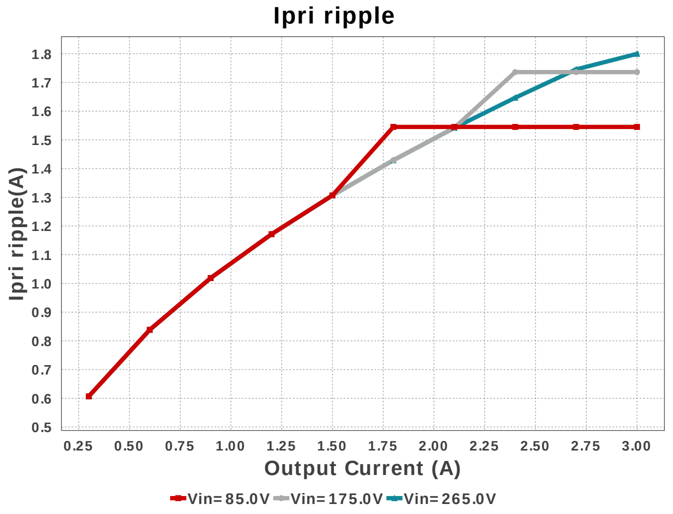

Power Factor
Power Factor
Output Current (A)
Vin=85.0V Vin=175.0V Vin=265.0V

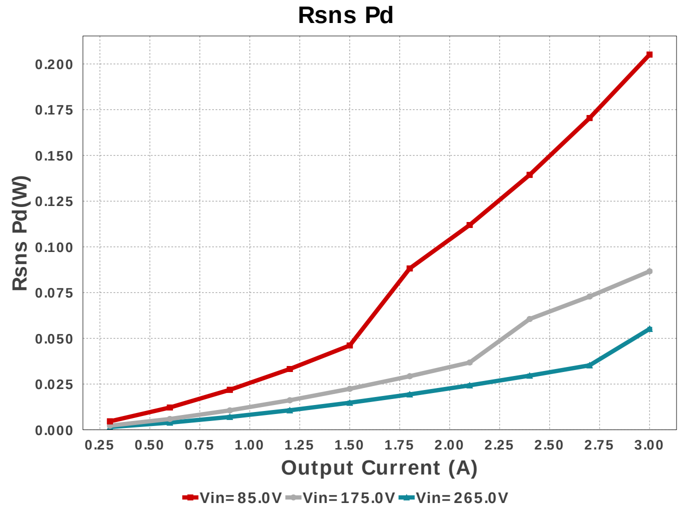

Dsec Vf
Dsec Vf(V)
Output Current (A)
Vin=85.0V Vin=175.0V Vin=265.0V

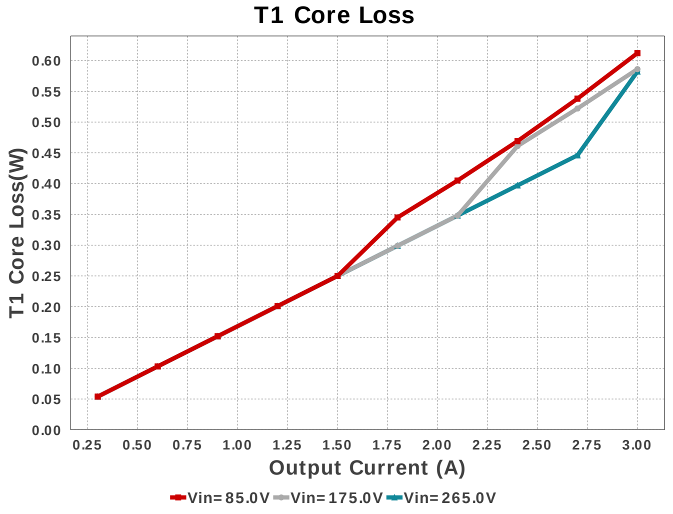

Ipri ripple pk- pk percentage
Ipri ripple pk- pk percentage(%)
Output Current (A)
Vin= 85.0V
Vin= 175.0V
Vin= 265.0V

