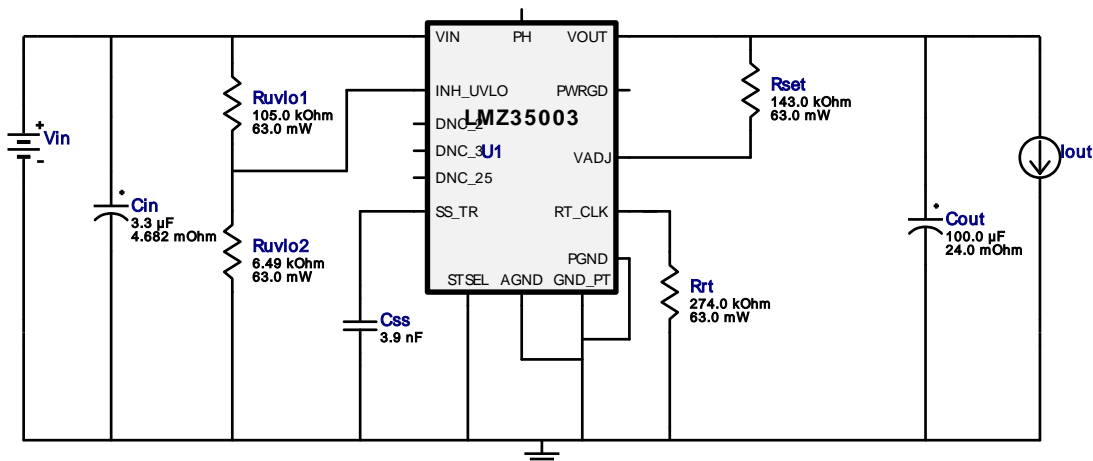








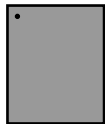
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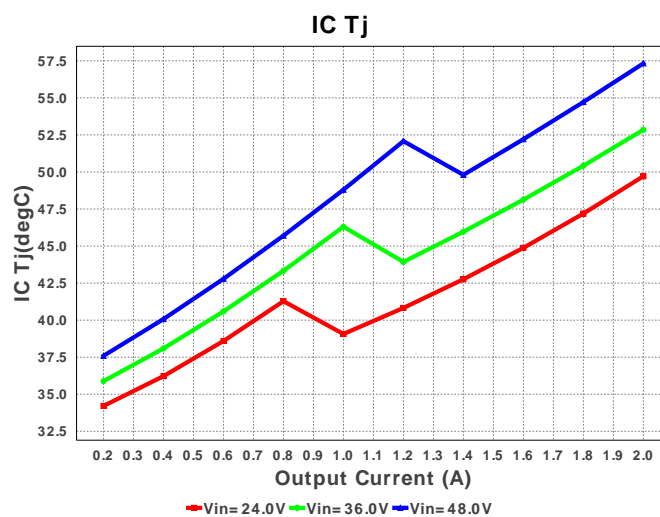
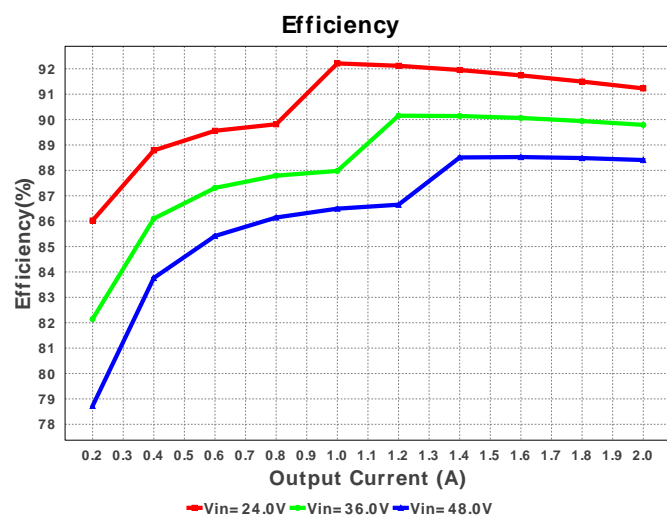
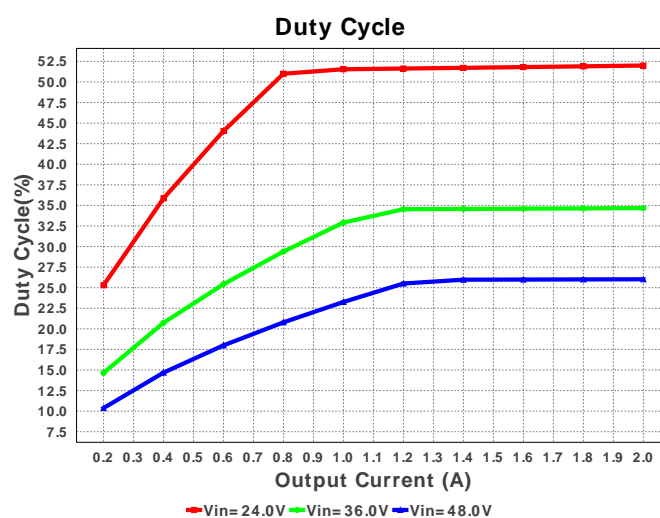
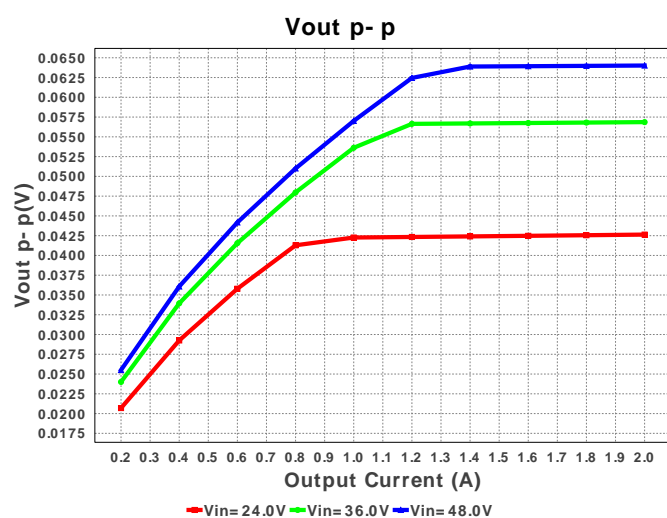
Design : 4466246/44 LMZ35003RKGR
LMZ35003RKGR 24.0V-48.0V to 12.00V @ 2.0A

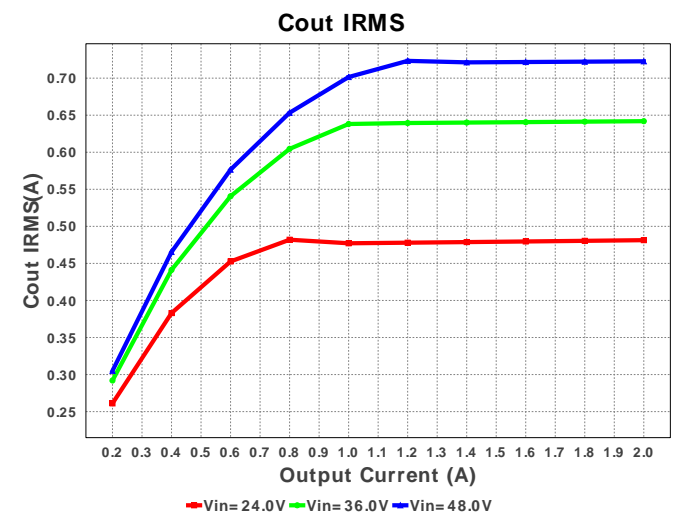
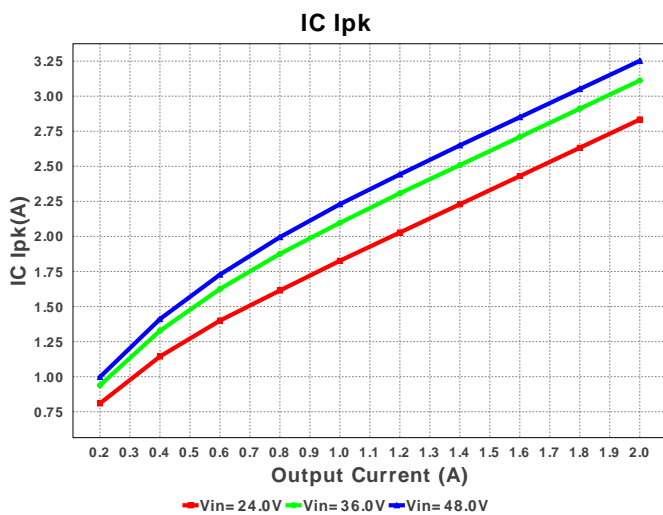
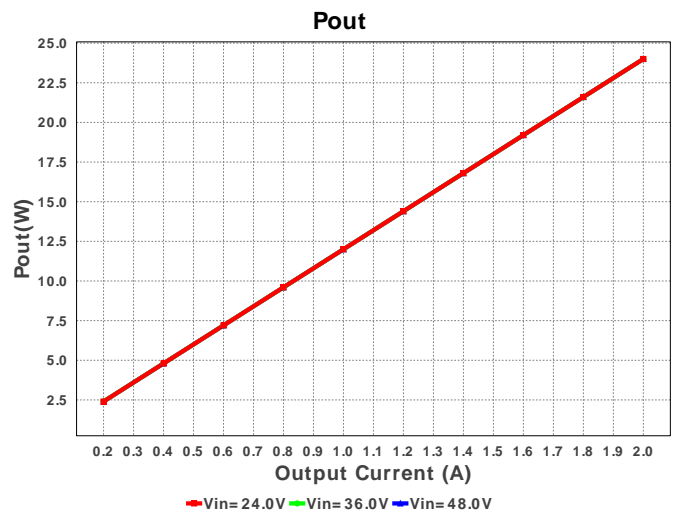
