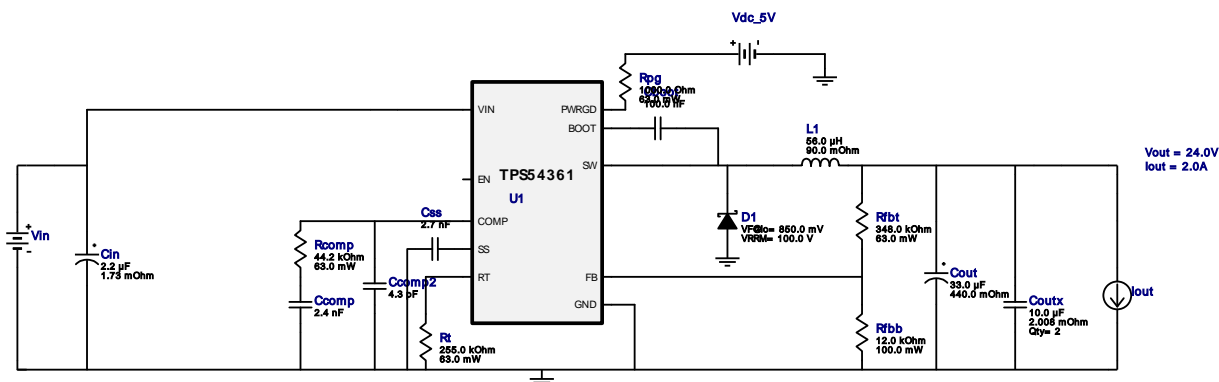


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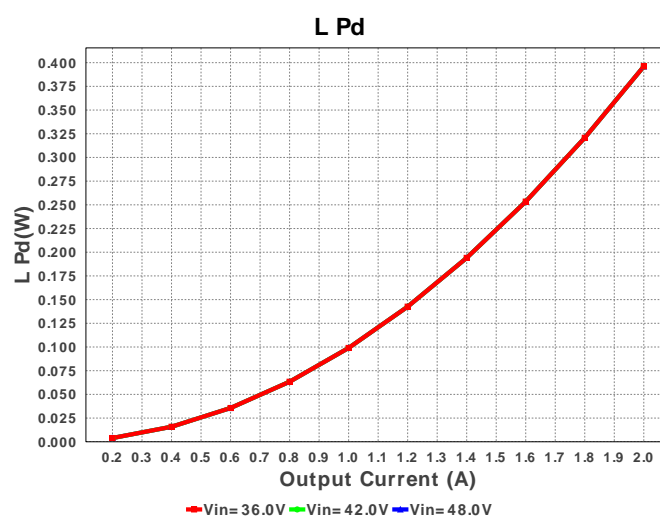
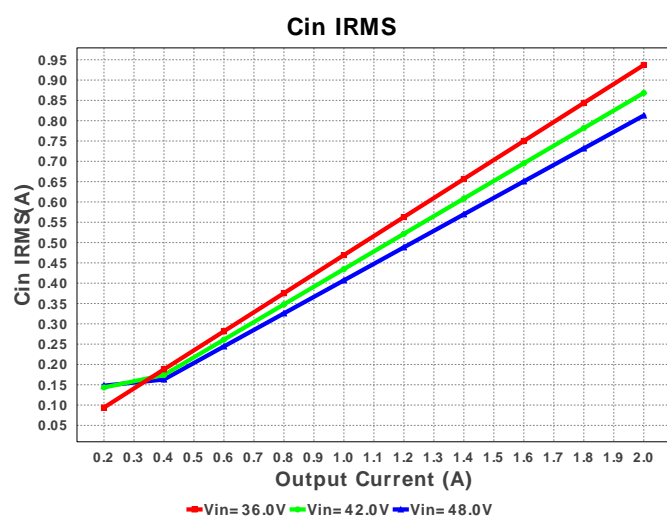
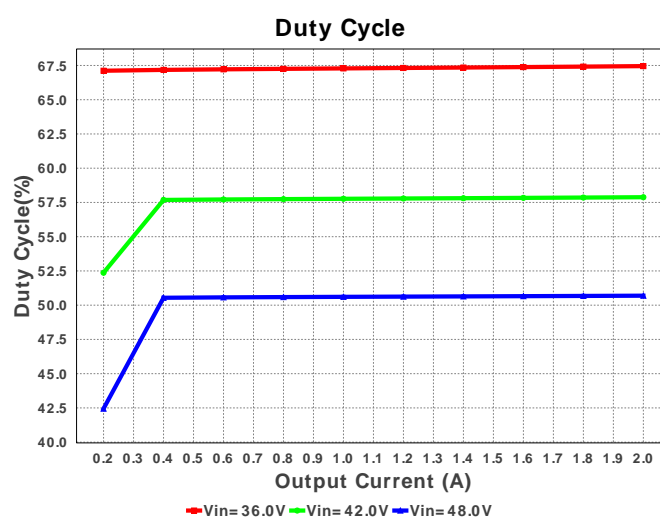
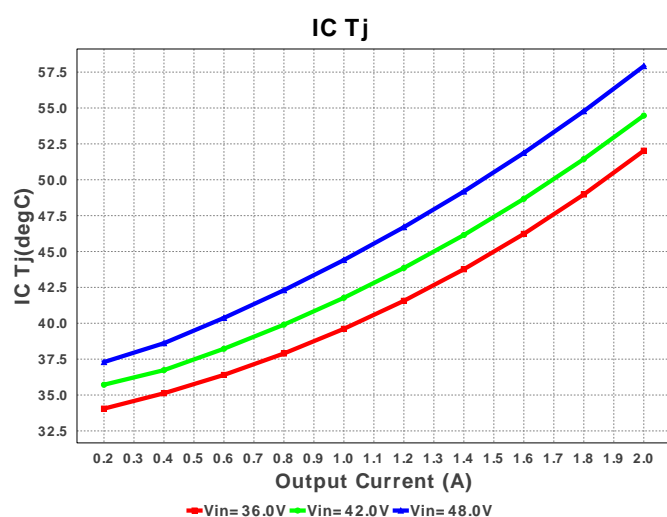
Design : 4466246/52 TPS54361DPRR
TPS54361DPRR 36.0V-48.0V to 24.00V @ 2.0A

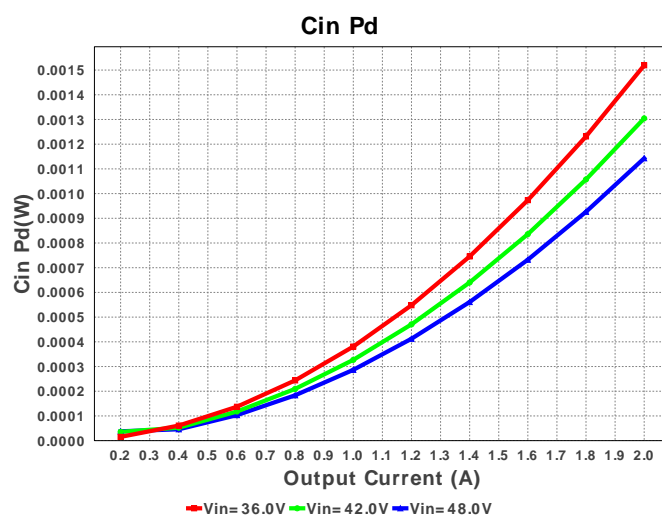
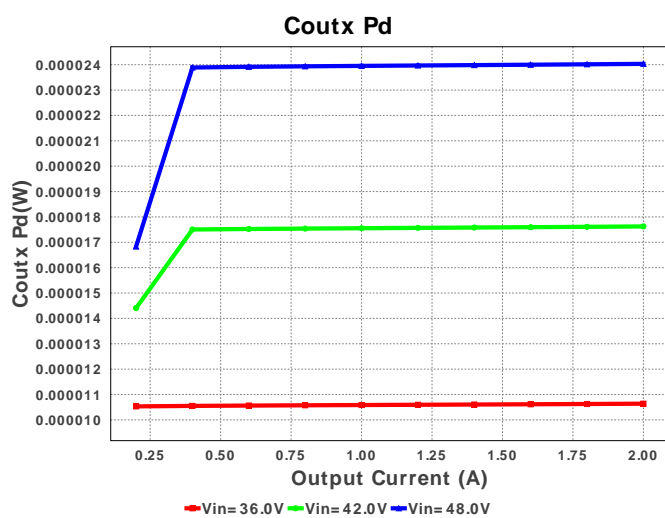
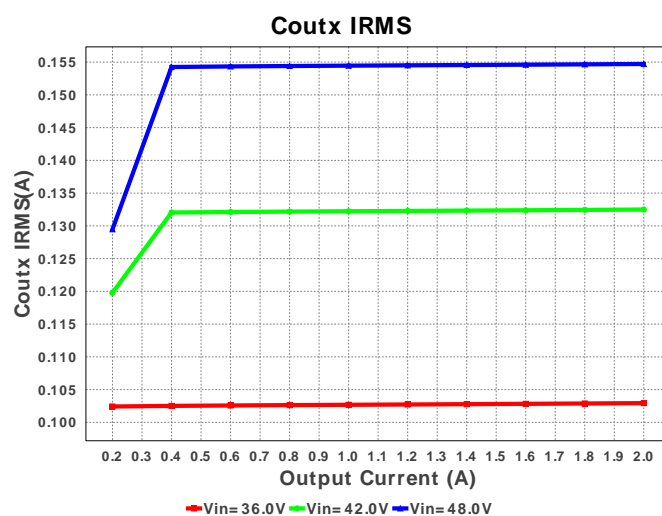
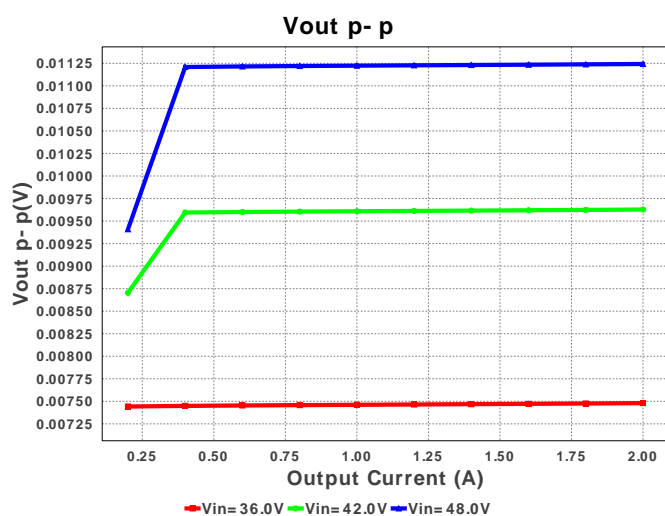
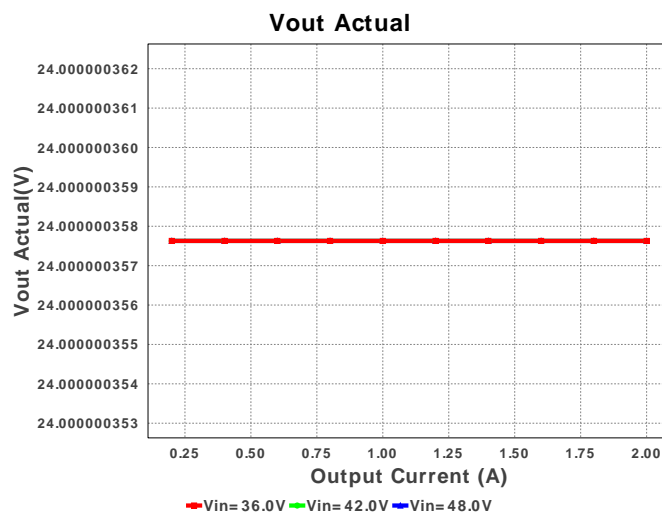
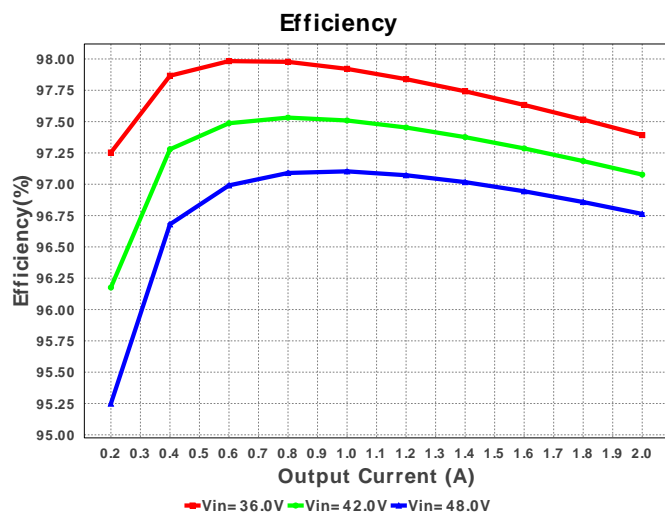


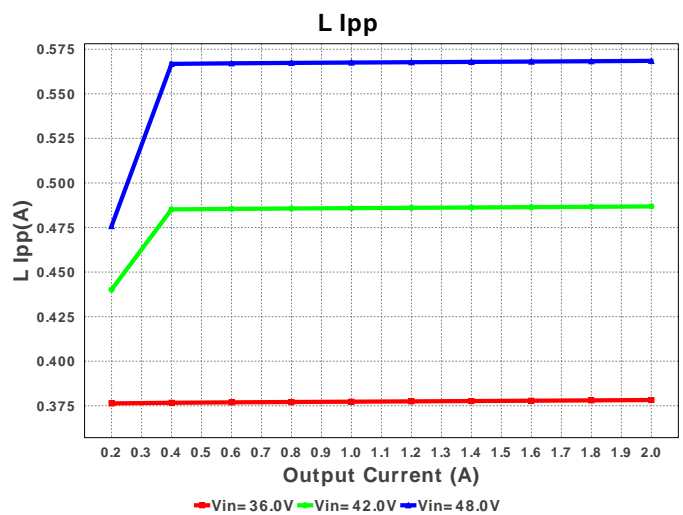
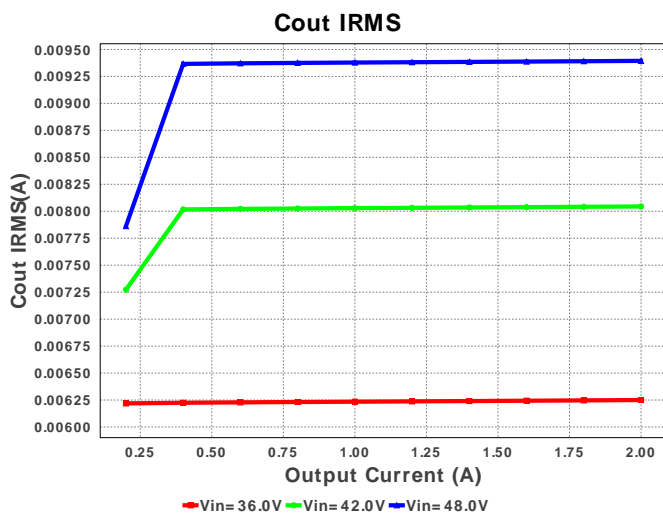
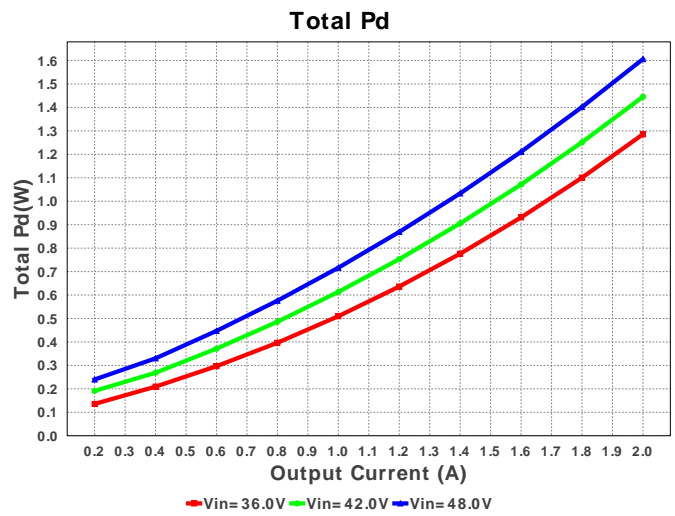