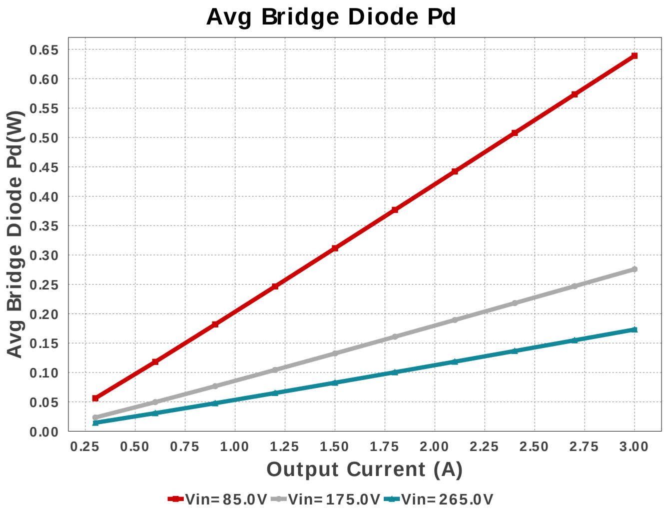

Vsnub
Vsnub(V)
Output Current (A)
Vin= 85.0V
Vin= 175.0V
Vin= 265.0V

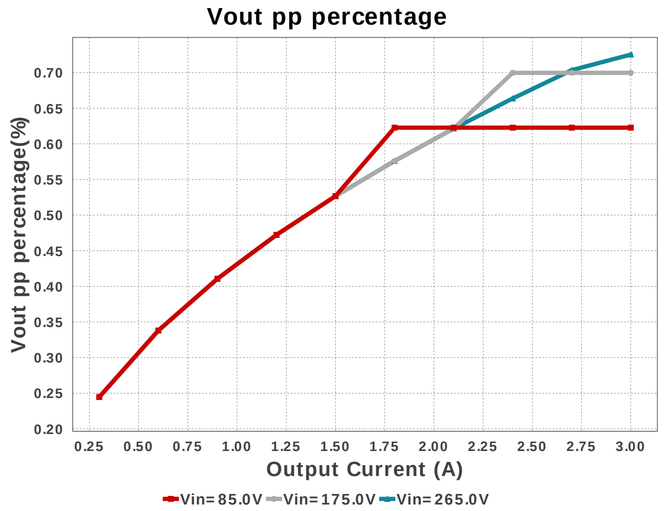

Rfb Pd
Rfb Pd(W)
Output Current (A)
Vin= 85.0V
Vin= 175.0V
Vin= 265.0V

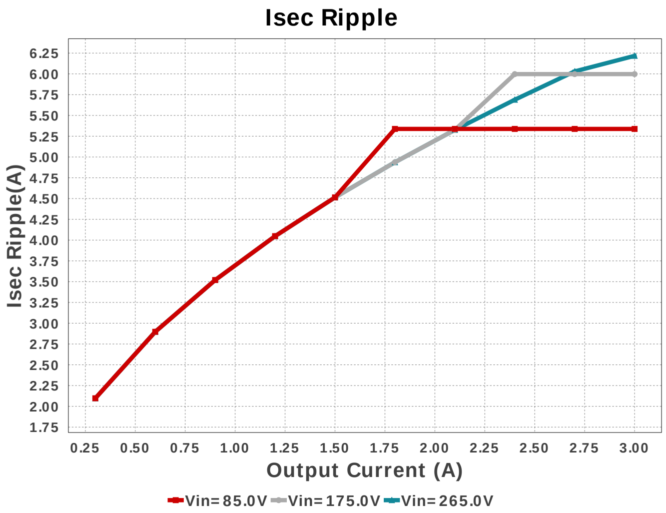

Ipri ripple
Ipri ripple(A)
Output Current (A)
Vin= 85.0V
Vin= 175.0V
Vin= 265.0V

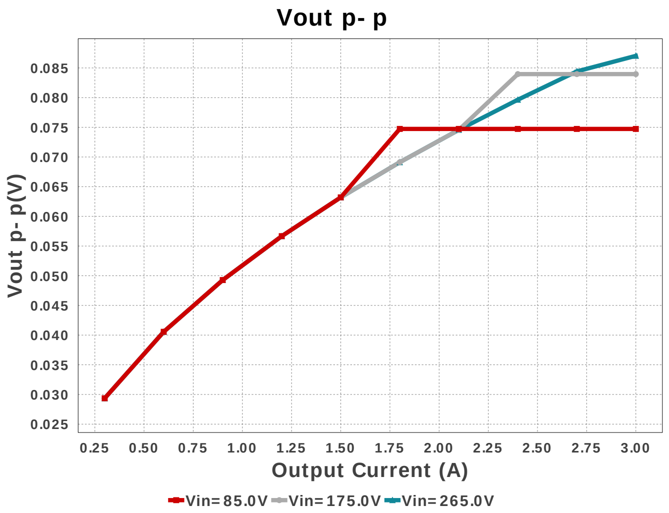

Rsns Pd
Rsns Pd(W)
Output Current (A)
Vin= 85.0V
Vin= 175.0V
Vin= 265.0V

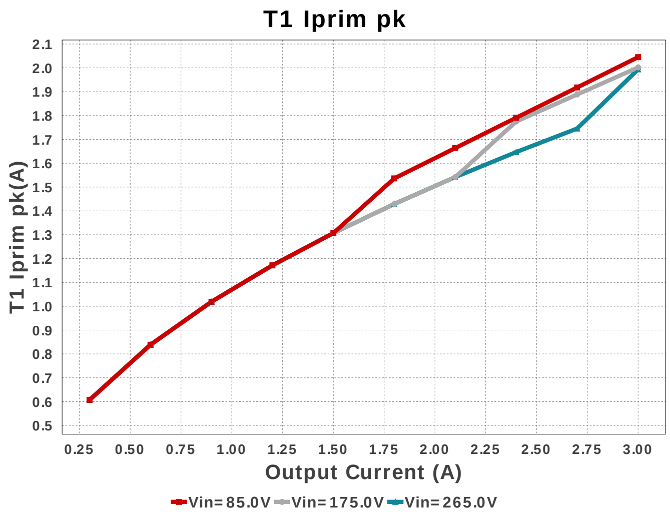

T1 Core Loss
T1 Core Loss(W)
Output Current (A)
Vin= 85.0V
Vin= 175.0V
Vin= 265.0V











Operating Values

#	Name	Value	Category	Description
1.	Cbulk Pd	1.215 W	Capacitor	Bulk capacitor power dissipation
2.	Cout1 IRMS	2.307 A	Capacitor	Output capacitor1 RMS ripple current
3.	Cout1 Pd	74.497 mW	Capacitor	Output capacitor1 power dissipation
4.	Avg Bridge Diode Pd	639.01 mW	Diode	Average Power Dissipation in the Bridge Diode over the AC Line Period
5.	Daux trr	35.0 ns	Diode	Auxiliary Diode Reverse Recovery Time
6.	Dsec Pd	778.22 mW	Diode	Secondary Diode Power Dissipation
7.	Dsec Vf	518.816 mV	Diode	Effective Forward Voltage Drop at the Operating Current
8.	Dsec trr	0.0 ns	Diode	Output Diode Reverse Recovery Time
9.	Dsec2 Pd	778.22 mW	Diode	Secondary Diode Power Dissipation
10.	Dsec2 Vf	518.816 mV	Diode	Effective Forward Voltage Drop at the Operating Current
11.	Dsnub trr	30.0 ns	Diode	Snubber Diode Reverse Recovery Time

