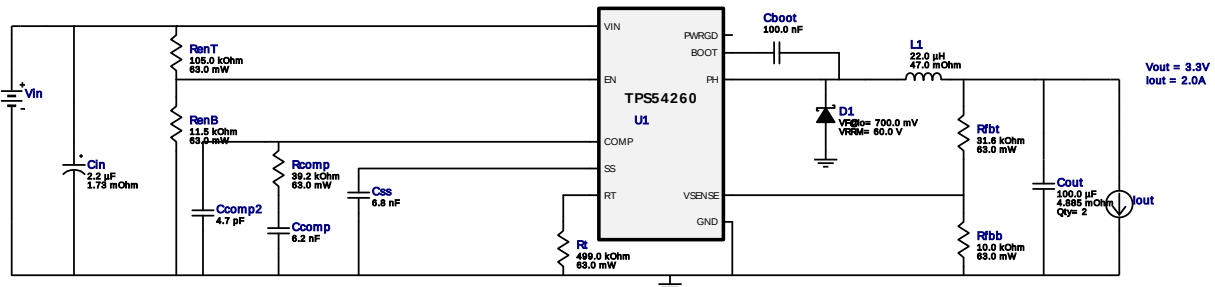
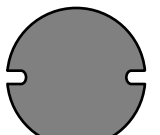


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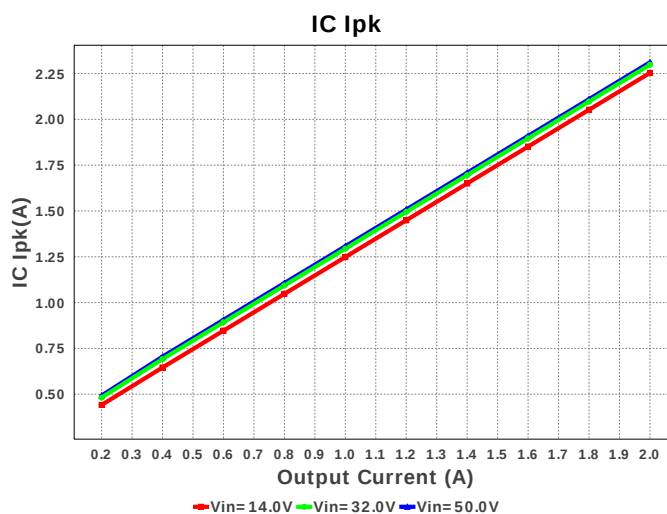
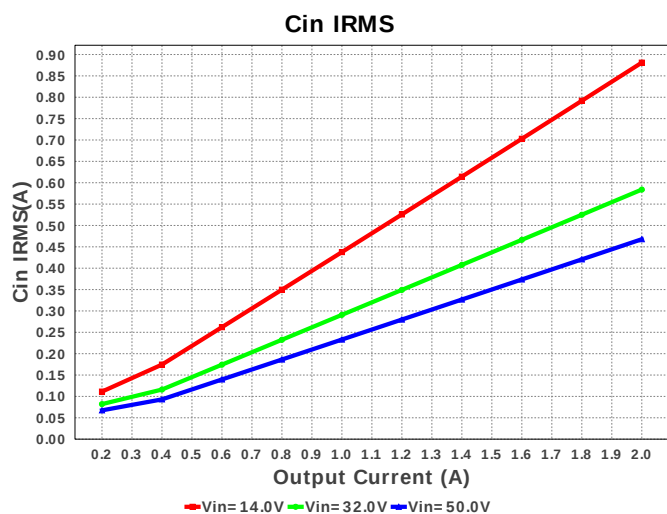
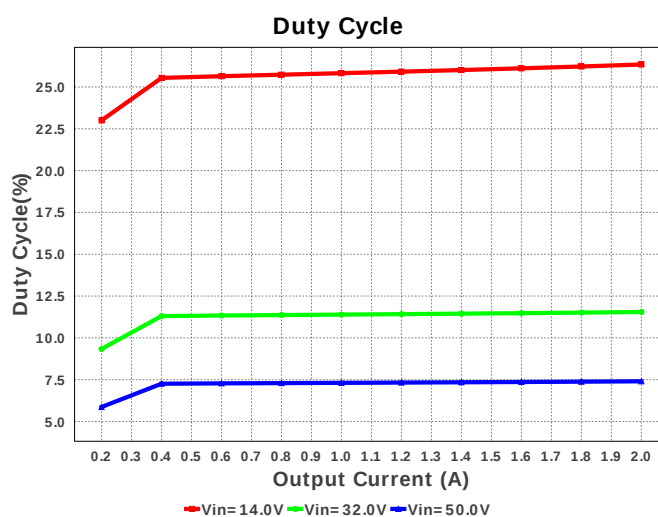
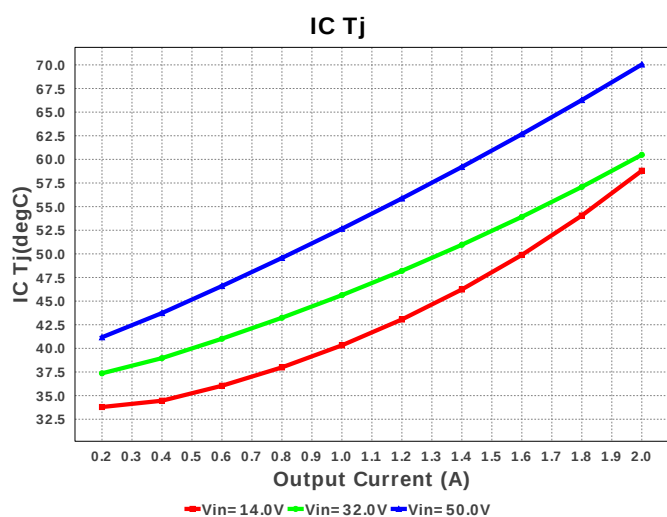
Design : 4509274/6 TPS54260DGQR
TPS54260DGQR 14.0V-50.0V to 3.30V @ 2.0A

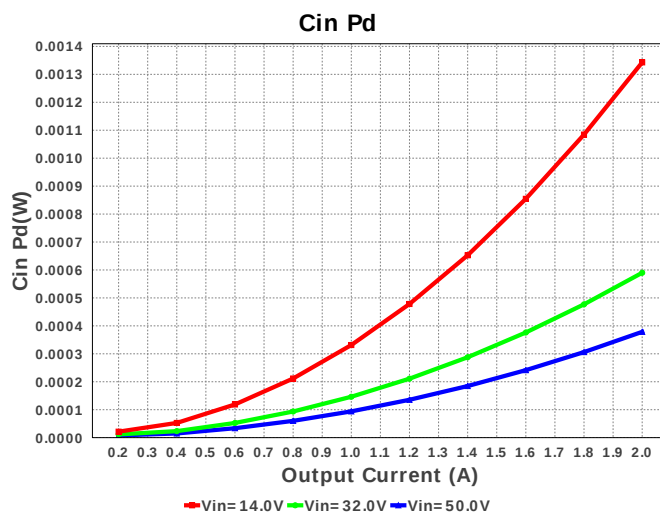
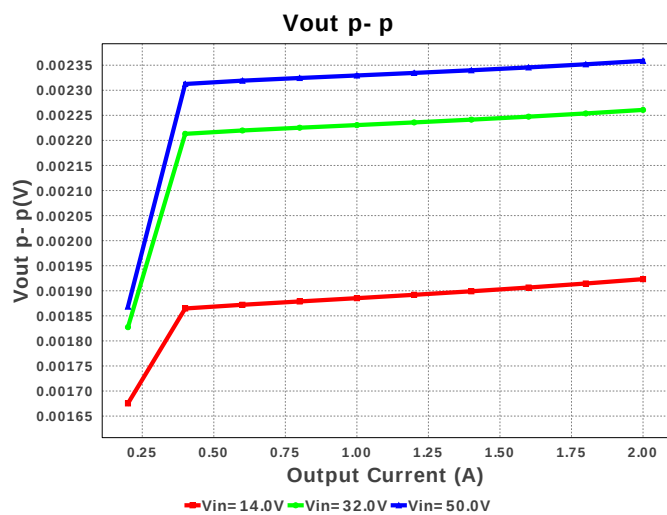
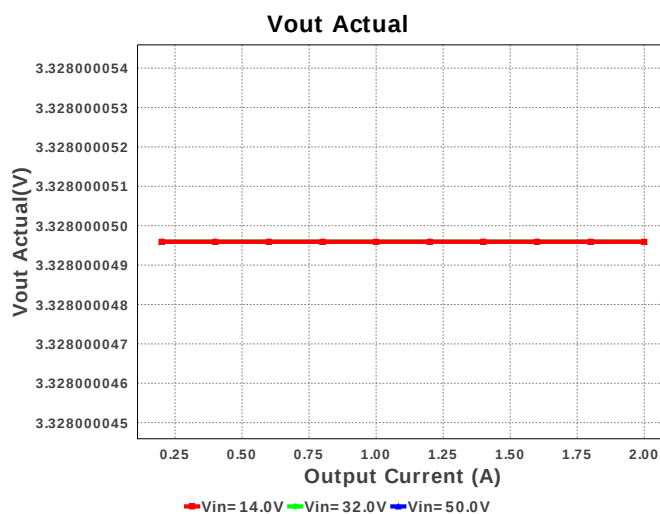
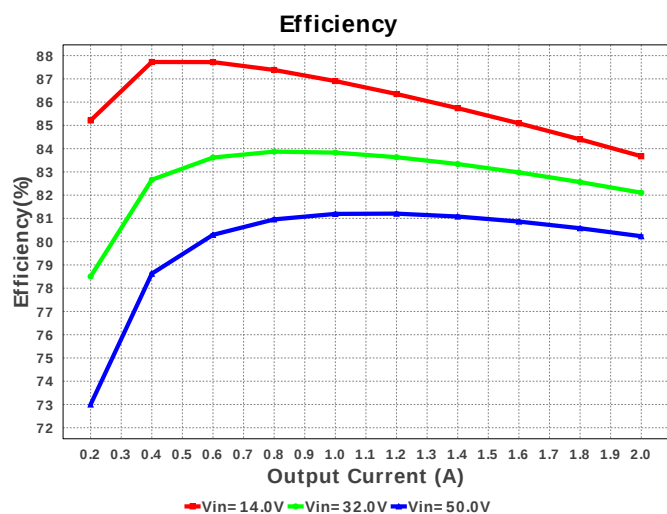
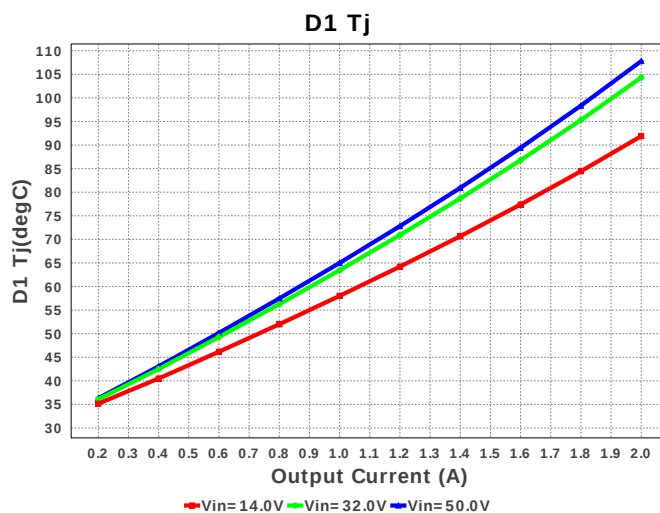
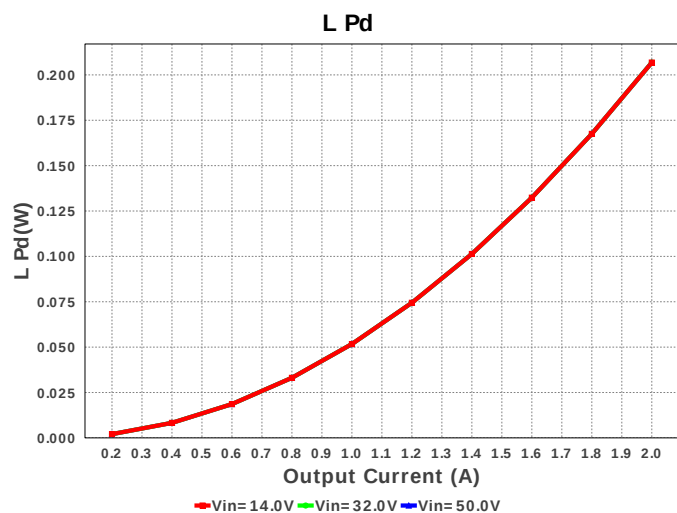


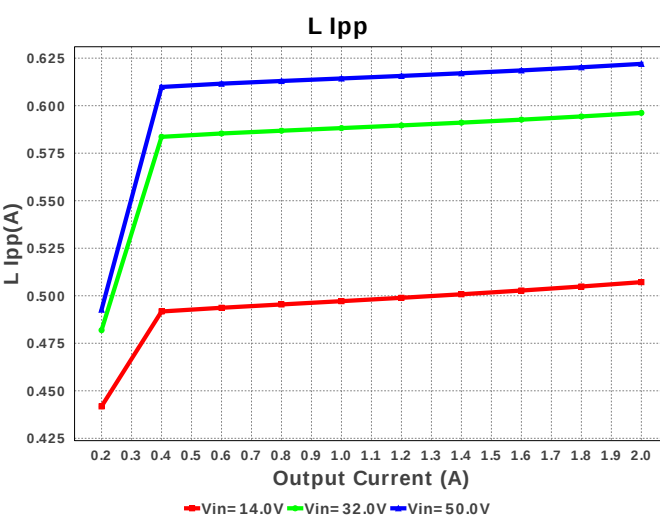