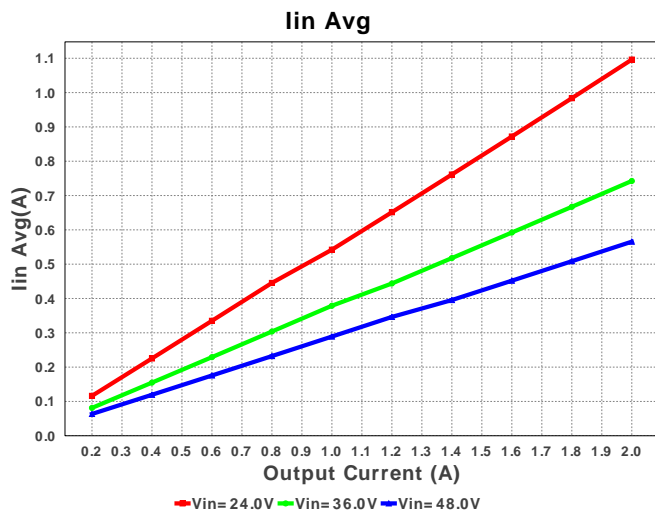
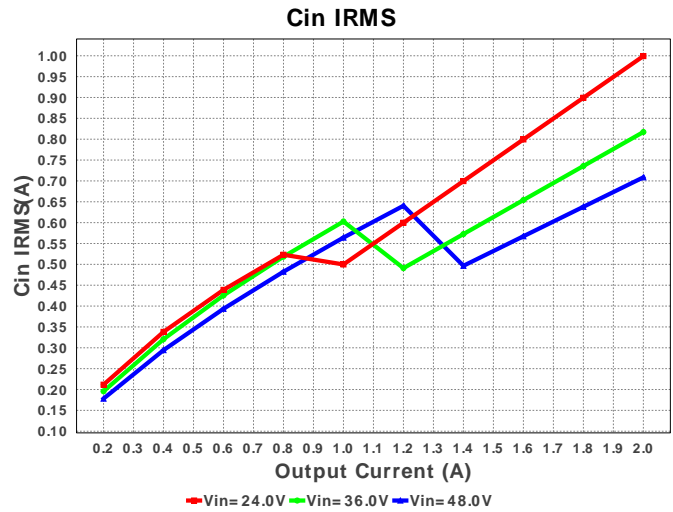
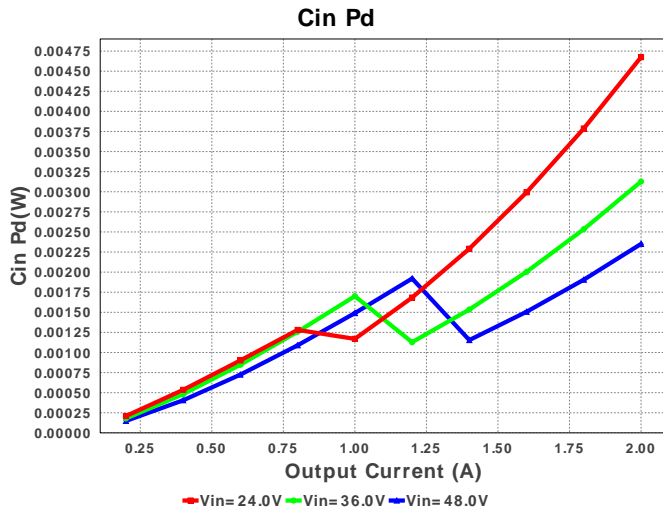


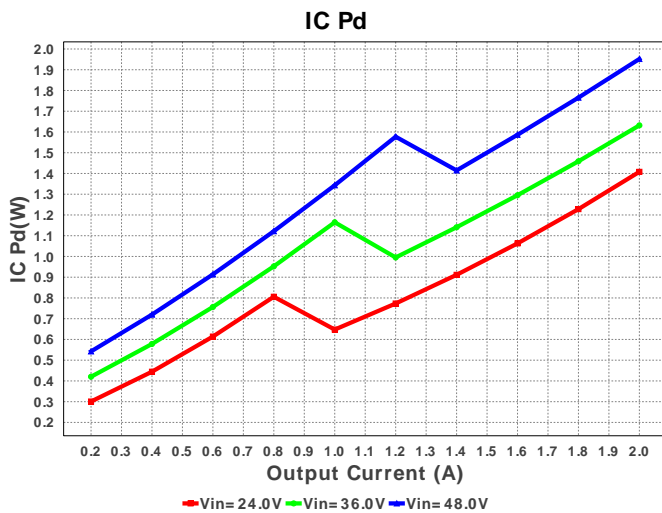
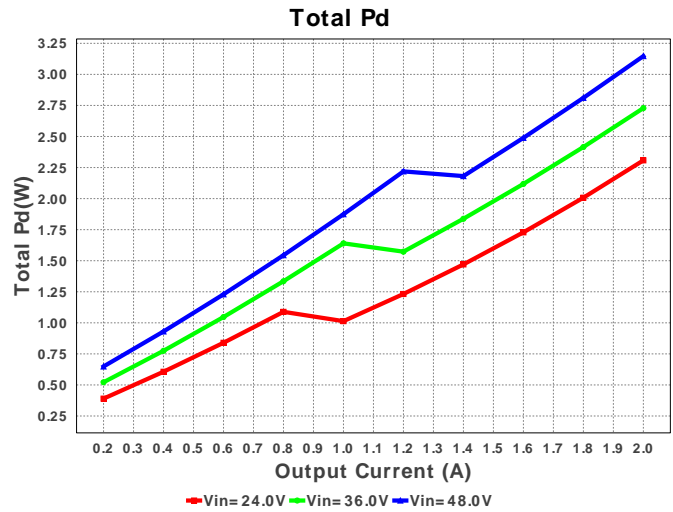
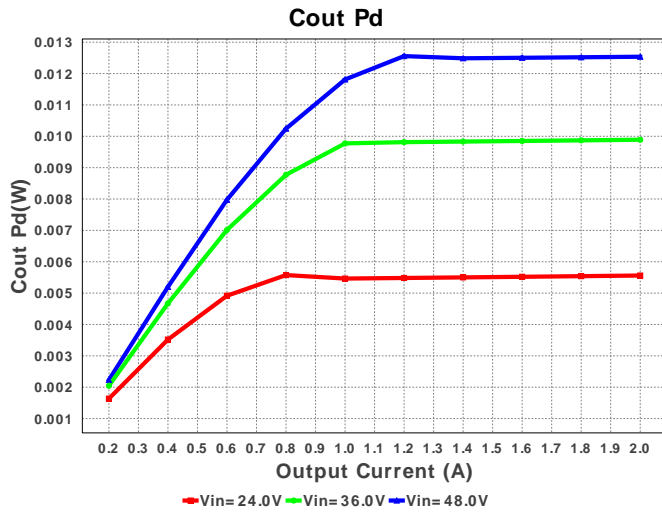
Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cin	TDK	C3225X7S2A335K200AB Series= X7S	Cap= 3.3 uF ESR= 4.682 mOhm VDC= 100.0 V IRMS= 3.39944 A	1	\$0.24	 1210 15 mm ²
2.	Cout	Panasonic	16SVPC100M Series= SVPC	Cap= 100.0 uF ESR= 24.0 mOhm VDC= 16.0 V IRMS= 2.49 A	1	\$0.29	 SM_RADIAL_6.3AMM 80 mm ²
