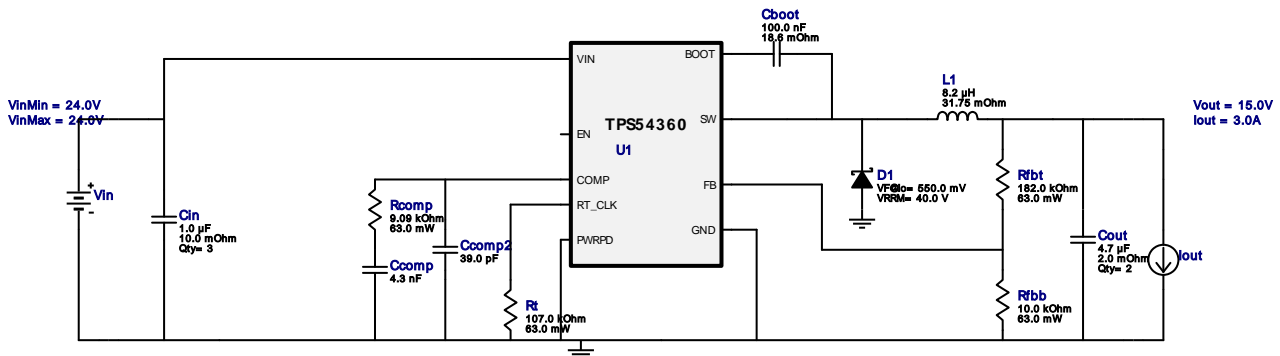


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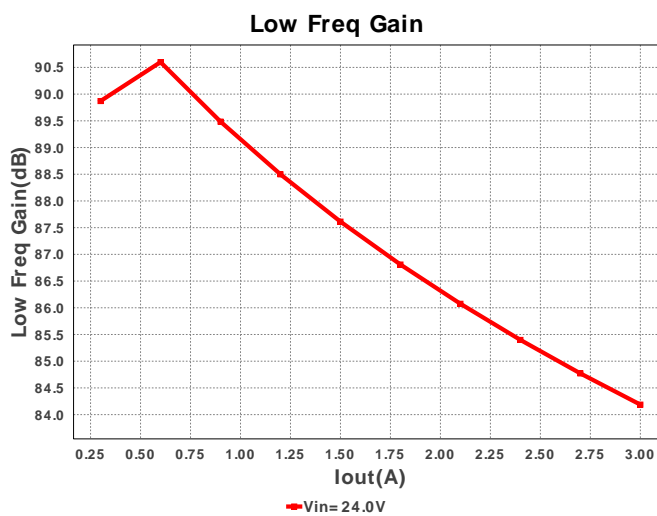
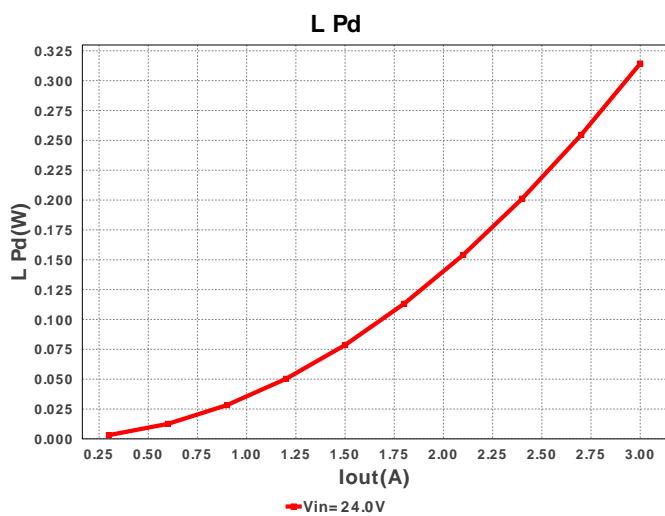
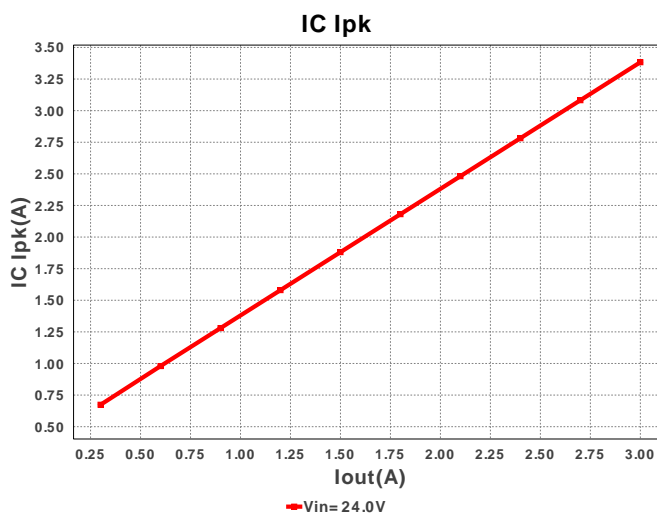
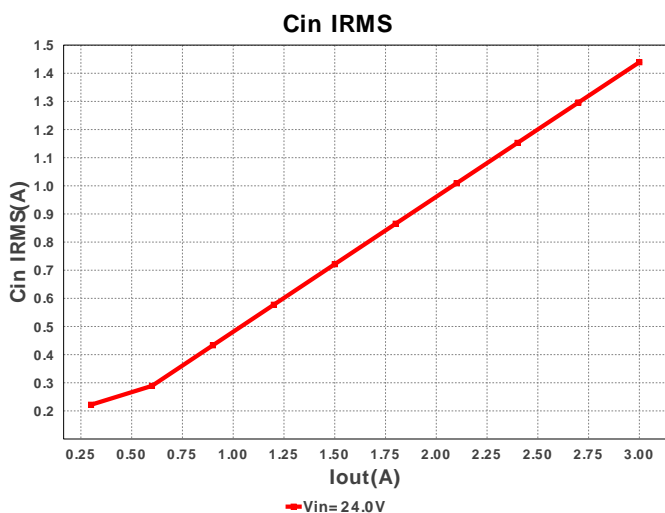
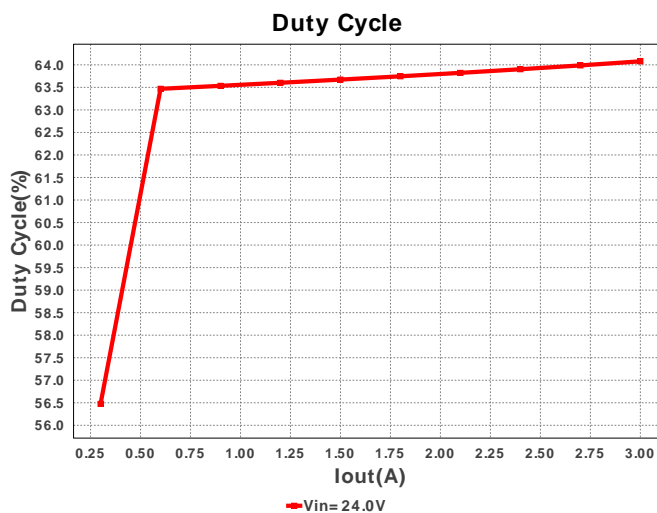
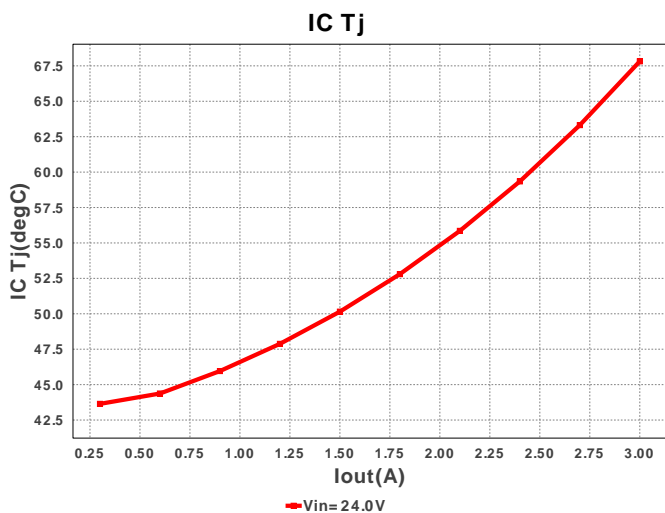
 Design : 3710063/1716 TPS54360DDAR
 TPS54360DDAR 24.0V-24.0V to 15.0V @ 3.0A

Electrical BOM

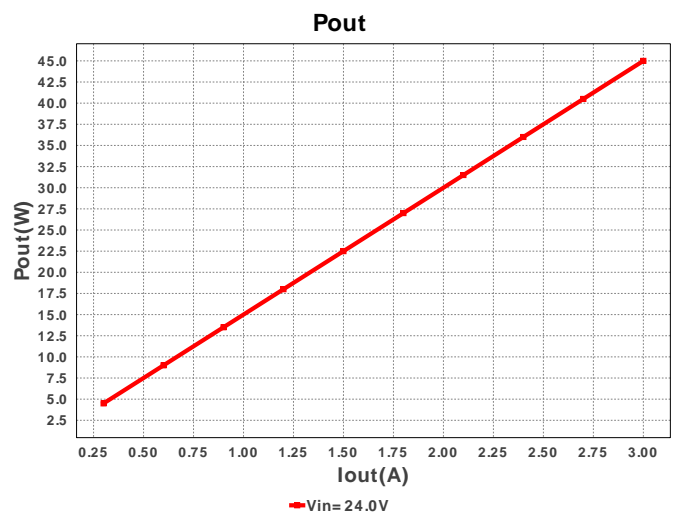
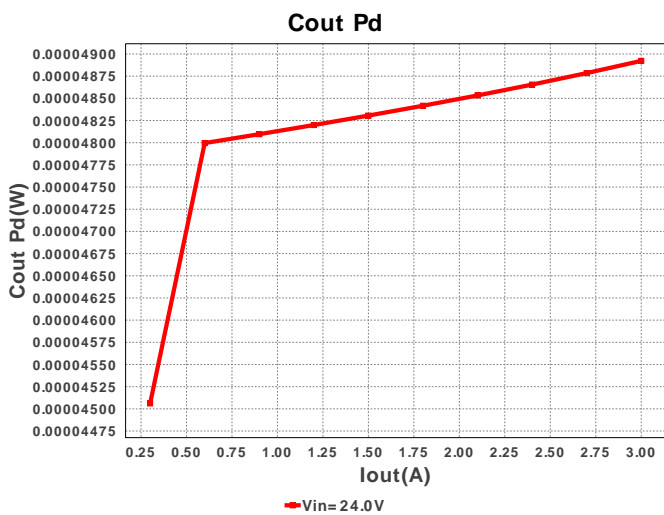
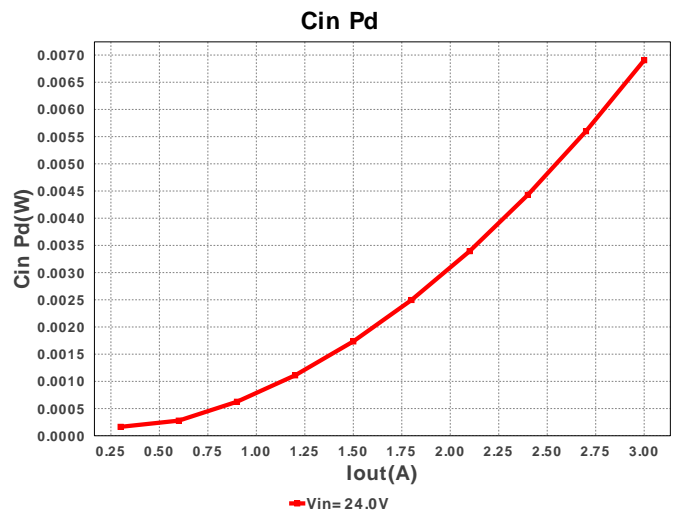
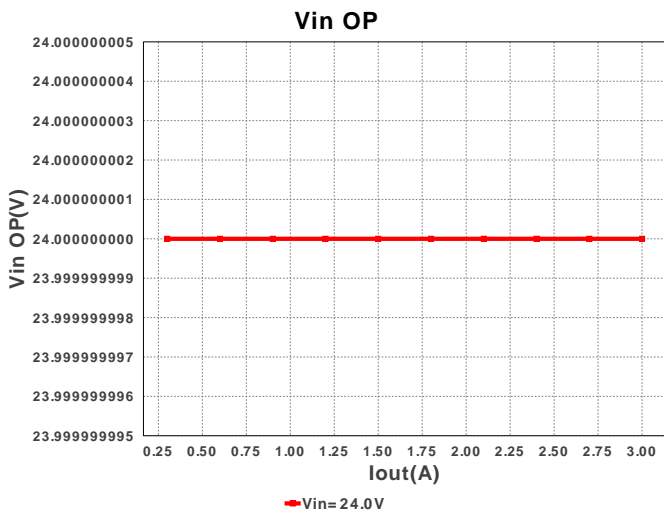
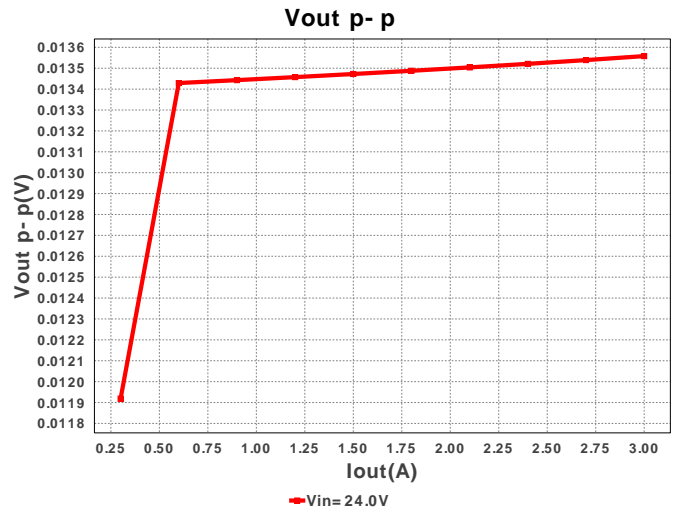
