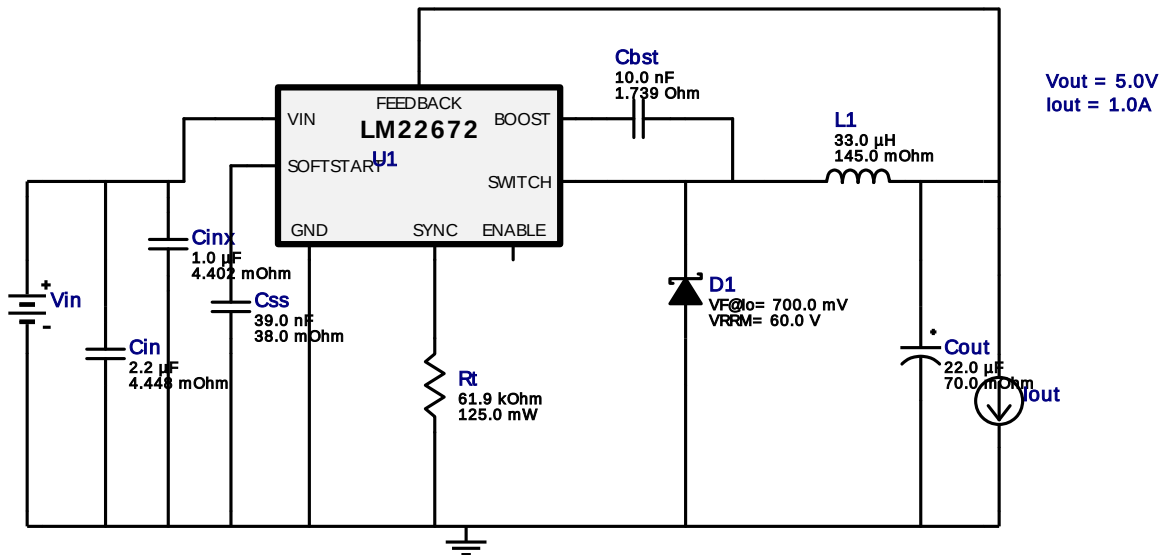


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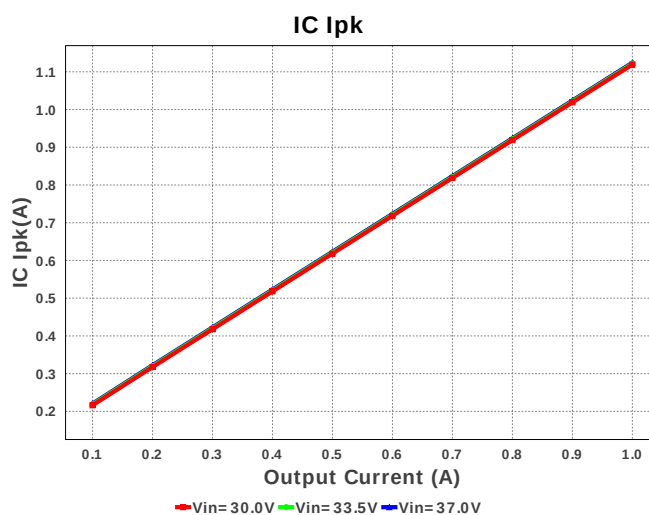
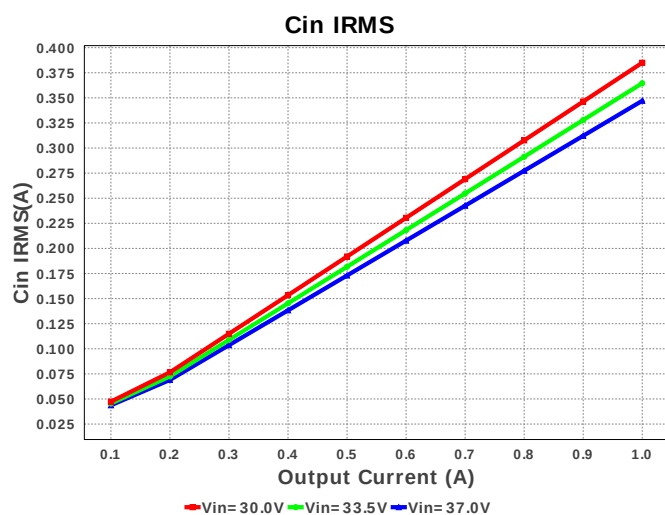
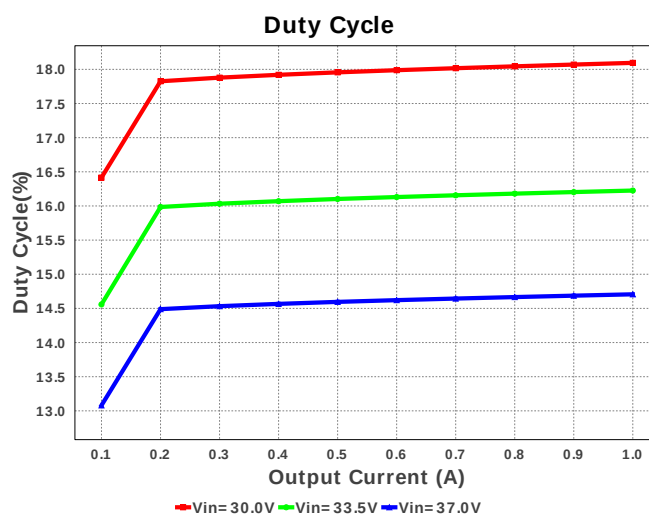
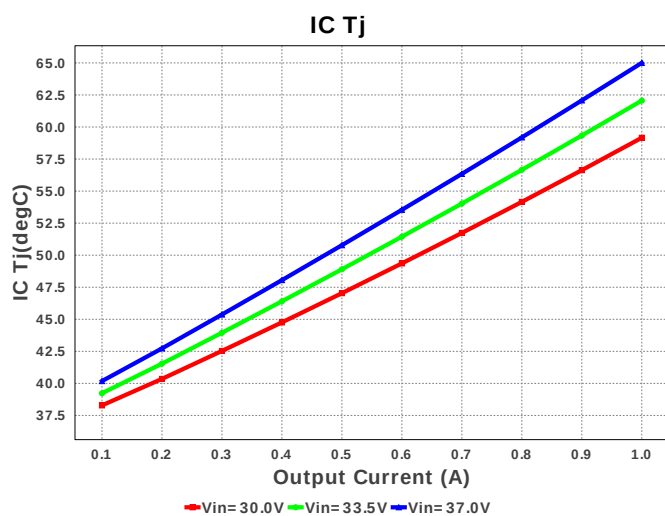
Design : 4742013/104 LM22672MRE-5.0/NOPB
LM22672MRE-5.0/NOPB 30.0V-37.0V to 5.00V @ 1.0A

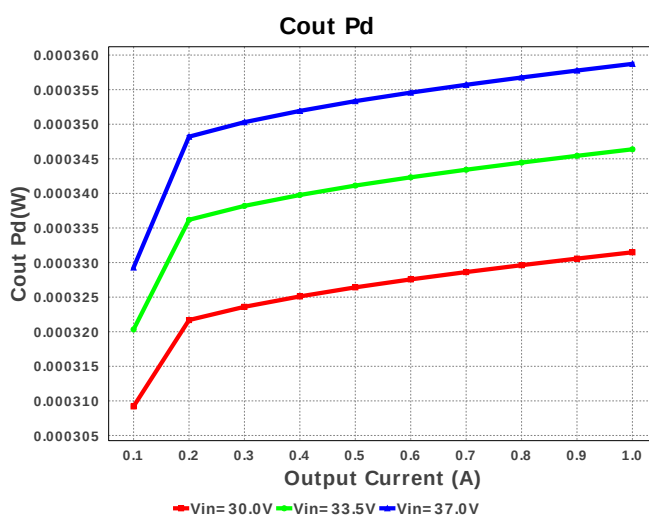
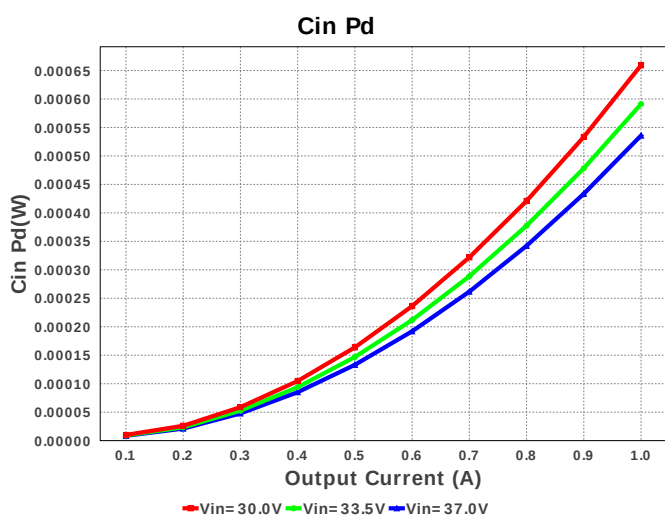
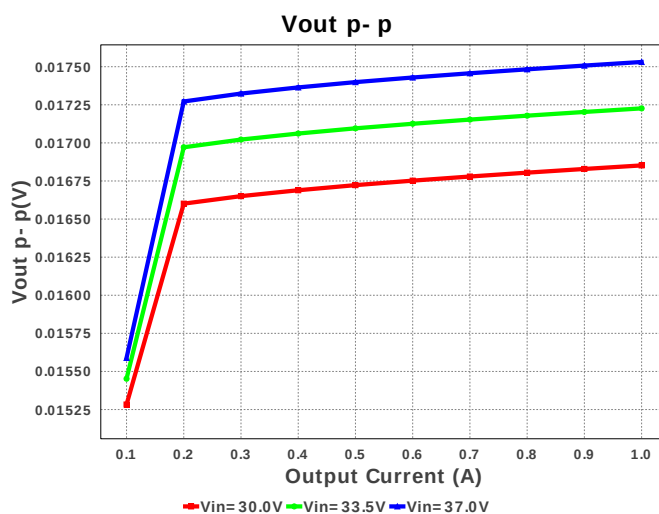
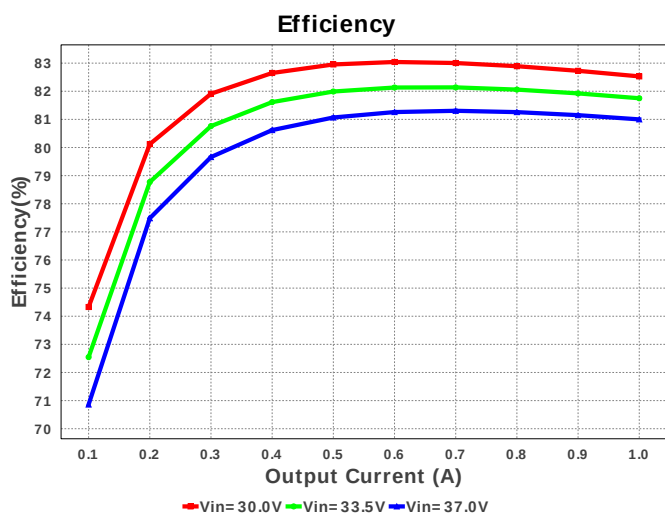
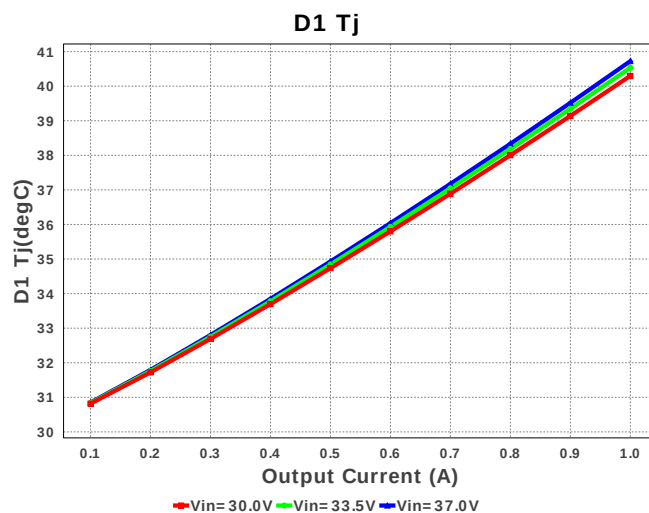
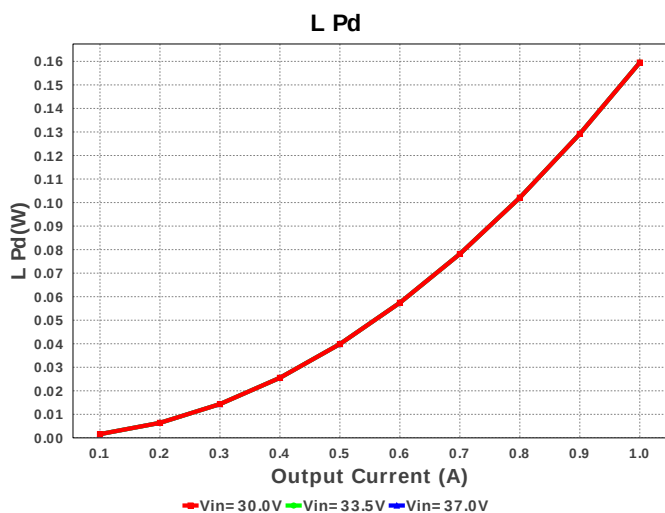


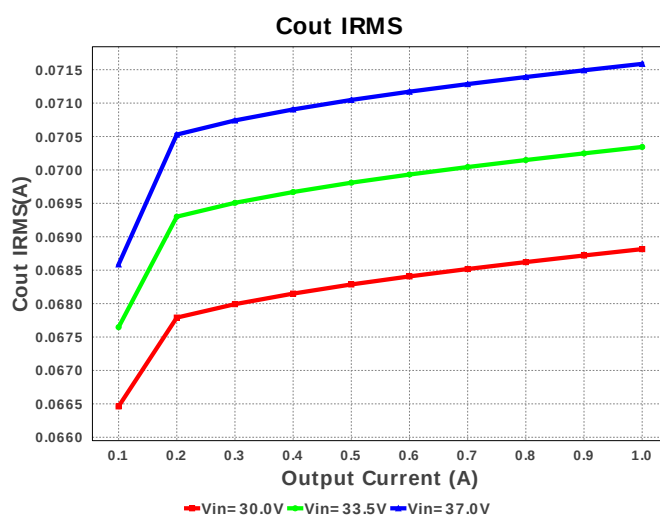
