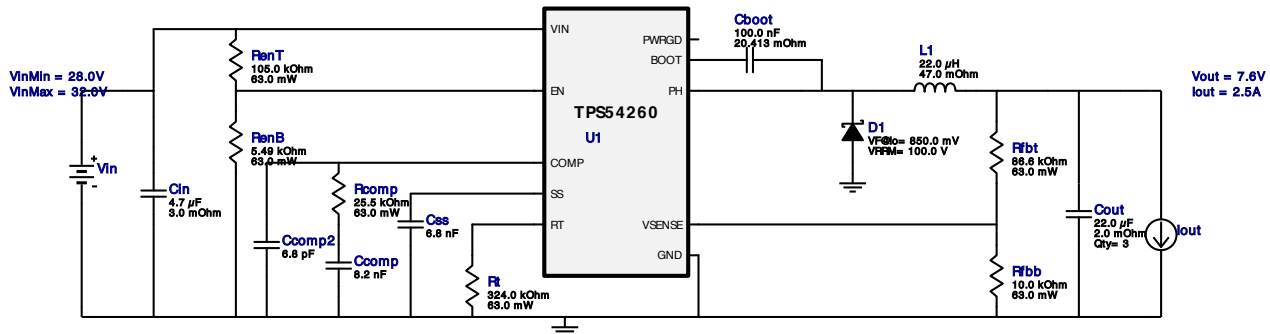
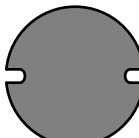


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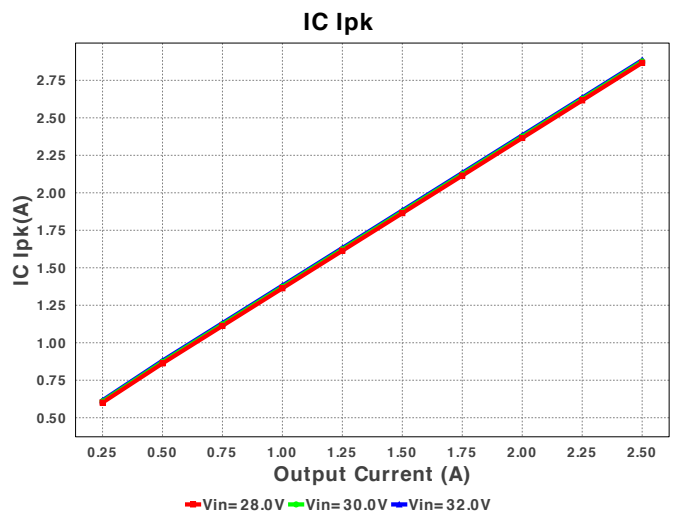
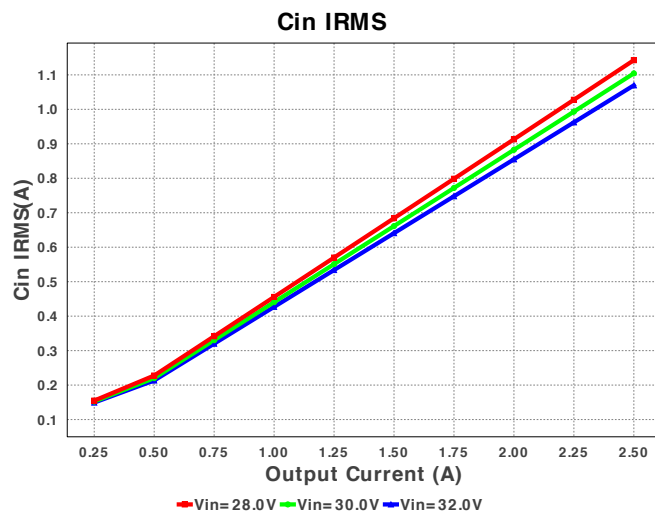
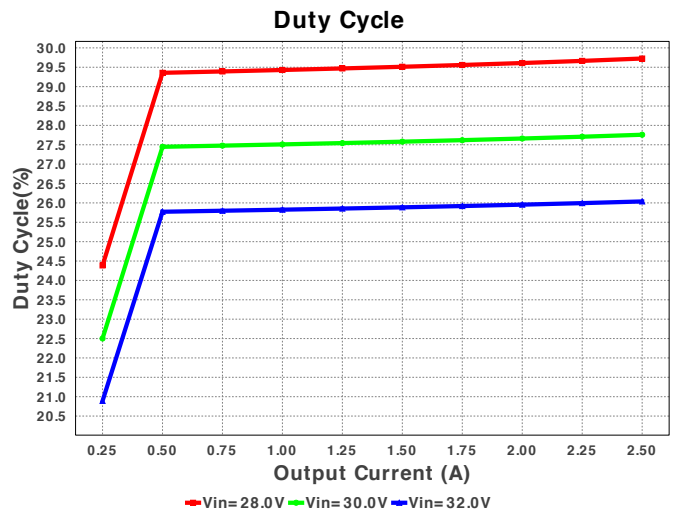
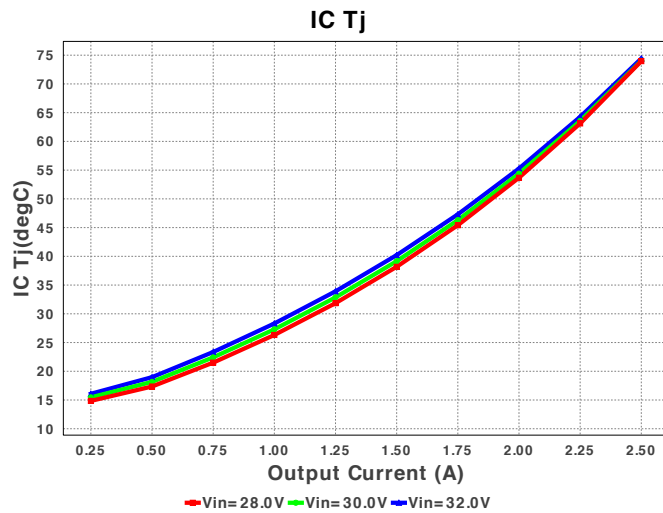
Design : 1217044/9 TPS54260DGQR
TPS54260DGQR 28.0V-32.0V to 7.60V @ 2.5A

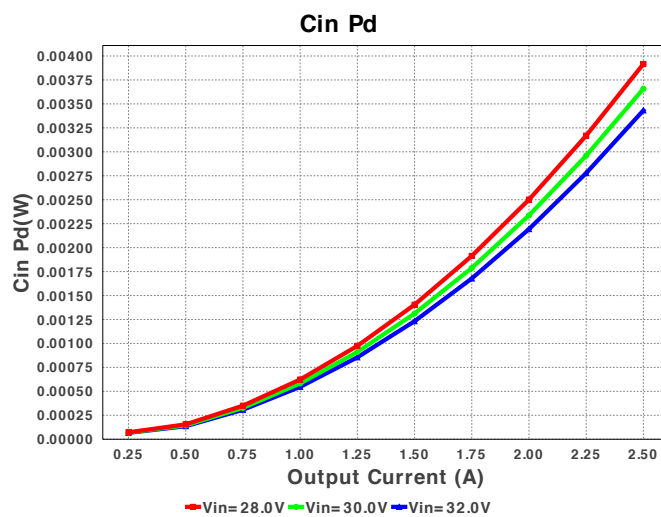
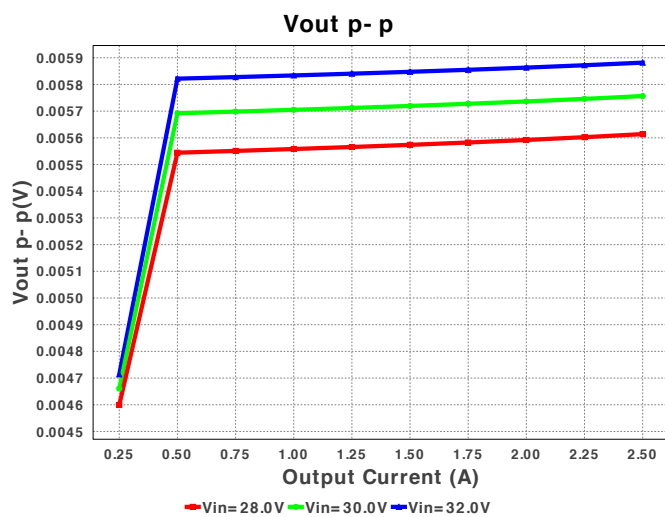
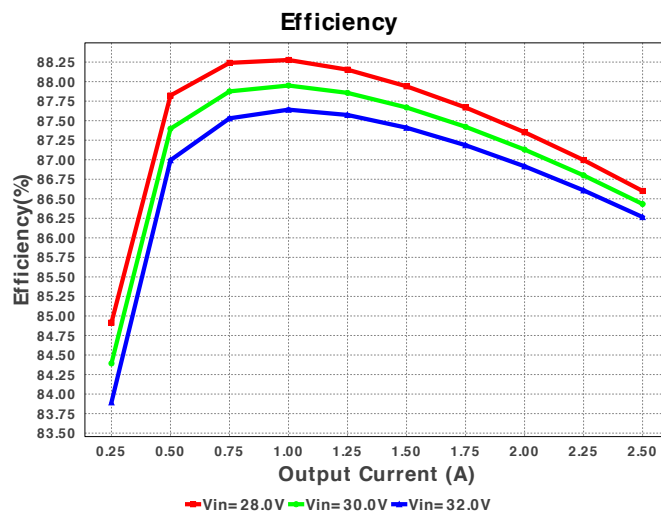
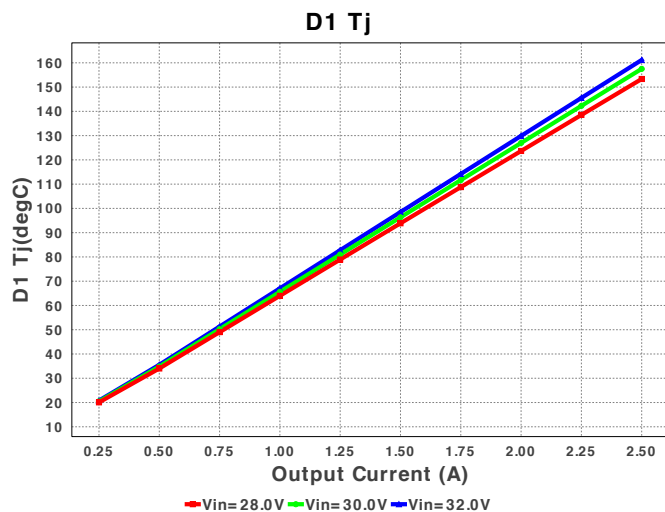
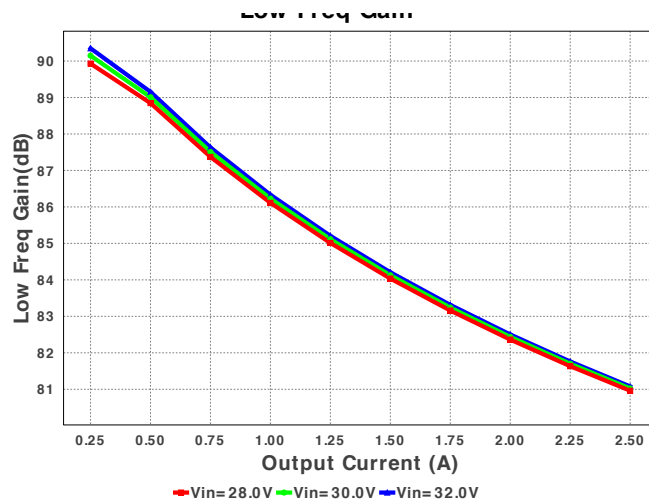
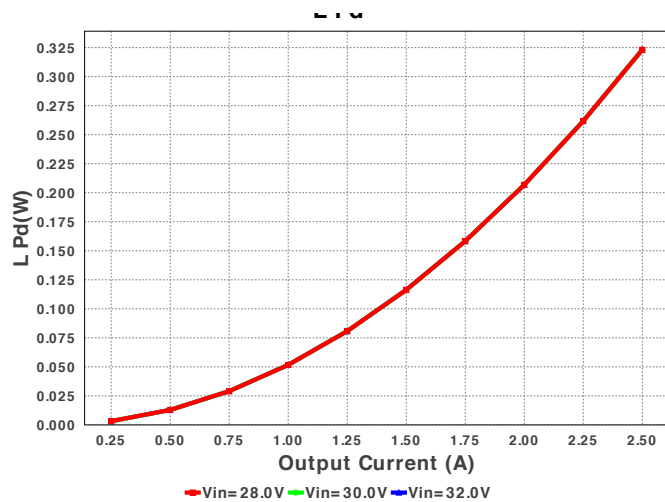


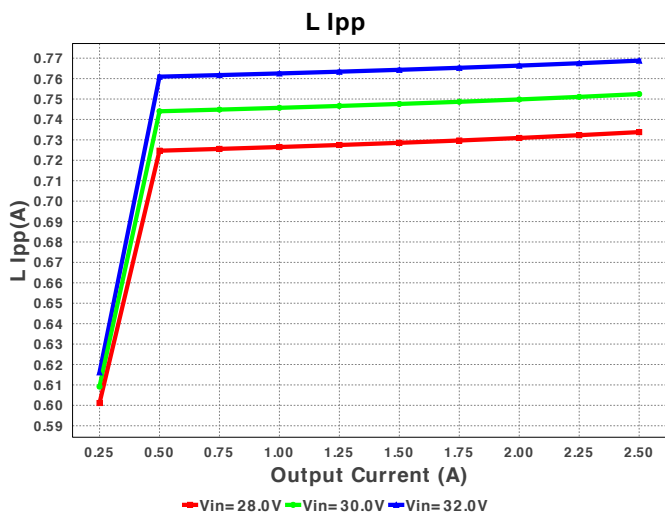
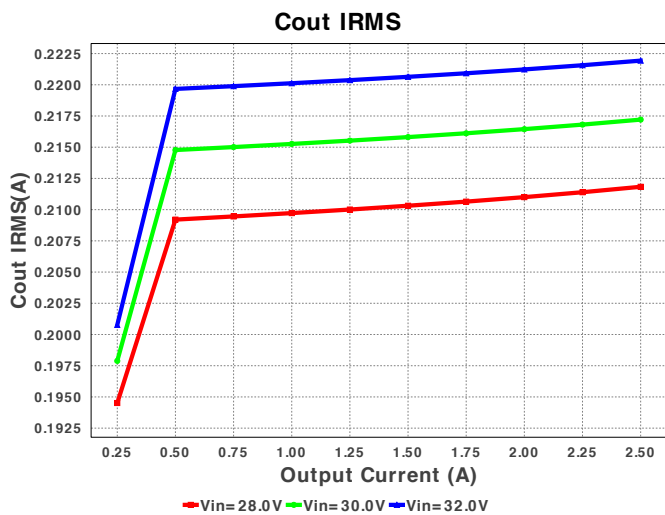
