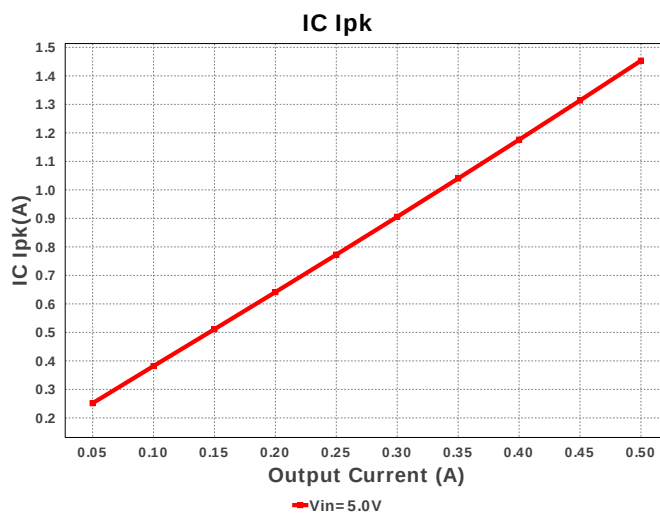
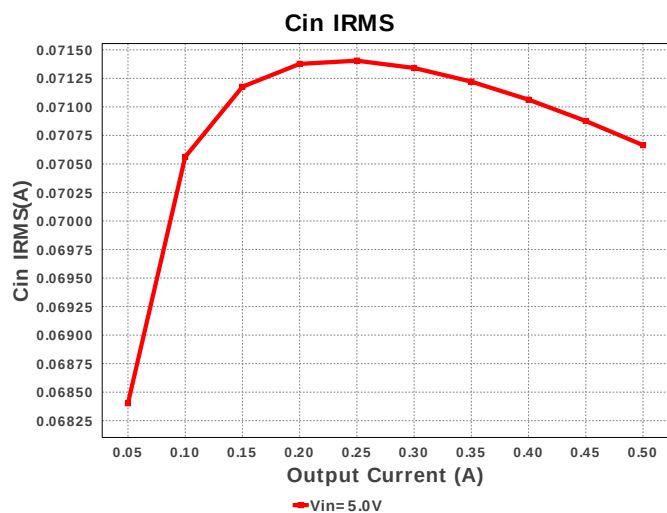
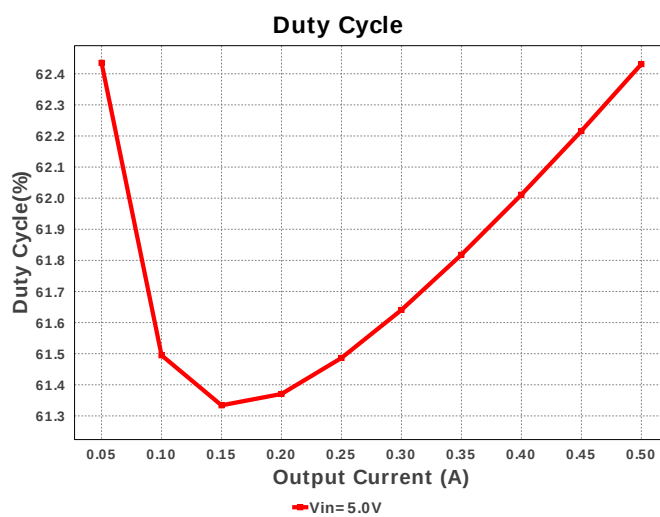
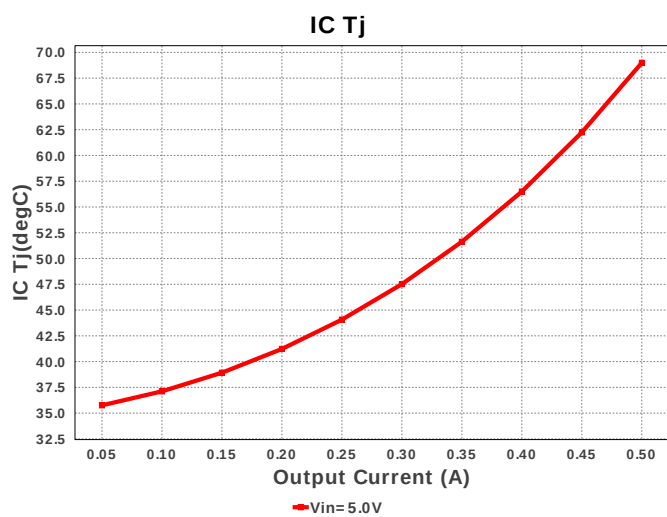
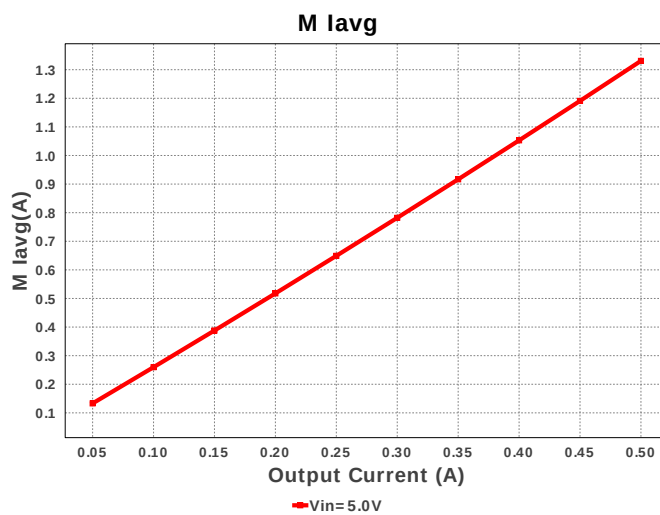
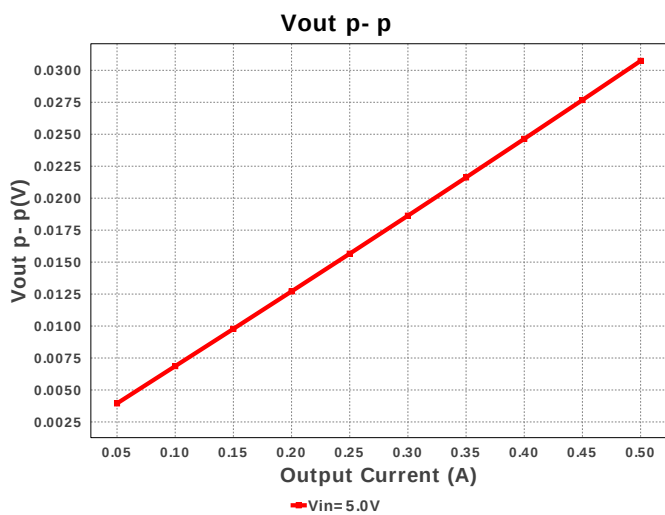
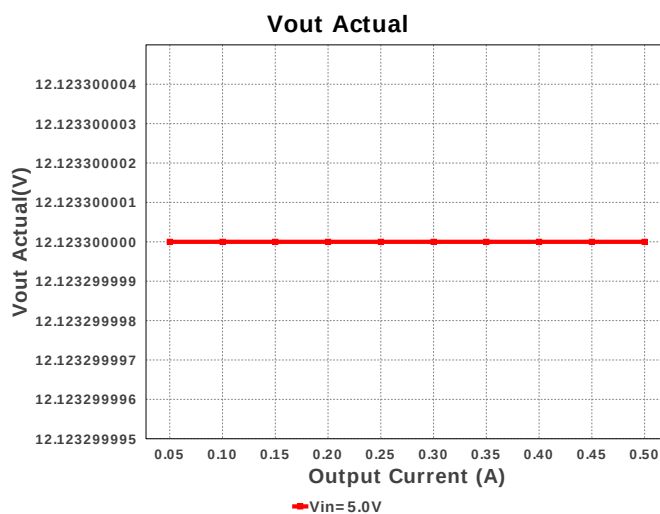
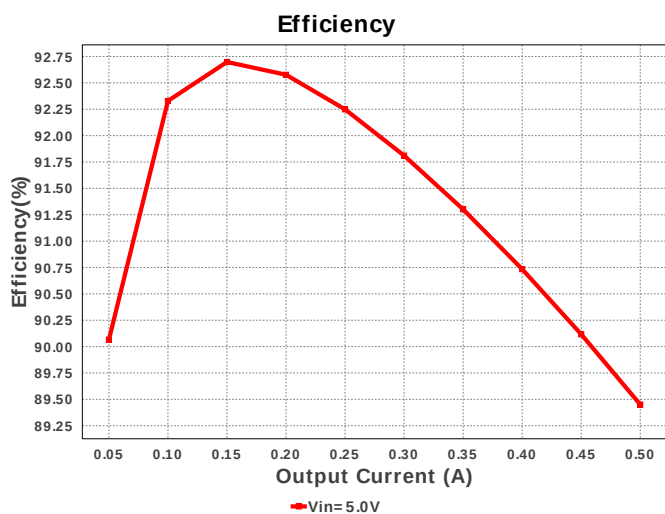
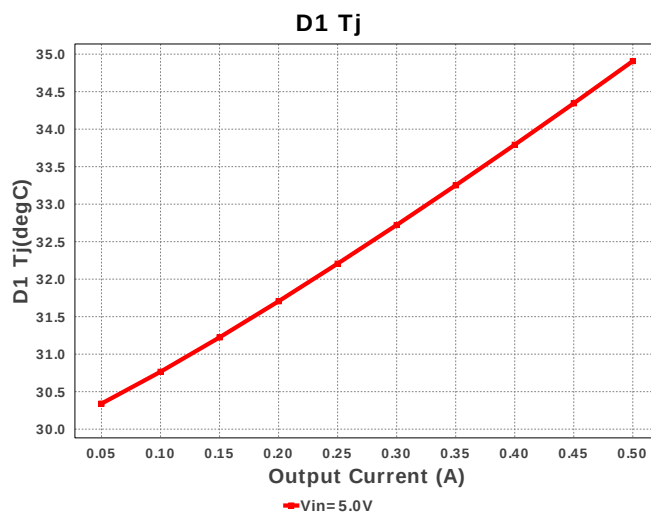
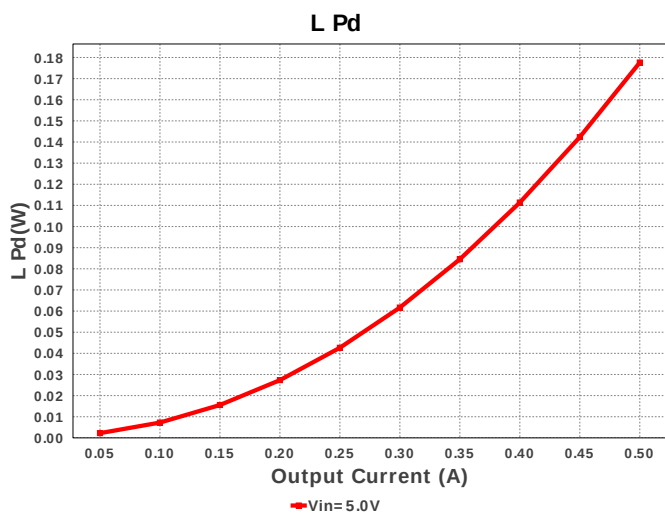


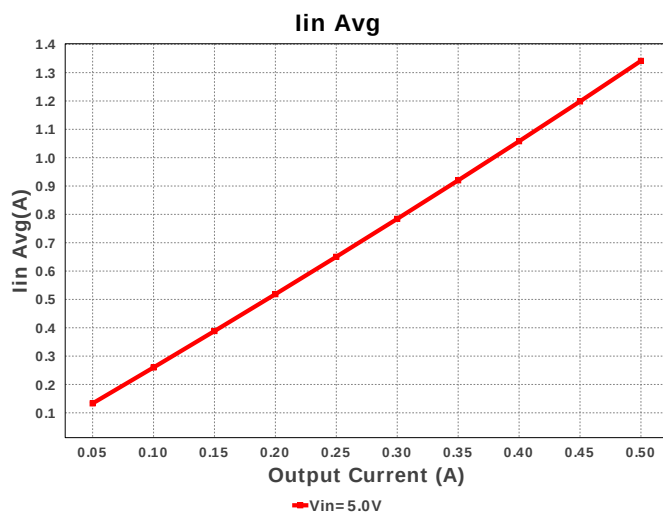
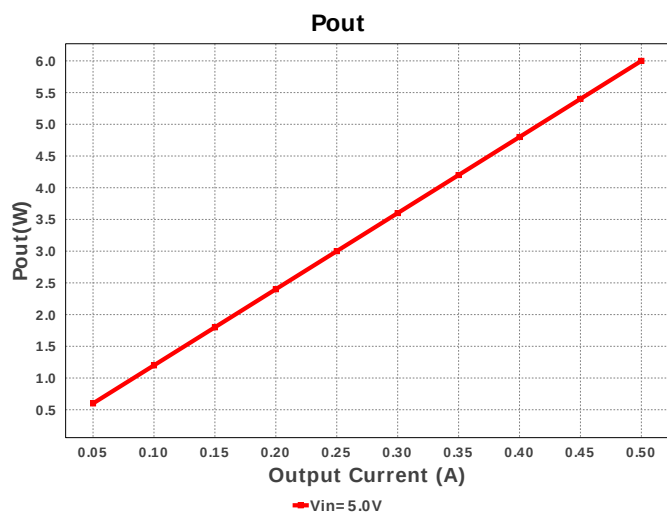