#	Name	Value	Category	Description
12.	ICThetaJA	53.5 degC/W	IC	IC junction-to-ambient thermal resistance
13.	Avg Bridge Diode Pd	639.01 mW	Power	Average Power Dissipation in the Bridge Diode over the AC Line Period
14.	Cbulk Pd	1.215 W	Power	Bulk capacitor power dissipation
15.	Cout1 Pd	74.497 mW	Power	Output capacitor1 power dissipation
16.	Dsec Pd	778.22 mW	Power	Secondary Diode Power Dissipation
17.	Dsec2 Pd	778.22 mW	Power	Secondary Diode Power Dissipation
18.	Paux	5.016 mW	Power	Power Dissipation in Raux and Daux
19.	Pd Rstartup	221.98 mW	Power	Power Dissipation in Rstartup1 and Rstartup2
20.	Rfb Pd	8.324 mW	Power	Rfb Power Dissipation
21.	Rsns Pd	205.12 mW	Power	Current Limit Sense Resistor Power Dissipation
22.	Snubber Pd	469.756 mW	Power	Snubber Power Dissipation
23.	T1 Copper Loss	785.25 mW	Power	Transformer Copper Loss Power Dissipation
24.	T1 Core Loss	569.0 mW	Power	Transformer Core Loss Power Dissipation
25.	T1 Pd	1.354 W	Power	Estimated Losses in Transformer
26.	Pd Rstartup	221.98 mW	Resistor	Power Dissipation in Rstartup1 and Rstartup2
27.	Rfb Pd	8.324 mW	Resistor	Rfb Power Dissipation
28.	Rsns Pd	205.12 mW	Resistor	Current Limit Sense Resistor Power Dissipation
29.	AC Frequency	60.0 Hz	System Information	Input AC frequency
30.	BOM Count	47	System Information	Total Design BOM count
31.	Duty Cycle	33.986 %	System Information	Duty cycle
32.	FootPrint	2.916 k mm^2	System Information	Total Foot Print Area of BOM components
33.	Frequency	99.307 kHz	System Information	Switching frequency
34.	Iin rms	475.676 mA	System Information	RMS Input Current
35.	Iout	3.0 A	System Information	Iout operating point
36.	Iout_DCM	1.518 A	System Information	Approximate Current below which DCM mode of operation will begin
37.	Mode	CCM	System Information	Conduction Mode
38.	Peak Rectified Vin	120.207 V	System Information	Peak voltage seen at rectified input
39.	Pout	36.0 W	System Information	Total output power
40.	Power Factor	1.0	System Information	Assumed Power Factor for the Application
41.	Tdead	0.0 ns	System Information	Approximate Dead Time of the Regulator
42.	Toff	6.873 us	System Information	Approximate Converter Off Time
43.	Ton Act	3.422 us	System Information	Approximate Converter On Time
44.	Total BOM	NA	System Information	Total BOM Cost
45.	Tsw	10.07 us	System Information	Switching Time Period
46.	Vin_RMS	85.0 V	System Information	Vin operating point
47.	Vout	12.0 V	System Information	Operational Output Voltage
48.	Vout Actual	11.99 V	System Information	Vout Actual calculated based on selected voltage divider resistors
49.	Vout Tolerance	1.926 %	System Information	Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable
50.	Vout p-p	74.726 mV	System Information	Peak-to-peak output ripple voltage
51.	Vout pp percentage	622.715 m%	System Information	Output Voltage ripple percentage
52.	Vsnub	74.618 V	System Information	Voltage Across the Snubber
53.	Ipri Avg	432.431 mA	Transformer	Average Current in Primary Winding over the complete Switching Period
54.	Ipri ripple	1.545 A	Transformer	Ripple Current in the Primary Winding
55.	Ipri ripple pk-pk percentage	121.433 %	Transformer	Primary Current pk-pk ripple percentage(of Ipri avg during ton only)
56.	Isec Ripple	5.338 A	Transformer	Ripple Current in the Secondary Winding
57.	Paux	5.016 mW	Transformer	Power Dissipation in Raux and Daux
58.	T1 Copper Loss	785.25 mW	Transformer	Transformer Copper Loss Power Dissipation
59.	T1 Core Loss	569.0 mW	Transformer	Transformer Core Loss Power Dissipation
60.	T1 Iprim RMS	786.019 mA	Transformer	Transformer Primary RMS Current
61.	T1 Iprim pk	2.045 A	Transformer	Transformer Primary Peak Current