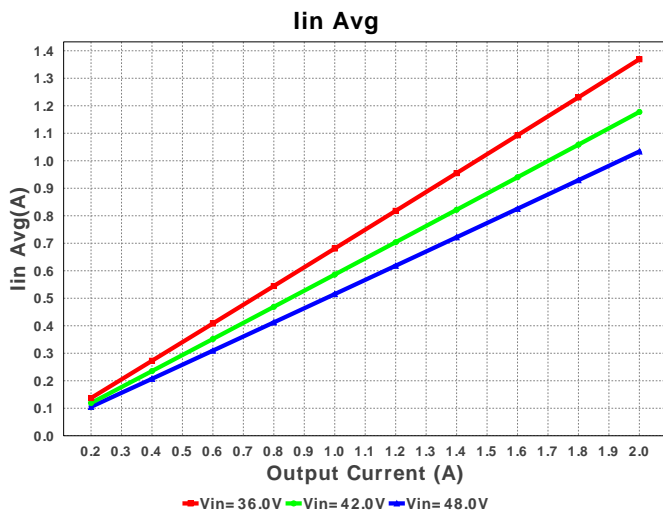
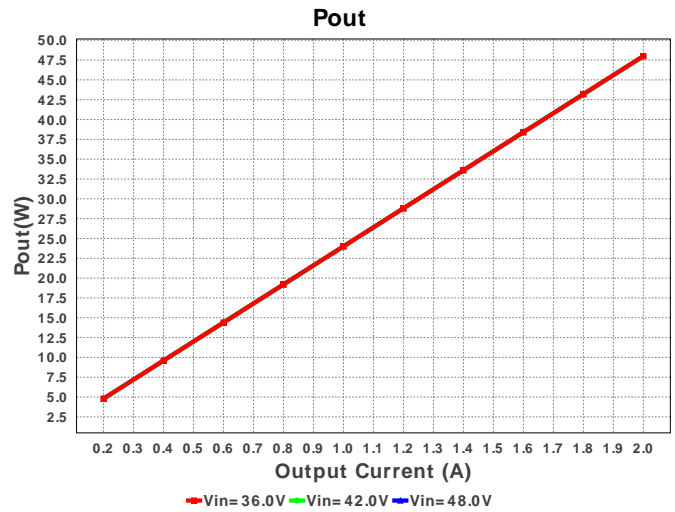
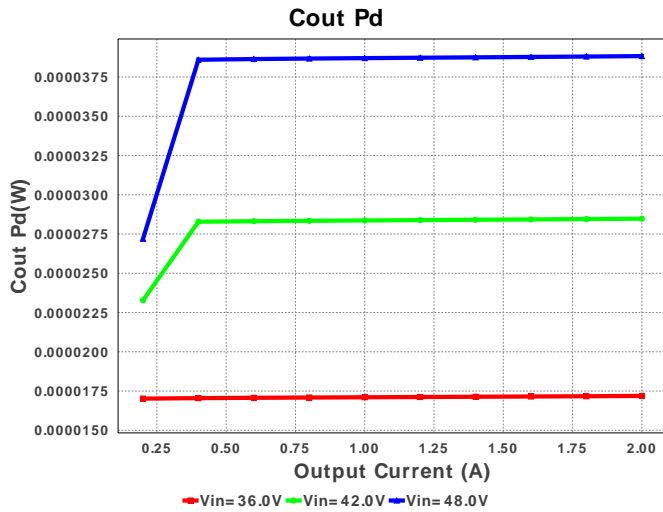
Electrical BOM

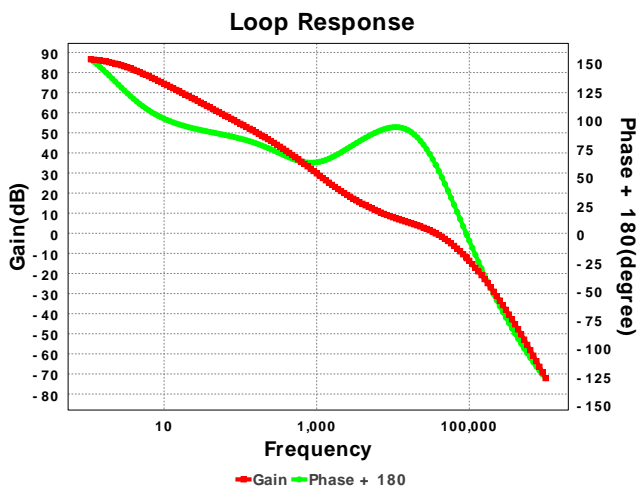
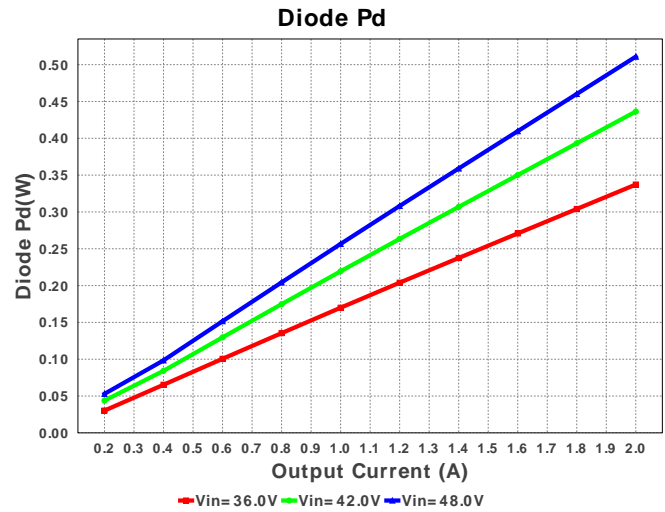
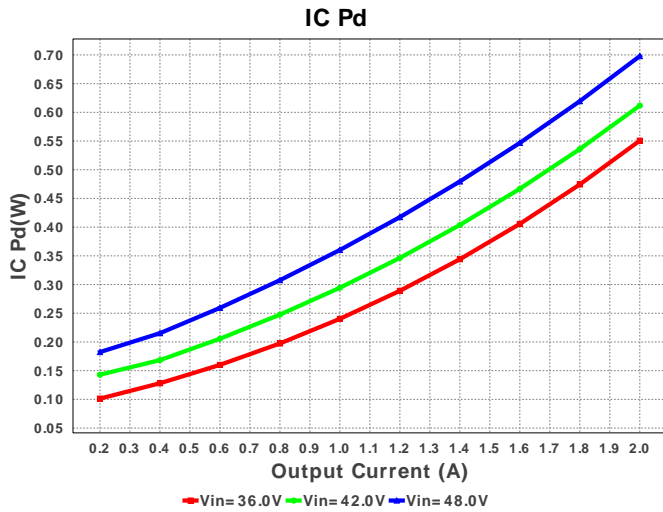
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cboot	MuRata	GRM155R61A104KA01D Series= X5R	Cap= 100.0 nF VDC= 10.0 V IRMS= 0.0 A	1	\$0.01	0402 3 mm ²
2.	Ccomp	MuRata	GRM1885C1H242JA01D Series= C0G/NP0	Cap= 2.4 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	0603 5 mm ²
3.	Ccomp2	MuRata	GRM1555C1H4R3CA01D Series= C0G/NP0	Cap= 4.3 pF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	0402 3 mm ²