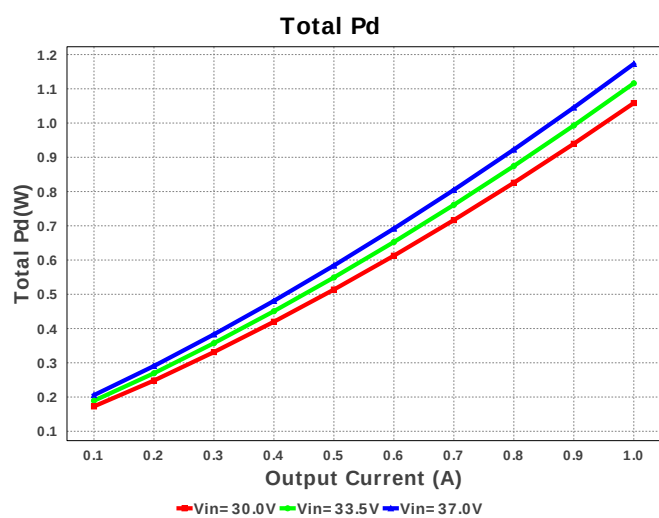
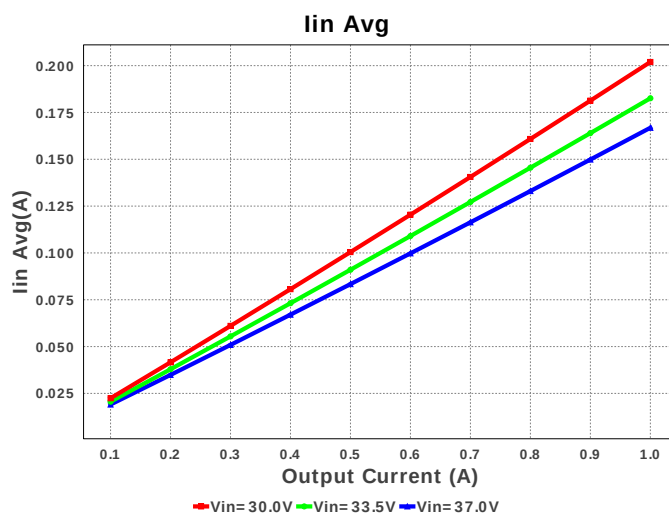
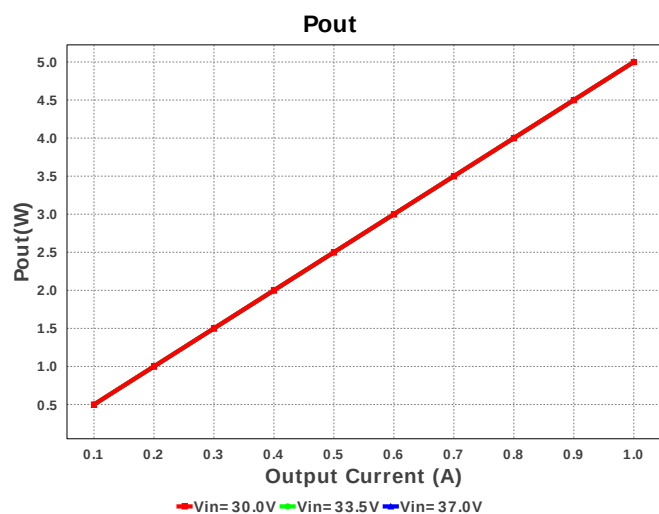
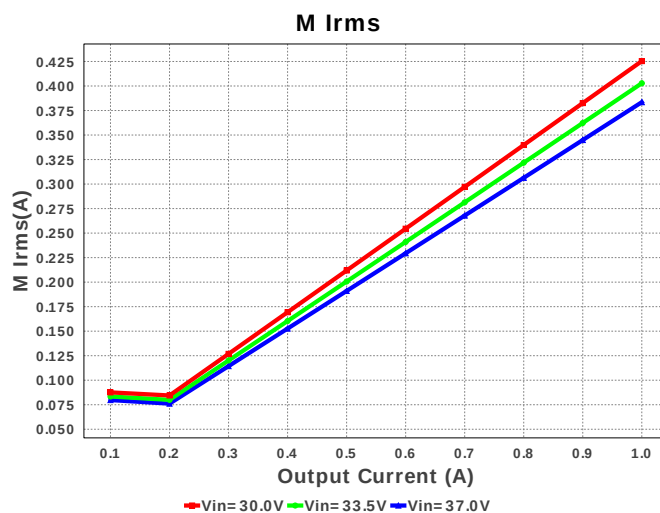
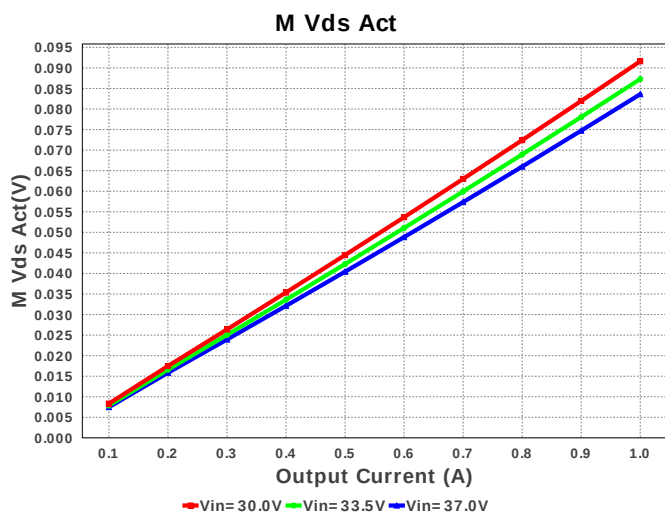
Electrical BOM

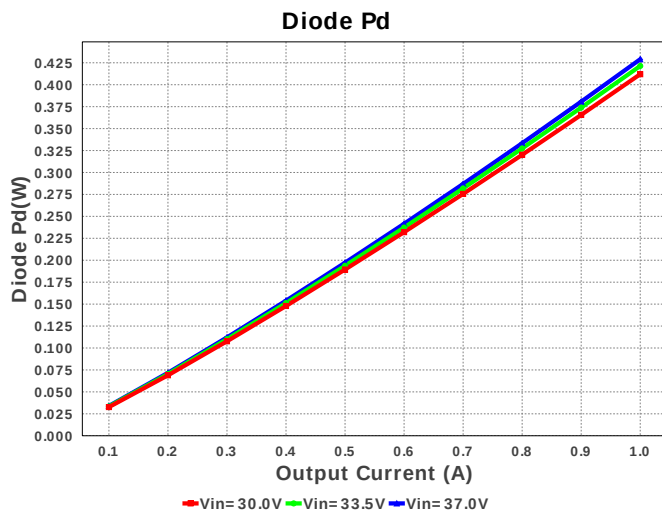
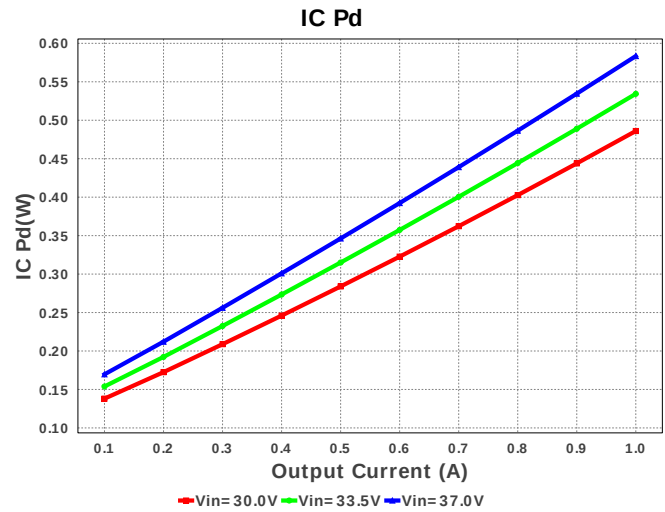
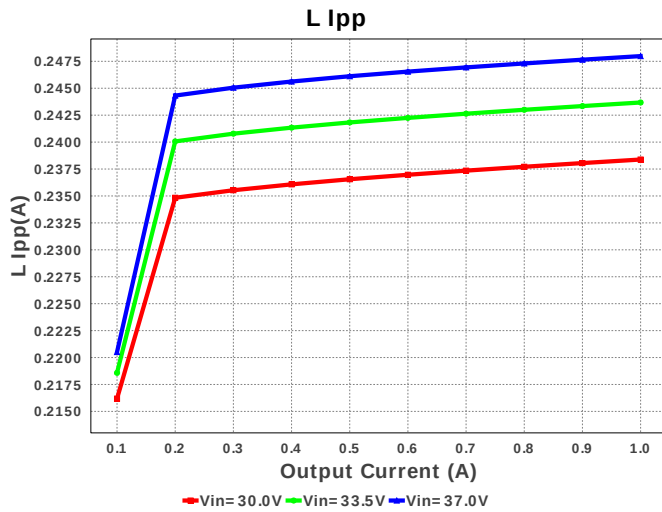
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cbst	Kemet	C0805C103K5RACTU Series= X7R	Cap= 10.0 nF ESR= 1.739 Ohm VDC= 50.0 V IRMS= 411.0 mA	1	\$0.01	0805 7 mm ²
2.	Cin	MuRata	GRM31CR71H225KA88L Series= X7R	Cap= 2.2 uF ESR= 4.448 mOhm VDC= 50.0 V IRMS= 2.2252 A	1	\$0.05	1206_190 11 mm ²