#	Name	Value	Category	Description
62.	T1 Is1 RMS	3.784 A	Transformer	Transformer Secondary1 RMS Current
63.	T1 Is1 pk	7.064 A	Transformer	Transformer Secondary1 Peak Current
64.	T1 Pd	1.354 W	Transformer	Estimated Losses in Transformer
65.	Vaux	12.519 V	Transformer	Auxiliary Voltage

Design Inputs

Name	Value	Description
Iout	3.0	Maximum Output Current
VinMax	265.0	Maximum input voltage
VinMin	85.0	Minimum input voltage
Vout	12.0	Output Voltage
acFrequency	60.0	AC Frequency
base_pn	UC3845A	Base Product Number
source	AC	Input Source Type
Ta	30.0	Ambient temperature

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

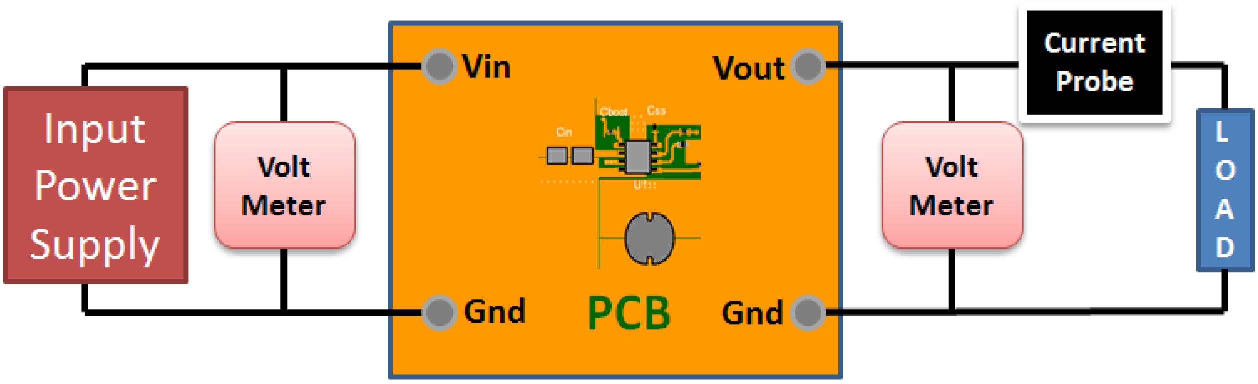
If board assembly is done in house it is best to tack down one terminal of a component on the board then solder the other terminal. For surface mount parts with large tabs, such as the DPAK, the tab on the back of the package should be pre-tinned with solder, then tacked into place by one of the pins. 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 85.0V 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.



WEBENCH® Transformer Report

#	Name	Value
1.	Core Part Number	B66317G0000X187
2.	Core Manufacturer	TDK
3.	Coil Former Part Number	B66208W1010T001
4.	Coil Former Manufacturer	TDK

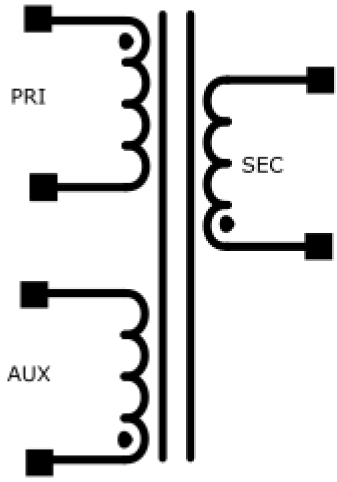
Transformer Electrical Diagram

Primary

Turns	38.0
AWG	26.0
Layers	4.0
Strands	3.0
Insulation Type	Heavy Insulated Magnet Wire