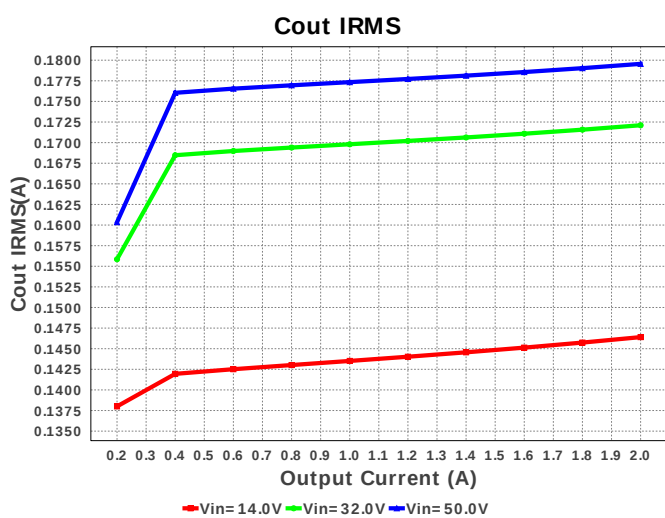
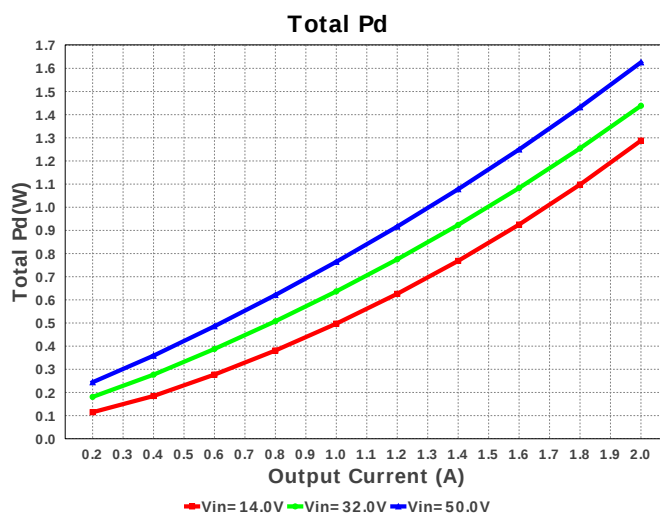
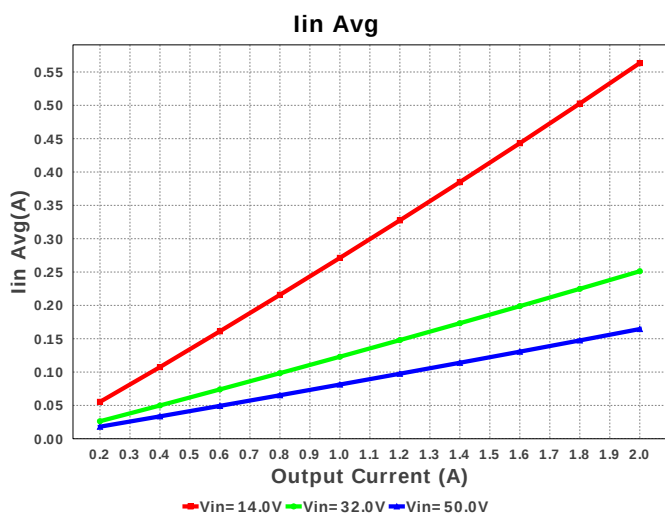
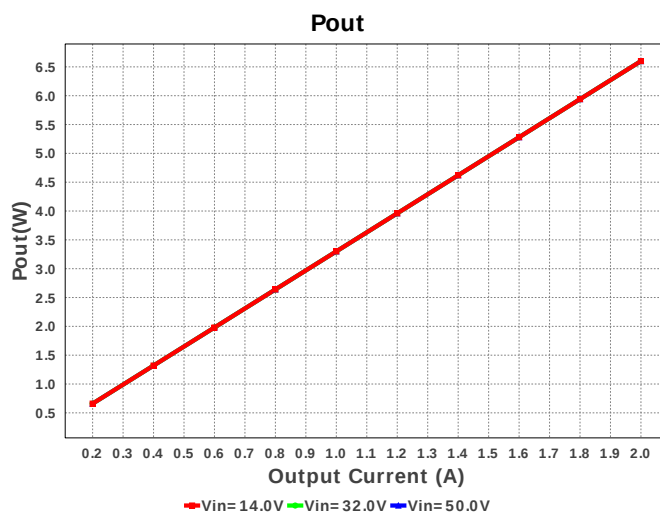
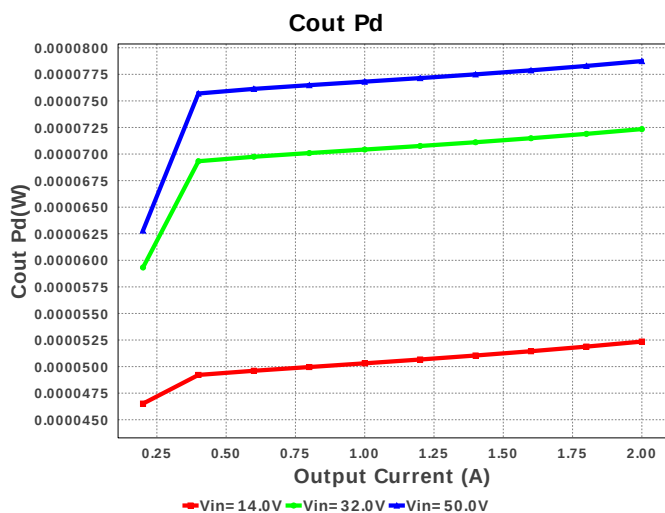
Electrical BOM

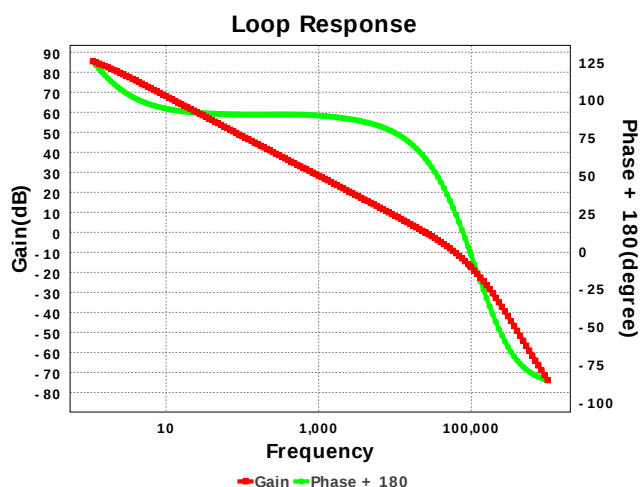
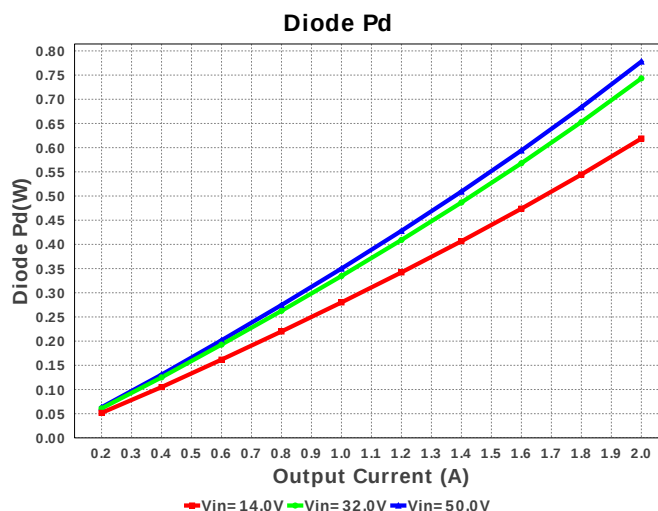
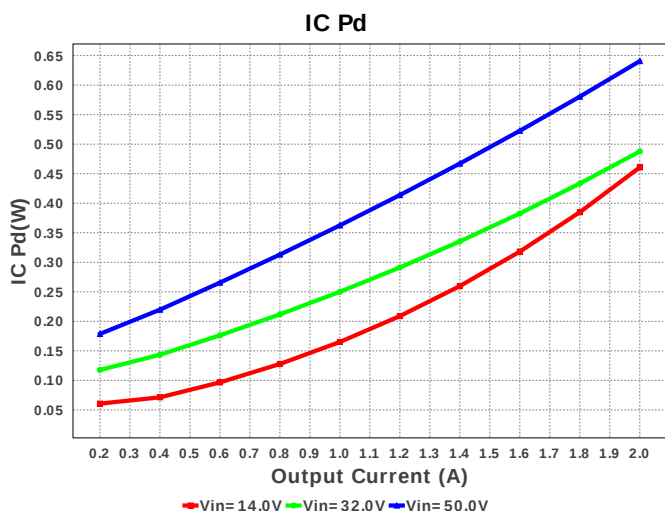
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cboot	MuRata	GRM155R61A104KA01D Series= X5R	Cap= 100.0 nF VDC= 10.0 V IRMS= 0.0 A	1	\$0.01	 0402 3 mm ²
2.	Ccomp	MuRata	GRM2195C1H622JA01D Series= C0G/NP0	Cap= 6.2 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.04	 0805 7 mm ²