3.	Cinx	MuRata	GRM21BR71H105KA12L Series= X7R	Cap= 1.0 uF ESR= 4.402 mOhm VDC= 50.0 V IRMS= 1.677 A	1	\$0.05	0805 7 mm ²
4.	Cout	Panasonic	8TPC22M Series= ?	Cap= 22.0 uF ESR= 70.0 mOhm VDC= 8.0 V IRMS= 1.0 A	1	\$0.35	CAPSMT_6_B1G 17 mm ²
5.	Css	AVX	08055C393KAT2A Series= X7R	Cap= 39.0 nF ESR= 38.0 mOhm VDC= 50.0 V IRMS= 0.0 A	1	\$0.02	0805 7 mm ²
6.	D1	Diodes Inc.	B260A-13-F	VF@Io= 700.0 mV VRRM= 60.0 V	1	\$0.09	SMA 37 mm ²
7.	L1	Bourns	SRN8040-330M	L= 33.0 uH DCR= 145.0 mOhm	1	\$0.22	SRN8040 100 mm ²

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
8.	Rt	Panasonic	ERJ-6ENF6192V Series= ERJ-6E	Res= 61.9 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	0805 7 mm ²
9.	U1	Texas Instruments	LM22672MRE-5.0/NOPB	Switcher	1	\$1.84	MRA08B 56 mm ²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	347.071 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	71.587 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	1.124 A	Current	Peak switch current in IC
4.	Iin Avg	166.83 mA	Current	Average input current
5.	L Ipp	247.98 mA	Current	Peak-to-peak inductor ripple current
6.	M1 Irms	383.487 mA	Current	Q lavg
7.	BOM Count	9	General	Total Design BOM count
8.	FootPrint	248.0 mm ²	General	Total Foot Print Area of BOM components
9.	Frequency	575.061 kHz	General	Switching frequency