4.	Cin	TDK	C3225X7R2A225K230AB Series= X7R	Cap= 2.2 uF ESR= 1.73 mOhm VDC= 100.0 V IRMS= 5.5932 A	1	\$0.19	1210_250 15 mm ²
5.	Cout	Nichicon	UUD1V330MCL1GS Series= uD	Cap= 33.0 uF ESR= 440.0 mOhm VDC= 35.0 V IRMS= 230.0 mA	1	\$0.11	SM_RADIAL_6.3AMM 80 mm ²
6.	Coutx	MuRata	GRM32ER7YA106KA12L Series= X7R	Cap= 10.0 uF ESR= 2.008 mOhm VDC= 35.0 V IRMS= 4.6772 A	2	\$0.22	1210_280 15 mm ²
7.	Css	Yageo America	CC0805KRX7R9BB272 Series= X7R	Cap= 2.7 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	0805 7 mm ²
8.	D1	Micro Commercial Components	SK310A-TP	VF@Io= 850.0 mV VRRM= 100.0 V	1	\$0.10	SMA 37 mm ²
9.	L1	Bourns	SRR1210-560M	L= 56.0 uH DCR= 90.0 mOhm	1	\$0.44	SRR1210 196 mm ²
10.	Rcomp	Vishay-Dale	CRCW040244K2FKED Series= CRCW..e3	Res= 44.2 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