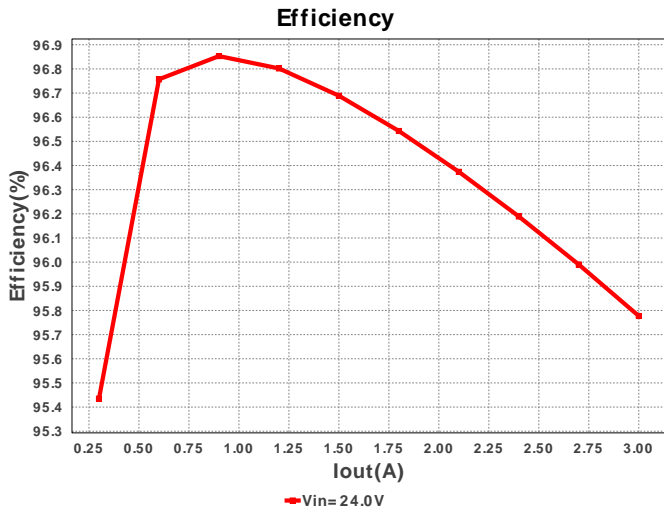
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cboot	TDK	C1005X5R1A104K Series= X5R	Cap= 100.0 nF ESR= 18.6 mOhm VDC= 10.0 V IRMS= 0.0 A	1	\$0.01	0402 3mm2
2.	Ccomp	MuRata	GRM2165C1H432JA01D Series= C0G/NP0	Cap= 4.3 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.04	0805 7mm2
3.	Ccomp2	Yageo America	CC0805JRNP09BN390 Series= C0G/NP0	Cap= 39.0 pF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	0805 7mm2
4.	Cin	TDK	C3216X7R1H105K Series= X7R	Cap= 1.0 µF ESR= 10.0 mOhm VDC= 50.0 V IRMS= 3.2 A	3	\$0.04	1206 11mm2
5.	Cout	MuRata	GRM21BR61E475MA12L Series= X5R	Cap= 4.7 µF ESR= 2.0 mOhm VDC= 25.0 V IRMS= 7.29 A	2	\$0.06	0805 7mm2