3.	Ccomp2	MuRata	GRM1555C1H4R7CA01D Series= C0G/NP0	Cap= 4.7 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	MuRata	GRM31CR60J107ME39L Series= X5R	Cap= 100.0 uF ESR= 4.885 mOhm VDC= 6.3 V IRMS= 4.4118 A	2	\$0.14	 1206_190 11 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	Diodes Inc.	B360A-13-F	VF@Io= 700.0 mV VRRM= 60.0 V	1	\$0.12	 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	CRCW040239K2FKED Series= CRCW..e3	Res= 39.2 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
10.	RenB	Vishay-Dale	CRCW040211K5FKED Series= CRCW..e3	Res= 11.5 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
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

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
12.	Rfbb	Vishay-Dale	CRCW040210K0FKED Series= CRCW..e3	Res= 10.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm²
13.	Rfbt	Vishay-Dale	CRCW040231K6FKED Series= CRCW..e3	Res= 31.6 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm²
14.	Rt	Vishay-Dale	CRCW0402499KFKED Series= CRCW..e3	Res= 499.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm²
15.	U1	Texas Instruments	TPS54260DGQR	Switcher	1	\$1.80	 S-PDSO-G10 24 mm²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	469.073 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	180.938 mA	Current	Output capacitor RMS ripple current