11.	Rfbb	Yageo America	RC0603FR-0712KL Series= ?	Res= 12.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	\$0.01	0603 5 mm ²
12.	Rfbt	Vishay-Dale	CRCW0402348KFKED Series= CRCW..e3	Res= 348.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
13.	Rpg	Vishay-Dale	CRCW04021K00FKED Series= CRCW..e3	Res= 1000.0 Ohm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
14.	Rt	Vishay-Dale	CRCW0402255KFKED Series= CRCW..e3	Res= 255.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
15.	U1	Texas Instruments	TPS54361DPRR	Switcher	1	\$2.60	DPR0010A 25 mm ²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	811.773 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	9.457 mA	Current	Output capacitor RMS ripple current
3.	Coutx IRMS	155.744 mA	Current	Output capacitor_x RMS ripple current
4.	Iin Avg	1.04 A	Current	Average input current
5.	L Ipp	572.27 mA	Current	Peak-to-peak inductor ripple current
6.	BOM Count	16	General	Total Design BOM count
7.	FootPrint	417.0 mm ²	General	Total Foot Print Area of BOM components
8.	Frequency	382.156 kHz	General	Switching frequency
9.	Pout	48.0 W	General	Total output power
10.	Total BOM	\$3.97	General	Total BOM Cost
11.	ICThetaJA Effective	40.0 degC/W	Op_Point	Effective IC Junction-to-Ambient Thermal Resistance
12.	Low Freq Gain	86.58 dB	Op_Point	Gain at 10Hz
13.	Vout Actual	24.0 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