10.	IC Tolerance	75.0 mV	General	IC Feedback Tolerance
11.	M Vds Act	83.601 mV	General	Voltage drop across the MosFET
12.	Pout	5.0 W	General	Total output power
13.	Total BOM	\$2.64	General	Total BOM Cost
14.	D1 Tj	40.726 degC	Op_Point	D1 junction temperature
15.	Vout OP	5.0 V	Op_Point	Operational Output Voltage
16.	Cross Freq	61.725 kHz	Op_point	Bode plot crossover frequency
17.	Duty Cycle	14.706 %	Op_point	Duty cycle
18.	Efficiency	81.0 %	Op_point	Steady state efficiency
19.	IC Tj	65.004 degC	Op_point	IC junction temperature
20.	ICThetaJA	60.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
21.	IOUT_OP	1.0 A	Op_point	Iout operating point
22.	Phase Marg	72.157 deg	Op_point	Bode Plot Phase Margin
23.	VIN_OP	37.0 V	Op_point	Vin operating point
24.	Vout p-p	17.531 mV	Op_point	Peak-to-peak output ripple voltage
25.	Cin Pd	535.799 μW	Power	Input capacitor power dissipation
26.	Cout Pd	358.728 μW	Power	Output capacitor power dissipation
27.	Diode Pd	429.022 mW	Power	Diode power dissipation
28.	IC Pd	583.405 mW	Power	IC power dissipation
29.	L Pd	159.5 mW	Power	Inductor power dissipation
30.	Total Pd	1.173 W	Power	Total Power Dissipation

#	Name	Value	Category	Description
31.	Vout Tolerance	1.5 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	1.0	Maximum Output Current
2.	VinMax	37.0	Maximum input voltage
3.	VinMin	30.0	Minimum input voltage
4.	Vout	5.0	Output Voltage
5.	base_pn	LM22672	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. Part Description The LM22672 is a monolithic integrated circuit that provides all of the active functions for a step-down (buck) switching regulator capable of driving up to 1.0A loads with excellent line and load regulation characteristics. High efficiency (>90%) is obtained through the use of a low ON-resistance N-channel MOSFET.

2. **LM22672** Product Folder : <http://www.ti.com/product/LM22672> : contains the data sheet and other resources.

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