3.	IC IpK	2.0 A	Current	Peak switch current in IC
4.	Iin Avg	165.67 mA	Current	Average input current
5.	L Ipp	626.79 mA	Current	Peak-to-peak inductor ripple current
6.	BOM Count	16	General	Total Design BOM count
7.	FootPrint	361.0 mm ²	General	Total Foot Print Area of BOM components
8.	Frequency	252.636 kHz	General	Switching frequency
9.	Mode	CCM	General	Conduction Mode
10.	Pout	6.6 W	General	Total output power
11.	Total BOM	\$2.87	General	Total BOM Cost
12.	D1 Tj	113.477 degC	Op_Point	D1 junction temperature
13.	Low Freq Gain	85.442 dB	Op_Point	Gain at 10Hz
14.	Vout Actual	3.328 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
15.	Vout OP	3.3 V	Op_Point	Operational Output Voltage
16.	Cross Freq	24.863 kHz	Op_point	Bode plot crossover frequency
17.	Duty Cycle	7.46 %	Op_point	Duty cycle
18.	Efficiency	79.677 %	Op_point	Steady state efficiency
19.	Gain Marg	-16.835 dB	Op_point	Bode Plot Gain Margin
20.	IC Tj	70.086 degC	Op_point	IC junction temperature
21.	ICThetaJA	62.5 degC/W	Op_point	IC junction-to-ambient thermal resistance
22.	IOUT_OP	2.0 A	Op_point	Iout operating point
23.	Phase Marg	61.366 deg	Op_point	Bode Plot Phase Margin
24.	VIN_OP	50.0 V	Op_point	Vin operating point
25.	Vout p-p	2.377 mV	Op_point	Peak-to-peak output ripple voltage
26.	Cin Pd	380.651 μ W	Power	Input capacitor power dissipation
27.	Cout Pd	79.964 μ W	Power	Output capacitor power dissipation
28.	Diode Pd	834.766 mW	Power	Diode power dissipation
29.	IC Pd	641.373 mW	Power	IC power dissipation
30.	L Pd	206.8 mW	Power	Inductor power dissipation
31.	Total Pd	1.683 W	Power	Total Power Dissipation

#	Name	Value	Category	Description
32.	Vout Tolerance	2.55 %		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	50.0	Maximum input voltage
3.	VinMin	14.0	Minimum input voltage
4.	Vout	3.3	Output Voltage
5.	base_pn	TPS54260	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	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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