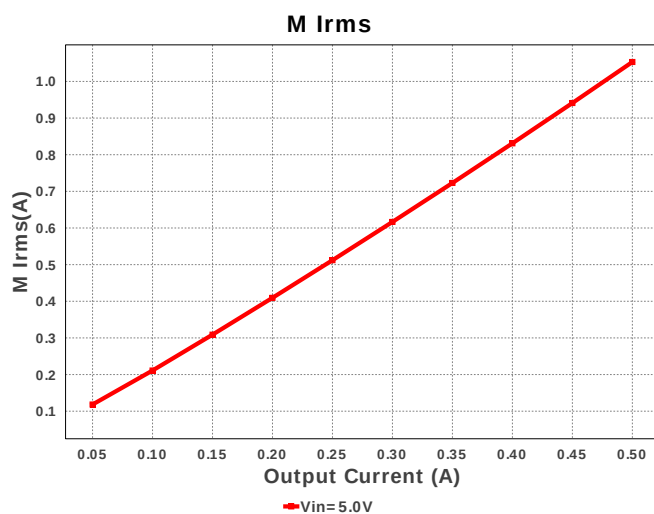
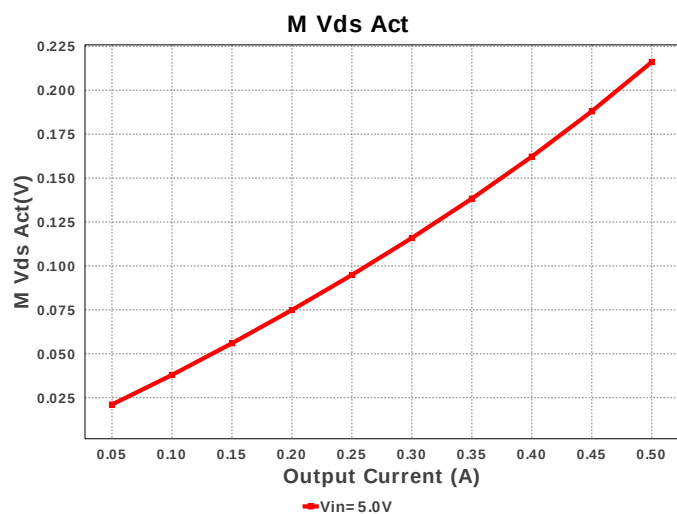
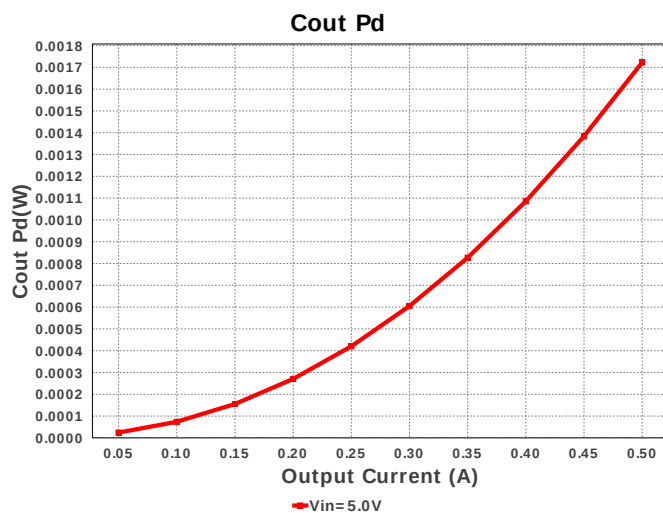
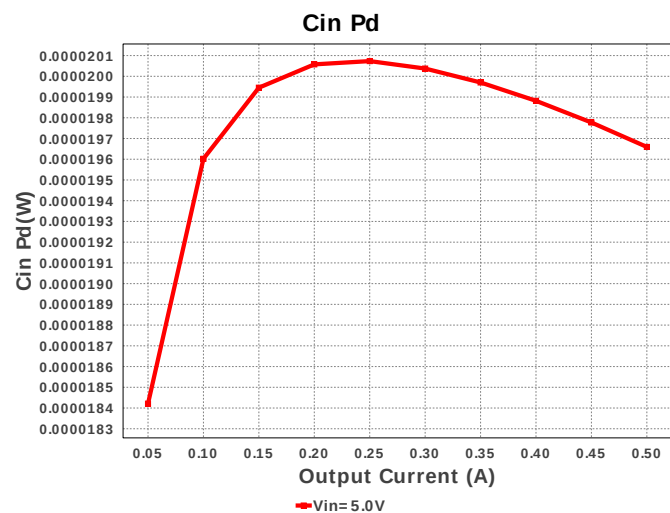


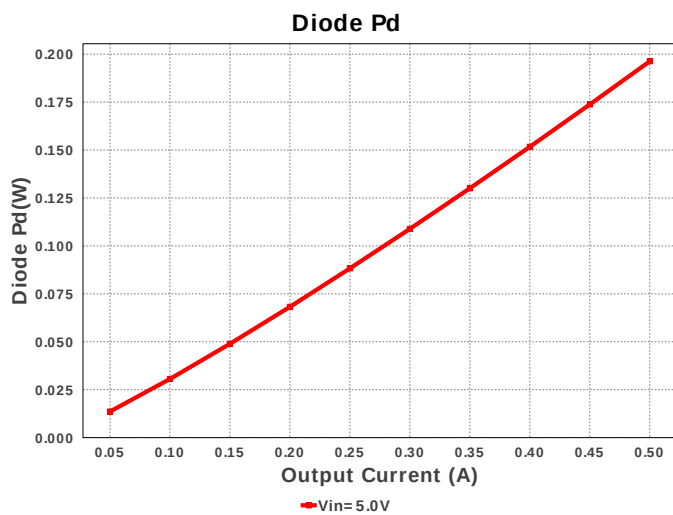
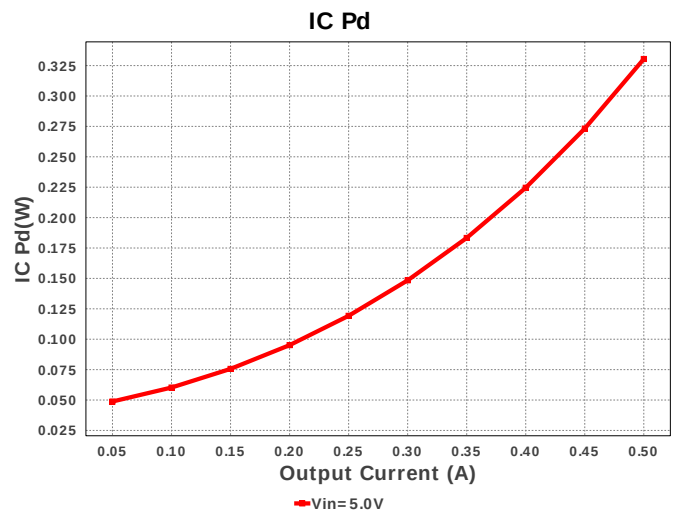
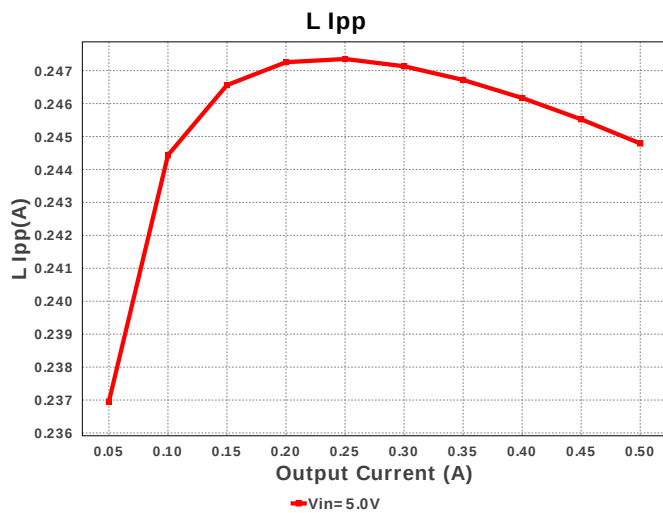
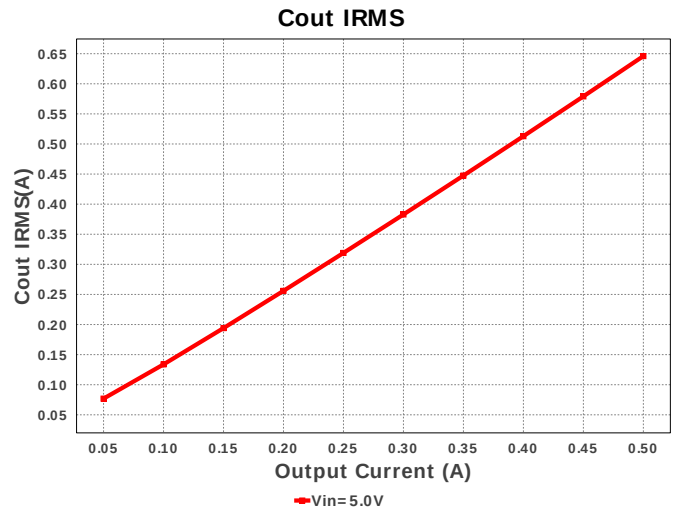
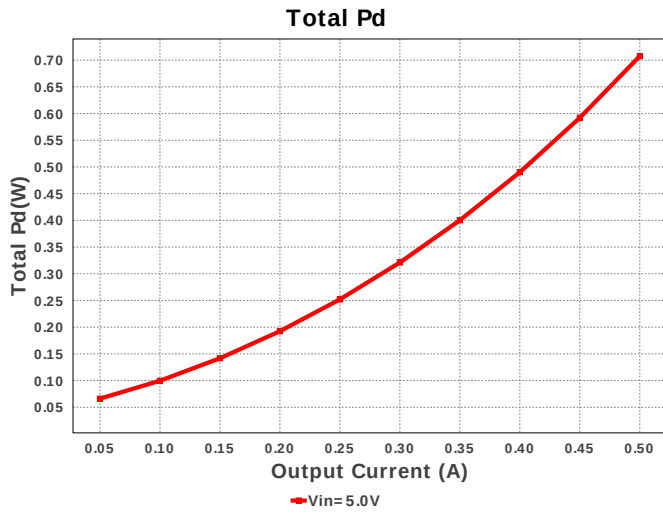
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Topology = Boost
Created = 8/28/16 8:03:36 AM
BOM Cost = \$1.55
BOM Count = 9
Total Pd = 0.71W