6.	D1	Comchip Technology	CDBC540-G	VF@Io= 550.0 mV VRRM= 40.0 V	1	\$0.23	SMC 83mm2
7.	L1	Coilcraft	XAL5050-822MEB	L= 8.2 µH DCR= 31.75 mOhm	1	\$0.60	XAL5050 54mm2
8.	Rcomp	Vishay-Dale	CRCW04029K09FKED Series= CRCW..e3	Res= 9.09 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3mm2
9.	Rfbb	Vishay-Dale	CRCW040210K0FKED Series= CRCW..e3	Res= 10.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3mm2
10.	Rfbt	Vishay-Dale	CRCW0402182KFKED Series= CRCW..e3	Res= 182.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3mm2
11.	Rt	Vishay-Dale	CRCW0402107KFKED Series= CRCW..e3	Res= 107.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3mm2

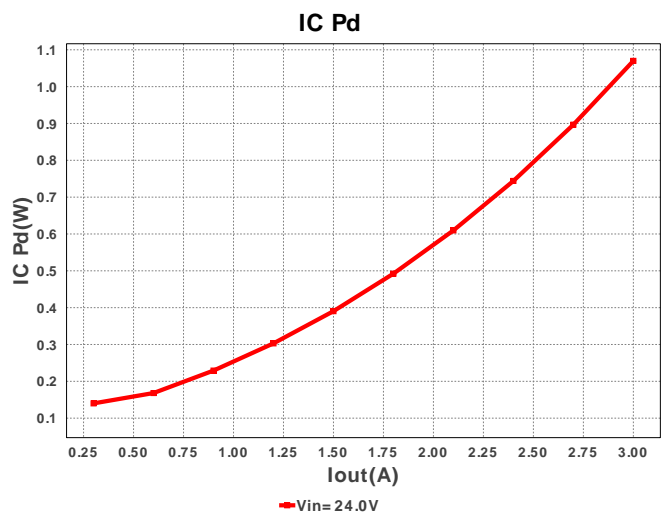
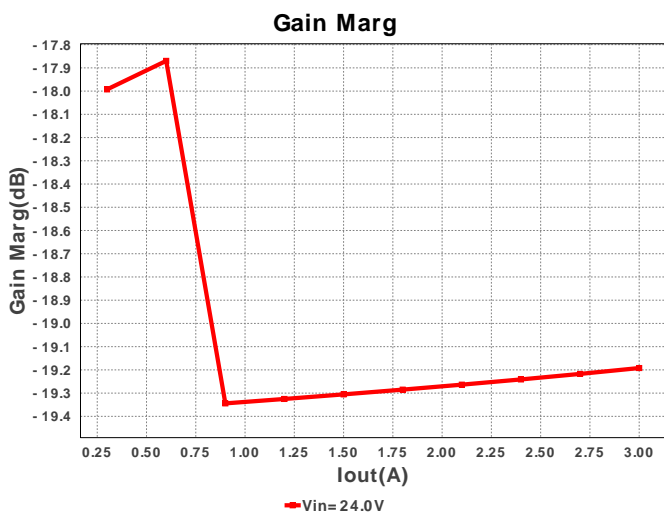
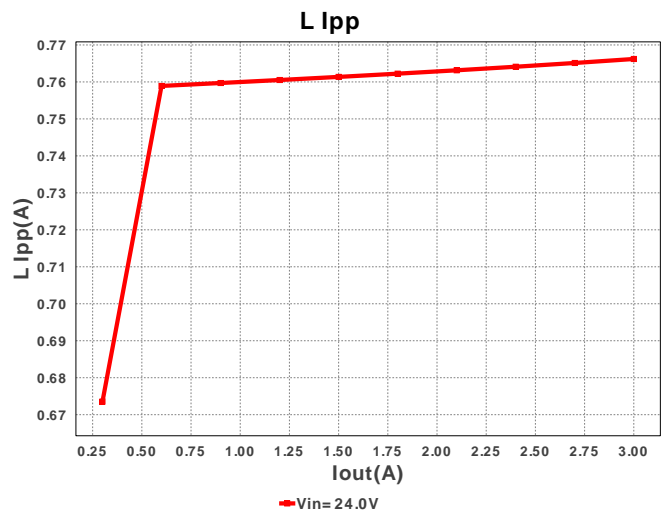
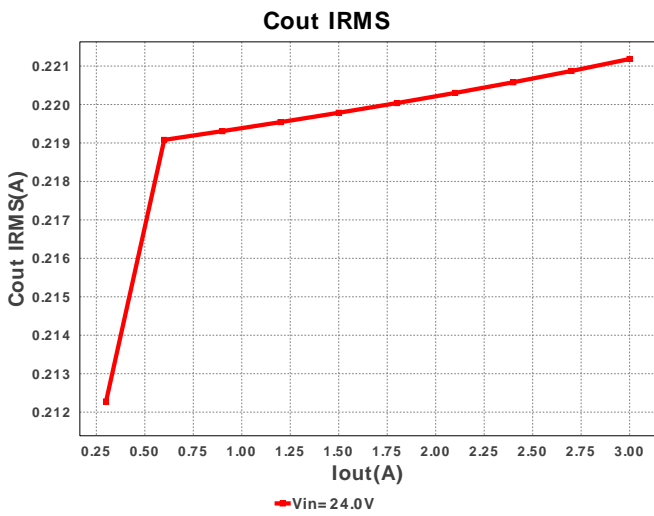
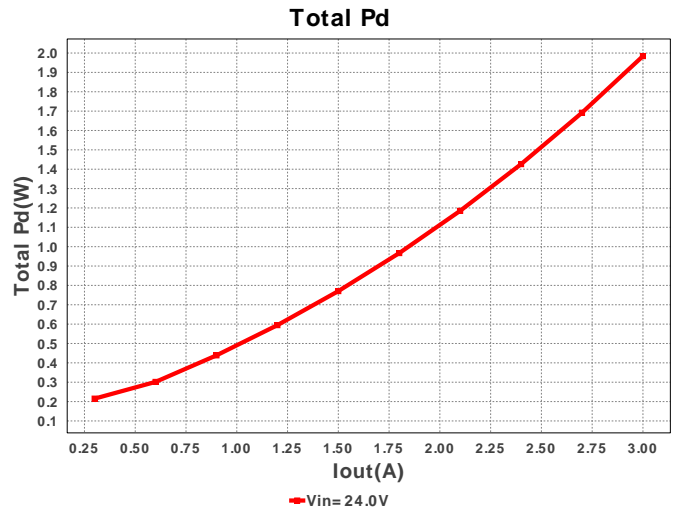
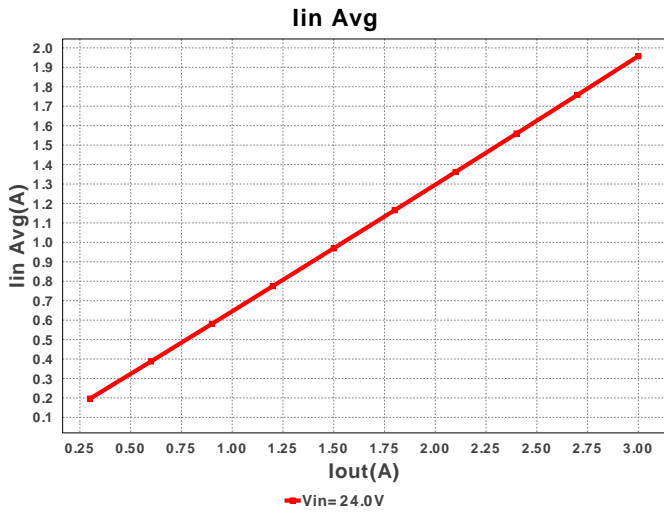
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
12.	U1	Texas Instruments	TPS54360DDAR	Switcher	1	\$2.10	

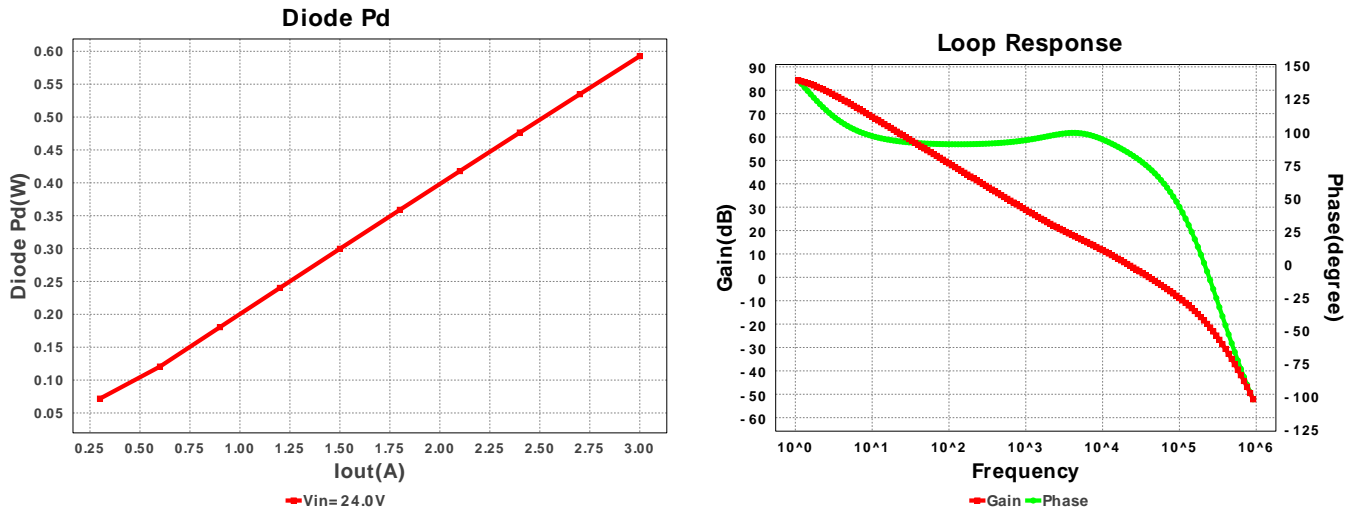


R-PDSO-G8 57mm2









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	1.441 A	Current	Input capacitor RMS ripple current
2.	Cout IRMS	221.035 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	3.383 A	Current	Peak switch current in IC