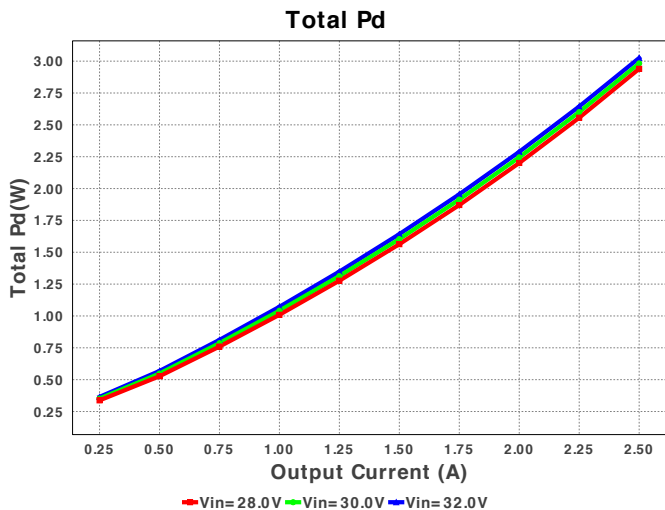
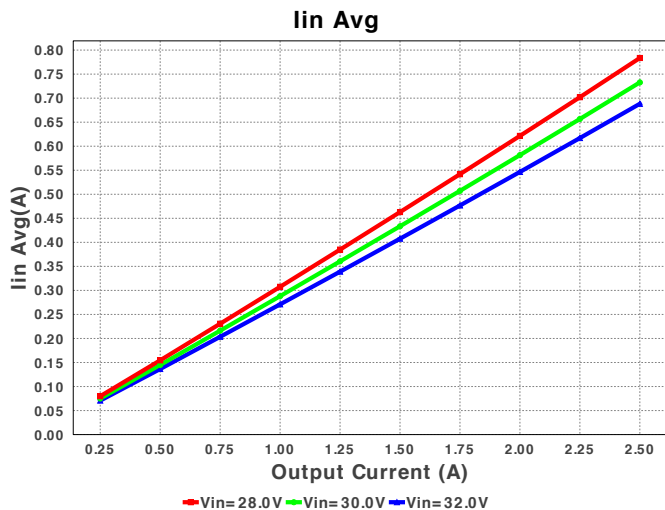
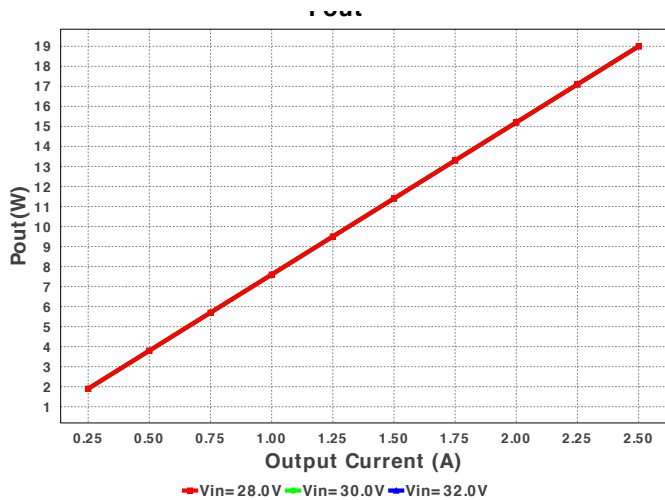
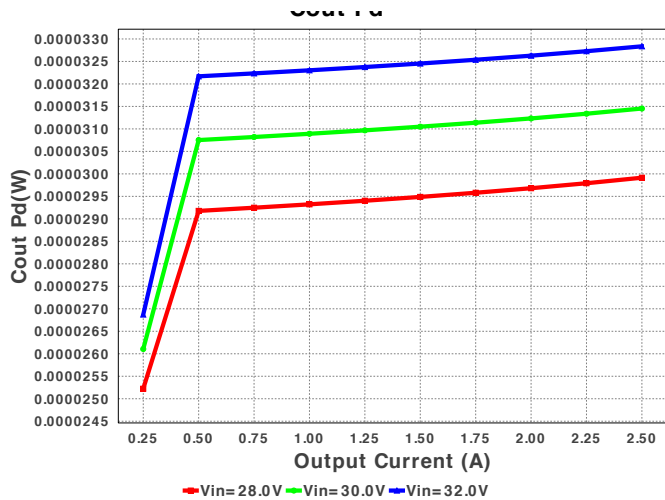
Electrical BOM

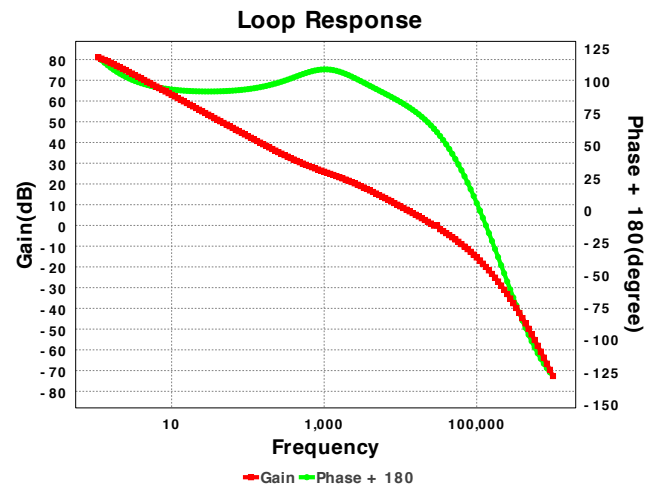
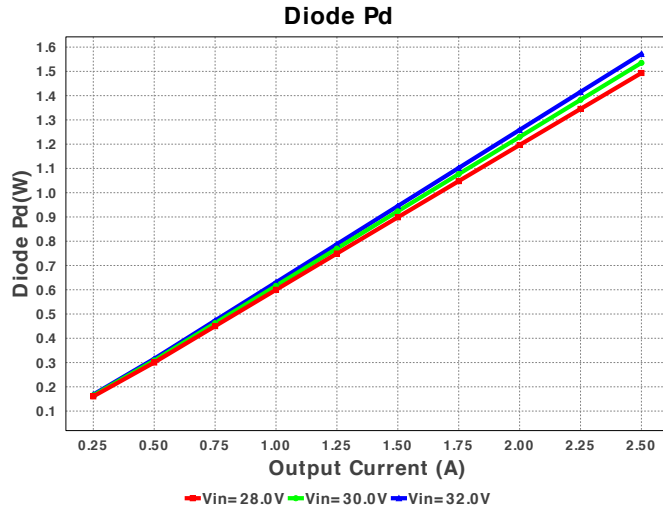
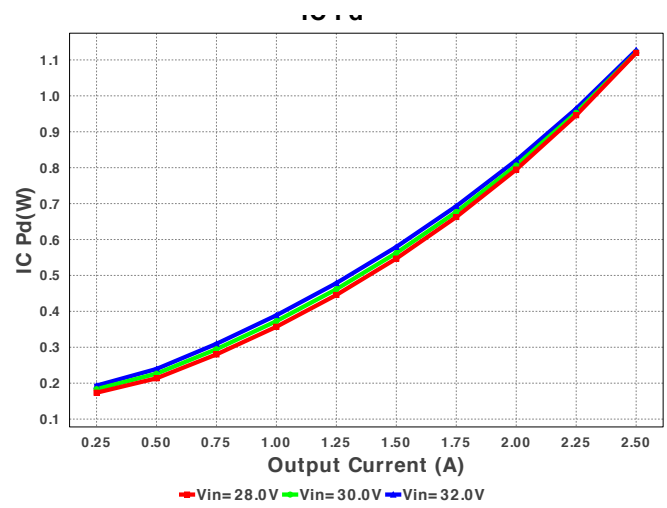
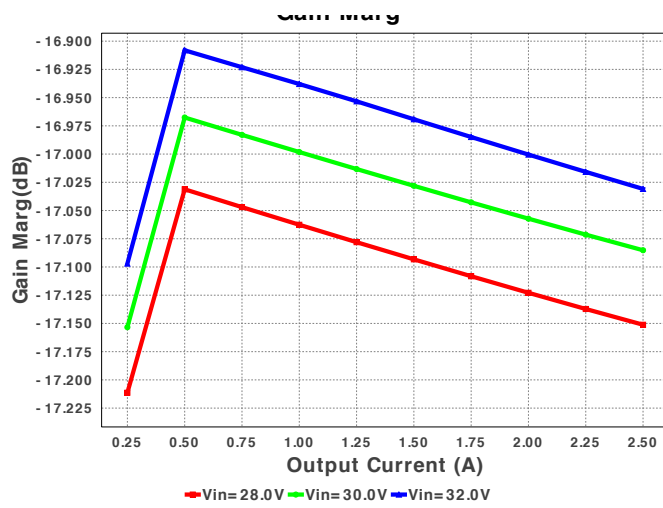
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cboot	TDK	C1005X5R1A104K Series= X5R	Cap= 100.0 nF ESR= 20.413 mOhm VDC= 10.0 V IRMS= 0.0 A	1	\$0.01	 0402 3 mm ²
2.	Ccomp	MuRata	GRM155R71C822KA01D Series= X7R	Cap= 8.2 nF VDC= 16.0 V IRMS= 0.0 A	1	\$0.01	 0402 3 mm ²
3.	Ccomp2	MuRata	GRM1555C1H6R8CA01D Series= C0G/NP0	Cap= 6.8 pF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	 0402 3 mm ²