14.	Vout OP	24.0 V	Op_Point	Operational Output Voltage
15.	Cross Freq	36.42 kHz	Op_point	Bode plot crossover frequency
16.	Duty Cycle	51.029 %	Op_point	Duty cycle
17.	Efficiency	96.136 %	Op_point	Steady state efficiency
18.	Gain Marg	-12.412 dB	Op_point	Bode Plot Gain Margin
19.	IC Tj	57.979 degC	Op_point	IC junction temperature
20.	IOUT_OP	2.0 A	Op_point	Iout operating point
21.	Phase Marg	61.539 deg	Op_point	Bode Plot Phase Margin
22.	VIN_OP	48.0 V	Op_point	Vin operating point
23.	Vout p-p	11.317 mV	Op_point	Peak-to-peak output ripple voltage
24.	Cin Pd	1.14 mW	Power	Input capacitor power dissipation
25.	Cout Pd	39.349 μW	Power	Output capacitor power dissipation
26.	Coutx Pd	24.353 μW	Power	Output capacitor_x power loss
27.	Diode Pd	832.5 mW	Power	Diode power dissipation
28.	IC Pd	699.464 mW	Power	IC power dissipation
29.	L Pd	396.0 mW	Power	Inductor power dissipation
30.	Total Pd	1.93 W	Power	Total Power Dissipation

#	Name	Value	Category	Description
31.	Vout Tolerance	2.972 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	2.0	Maximum Output Current
2.	VinMax	48.0	Maximum input voltage
3.	VinMin	36.0	Minimum input voltage
4.	Vout	24.0	Output Voltage
5.	base_pn	TPS54361	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **TPS54361** Product Folder : <http://www.ti.com/product/TPS54361> : contains the data sheet and other resources.

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