Auxiliary

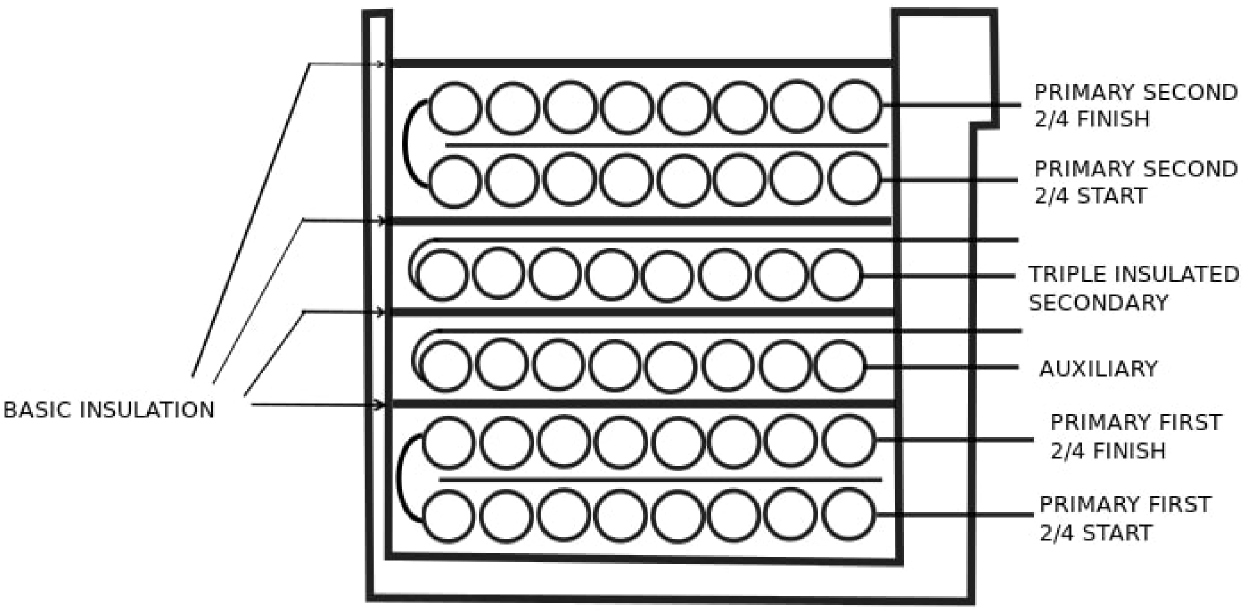
Turns	11.0
AWG	28.0
Layers	1.0
Strands	3.0
Insulation Type	Heavy Insulated Magnet Wire