4.	Cin	MuRata	GRM31CR71H475KA12L Series= X7R	Cap= 4.7 uF ESR= 3.0 mOhm VDC= 50.0 V IRMS= 4.98 A	1	\$0.22	 1206 11 mm ²
5.	Cout	MuRata	GRM32ER61E226KE15L Series= X5R	Cap= 22.0 uF ESR= 2.0 mOhm VDC= 25.0 V IRMS= 3.67 A	3	\$0.28	 1210 15 mm ²
6.	Css	Yageo America	CC0805KRX7R9BB682 Series= X7R	Cap= 6.8 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	 0805 7 mm ²
7.	D1	Micro Commercial Components	SK310A-TP	VF@Io= 850.0 mV VRRM= 100.0 V	1	\$0.10	 SMA 37 mm ²
8.	L1	Bourns	SDR1307-220ML	L= 22.0 uH DCR= 47.0 mOhm	1	\$0.35	 SDR1307 227 mm ²
9.	Rcomp	Vishay-Dale	CRCW040225K5FKED Series= CRCW..e3	Res= 25.5 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
10.	RenB	Vishay-Dale	CRCW04025K49FKED Series= CRCW..e3	Res= 5.49 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
11.	RenT	Vishay-Dale	CRCW0402105KFKED Series= CRCW..e3	Res= 105.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
12.	Rfbb	Vishay-Dale	CRCW040210K0FKED Series= CRCW..e3	Res= 10.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
13.	Rfbt	Vishay-Dale	CRCW040286K6FKED Series= CRCW..e3	Res= 86.6 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
14.	Rt	Vishay-Dale	CRCW0402324KFKED Series= CRCW..e3	Res= 324.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
15.	U1	Texas Instruments	TPS54260DGQR	Switcher	1	\$1.86	 S-PDSO-G10 24 mm ²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	1.061 A	Current	Input capacitor RMS ripple current