4.	Iin Avg	1.953 A	Current	Average input current
5.	L Ipp	765.687 mA	Current	Peak-to-peak inductor ripple current
6.	BOM Count	15	General	Total Design BOM count
7.	FootPrint	270.0 mm2	General	Total Foot Print Area of BOM components
8.	Frequency	916.234 kHz	General	Switching frequency
9.	Pout	45.0 W	General	Total output power
10.	Total BOM	\$3.27	General	Total BOM Cost
11.	Vout OP	15.0 V	Op_Point	Operational Output Voltage
12.	Cross Freq	40.289 kHz	Op_point	Bode plot crossover frequency
13.	Duty Cycle	63.919 %	Op_point	Duty cycle
14.	Efficiency	96.012 %	Op_point	Steady state efficiency
15.	Gain Marg	-19.232 dB	Op_point	Bode Plot Gain Margin
16.	IC Tj	67.751 degC	Op_point	IC junction temperature
17.	ICThetaJA	26.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
18.	IOUT_OP	3.0 A	Op_point	Iout operating point
19.	Phase Marg	73.188 deg	Op_point	Bode Plot Phase Margin
20.	VIN_OP	24.0 V	Op_point	Vin operating point
21.	Vout p-p	13.573 mV	Op_point	Peak-to-peak output ripple voltage
22.	Cin Pd	6.919 mW	Power	Input capacitor power dissipation
23.	Cout Pd	48.856 μW	Power	Output capacitor power dissipation
24.	Diode Pd	480.466 mW	Power	Diode power dissipation
25.	IC Pd	1.067 W	Power	IC power dissipation
26.	L Pd	314.325 mW	Power	Inductor power dissipation
27.	Total Pd	1.869 W	Power	Total Power Dissipation
28.	Low Freq Gain	84.167 dB	Unknown	Gain at 10Hz

Design Inputs

#	Name	Value	Description
1.	Iout	3.0 A	Maximum Output Current
2.	Iout1	3.0 Amps	Output Current #1
3.	VinMax	24.0 V	Maximum input voltage
4.	VinMin	24.0 V	Minimum input voltage
5.	Vout	15.0 V	Output Voltage
6.	Vout1	15.0 Volt	Output Voltage #1
7.	base_pn	TPS54360	Texas Instruments Base Part Number
8.	source	DC	Input Source Type
9.	ta	40.0 degC	Ambient temperature

Design Assistance

1. TPS54360 Product Folder : <http://www.ti.com/product/TPS54360> : contains the data sheet and other resources.

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