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
9.	U1	Texas Instruments	LM2735YMF/NOPB	Switcher	1	\$1.15	 MF05A 15 mm ²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	70.665 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	646.003 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	1.453 A	Current	Peak switch current in IC
4.	Iin Avg	1.342 A	Current	Average input current
5.	L Ipp	244.79 mA	Current	Peak-to-peak inductor ripple current
6.	M Iavg	1.331 A	Current	MOSFET Average current
7.	M Irms	1.053 A	Current	MOSFET RMS current
8.	BOM Count	9	General	Total Design BOM count
9.	FootPrint	188.0 mm ²	General	Total Foot Print Area of BOM components
10.	Frequency	525.0 kHz	General	Switching frequency
11.	IC Tolerance	25.0 mV	General	IC Feedback Tolerance

#	Name	Value	Category	Description
12.	M Vds Act	216.079 mV	General	Voltage drop across the MosFET
13.	Mode	CCM	General	Conduction Mode
14.	Pout	6.0 W	General	Total output power
15.	Total BOM	\$1.55	General	Total BOM Cost
16.	D1 Tj	34.907 degC	Op_Point	D1 junction temperature
17.	Vout Actual	12.123 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
18.	Vout OP	12.0 V	Op_Point	Operational Output Voltage
19.	Cross Freq	9.778 kHz	Op_point	Bode plot crossover frequency
20.	Duty Cycle	62.431 %	Op_point	Duty cycle
21.	Efficiency	89.451 %	Op_point	Steady state efficiency
22.	IC Tj	68.99 degC	Op_point	IC junction temperature
23.	ICThetaJA	118.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
24.	IOUT_OP	500.0 mA	Op_point	Iout operating point
25.	Phase Marg	71.672 deg	Op_point	Bode Plot Phase Margin
26.	VIN_OP	5.0 V	Op_point	Vin operating point
27.	Vout p-p	30.739 mV	Op_point	Peak-to-peak output ripple voltage
28.	Cin Pd	19.659 μW	Power	Input capacitor power dissipation
29.	Cout Pd	1.722 mW	Power	Output capacitor power dissipation
30.	Diode Pd	196.294 mW	Power	Diode power dissipation
31.	IC Pd	330.429 mW	Power	IC power dissipation
32.	L Pd	177.625 mW	Power	Inductor power dissipation
33.	Total Pd	707.574 mW	Power	Total Power Dissipation
34.	Vout Tolerance	3.839 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	500.0 m	Maximum Output Current
2.	VinMax	5.0	Maximum input voltage
3.	VinMin	5.0	Minimum input voltage
4.	Vout	12.0	Output Voltage
5.	base_pn	LM2735Y	Texas Instruments Base Part Number
6.	source	DC	Input Source Type
7.	ta	30.0	Ambient temperature

Design Assistance

1. LM2735Y Product Folder : <http://www.ti.com/product/LM2735> : contains the data sheet and other resources.

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