Secondary

Turns	11.0
AWG	28.0
Layers	1.0
Strands	2.0
Insulation Type	Triple Insulated

Transformer Construction Diagram



Winding Instruction

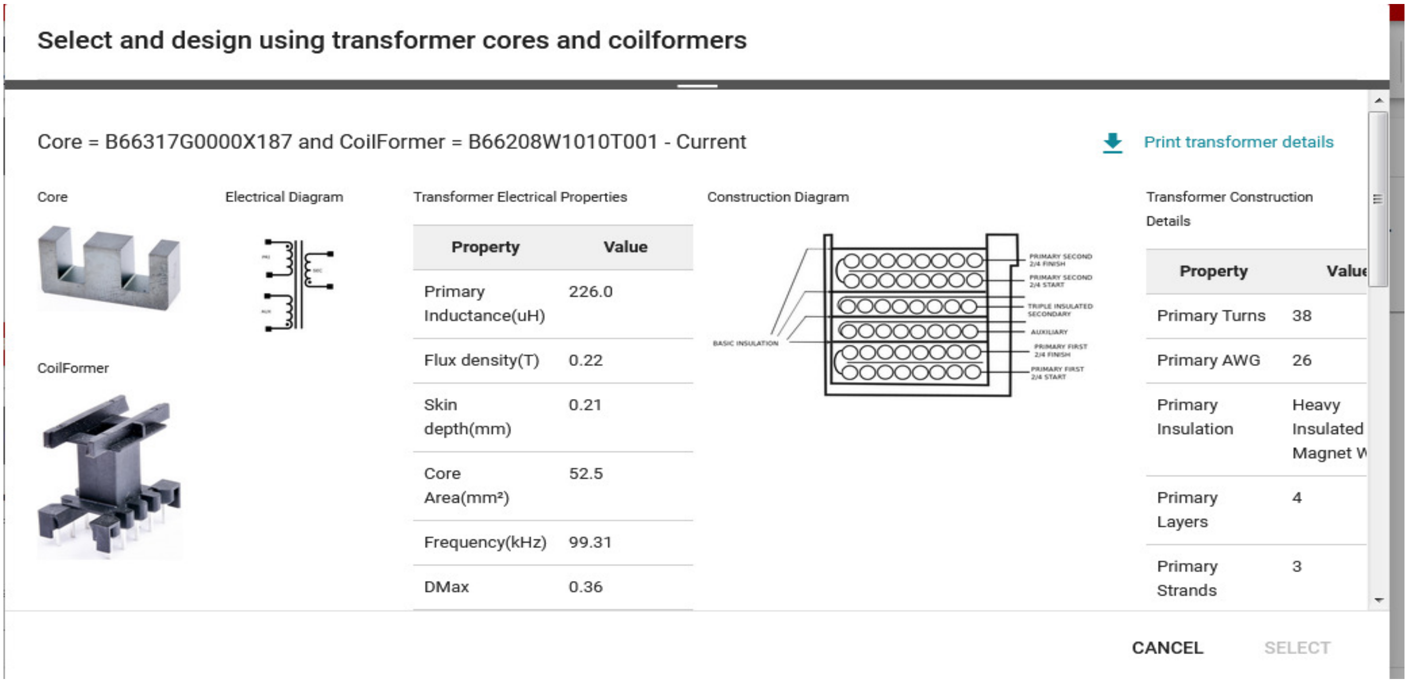
Winding	AWG	Turns	Winding Orientation
Primary First 2/4.0	26.0	19	Clockwise
Auxiliary	28.0	11.0	Counter Clockwise
Triple Insulated Secondary	28.0	11.0	Counter Clockwise
Primary Second 2/4.0	26.0	19	Clockwise

Transformer Parameters

#	Name	Value
1.	Lpri	2.26E-4H
2.	Inductance Factor(Al)	157.0nH
3.	Npri	38.0
4.	Nsec	11.0
5.	Naux	11.0
6.	Core Type	E25/13/7
7.	Core Material	N87
8.	Bmax	0.22T
9.	Switching Frequency	99.31kHz
10.	DMax	0.36
11.	Ipk(Primary)	1.97A
12.	Irms(Primary)	0.75A
13.	Ipk(Secondary)	6.81A
14.	Irms(Secondary)	3.44A

Design Assistance

1. Master key : 2D51A8A172D8EF47[v1]
2. **UC3845A** Product Folder : http://www.ti.com/product/UC3845A : contains the data sheet and other resources.



Transformer Electrical Properties

Property	Value
Primary Inductance(uH)	226.0
Flux density(T)	0.22
Skin depth(mm)	0.21
Core Area(mm²)	52.5
Frequency(kHz)	99.31
DMax	0.36
Primary Peak Current(A)	1.97
Primary RMS Current(A)	0.75
Secondary Peak Current(A)	6.81
Secondary RMS Current(A)	3.44

Construction Diagram

Transformer Construction Details

Property	Value
Primary Turns	38
Primary AWG	26
Primary Insulation	Heavy Insulated Magnet Wire
Primary Layers	4
Primary Strands	3
Secondary Turns	11
Secondary AWG	28
Secondary Insulation	Triple Insulated
Secondary Layers	1
Secondary Strands	2
Auxiliary Turns	11
Auxiliary AWG	28
Auxiliary Insulation	Heavy Insulated Magnet Wire
Auxiliary Layers	1
Auxiliary Strands	3
Inductance Factor(nH)	157