2.	Cout IRMS	215.816 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	2.5 A	Current	Peak switch current in IC
4.	Iin Avg	670.2 mA	Current	Average input current
5.	L Ipp	747.61 mA	Current	Peak-to-peak inductor ripple current
6.	BOM Count	17	General	Total Design BOM count
7.	FootPrint	376.0 mm ²	General	Total Foot Print Area of BOM components
8.	Frequency	375.624 kHz	General	Switching frequency
9.	Pout	19.0 W	General	Total output power
10.	Total BOM	\$3.47	General	Total BOM Cost
11.	D1 Tj	104.908 degC	Op_Point	D1 junction temperature
12.	Vout OP	7.6 V	Op_Point	Operational Output Voltage
13.	Cross Freq	27.528 kHz	Op_point	Bode plot crossover frequency
14.	Duty Cycle	25.32 %	Op_point	Duty cycle
15.	Efficiency	88.593 %	Op_point	Steady state efficiency
16.	Gain Marg	-17.062 dB	Op_point	Bode Plot Gain Margin
17.	IC Tj	73.43 degC	Op_point	IC junction temperature
18.	ICThetaJA	62.5 degC/W	Op_point	IC junction-to-ambient thermal resistance
19.	IOUT_OP	2.5 A	Op_point	Iout operating point
20.	Phase Marg	63.241 deg	Op_point	Bode Plot Phase Margin
21.	VIN_OP	32.0 V	Op_point	Vin operating point
22.	Vout p-p	5.72 mV	Op_point	Peak-to-peak output ripple voltage
23.	Cin Pd	3.375 mW	Power	Input capacitor power dissipation
24.	Cout Pd	31.051 μW	Power	Output capacitor power dissipation
25.	Diode Pd	1.009 W	Power	Diode power dissipation
26.	IC Pd	1.111 W	Power	IC power dissipation
27.	L Pd	323.125 mW	Power	Inductor power dissipation
28.	Total Pd	2.446 W	Power	Total Power Dissipation
29.	Low Freq Gain	81.046 dB	Unknown	Gain at 10Hz

Design Input

#	Name	Value	Description
1.	Iout	2.5	Maximum Output Current
2.	Iout1	2.5	Output Current #1
3.	VinMax	32.0	Maximum input voltage
4.	VinMin	28.0	Minimum input voltage
5.	Vout	7.6	Output Voltage
6.	Vout1	7.6	Output Voltage #1
7.	base_pn	TPS54260	Base Product Number
8.	source	DC	Input Source Type
9.	Ta	4.0	Ambient temperature

Design Assistance

1. **TPS54260** Product Folder : <http://www.ti.com/product/tps54260> : contains the data sheet and other resources.

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