3.	Css	MuRata	GRM033R71A392KA01D Series= X7R	Cap= 3.9 nF VDC= 10.0 V IRMS= 0.0 A	1	\$0.01	 0201 2 mm ²
4.	Rrt	Vishay-Dale	CRCW0402274KFKED Series= CRCW..e3	Res= 274.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
5.	Rset	Vishay-Dale	CRCW0402143KFKED Series= CRCW..e3	Res= 143.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
6.	Ruvlo1	Vishay-Dale	CRCW0402105KFKED Series= CRCW..e3	Res= 105.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
7.	Ruvlo2	Vishay-Dale	CRCW04026K49FKED Series= CRCW..e3	Res= 6.49 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
8.	U1	Texas Instruments	LMZ35003RKGR	Switcher	1	\$7.95	 RKG0041A 143 mm ²







Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	708.596 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	719.269 mA	Current	Output capacitor RMS ripple current
3.	IC IpK	2.0 A	Current	Peak switch current in IC
4.	Iin Avg	565.73 mA	Current	Average input current
5.	BOM Count	8	General	Total Design BOM count
6.	FootPrint	252.0 mm ²	General	Total Foot Print Area of BOM components
7.	Frequency	800.0 kHz	General	Switching frequency
8.	Pout	24.0 W	General	Total output power
9.	Total BOM	\$8.53	General	Total BOM Cost
10.	Vout OP	12.0 V	Op_Point	Operational Output Voltage
11.	Cross Freq	10.149 kHz	Op_point	Bode plot crossover frequency
12.	Duty Cycle	26.024 %	Op_point	Duty cycle
13.	Efficiency	88.381 %	Op_point	Steady state efficiency
14.	IC Tj	57.439 degC	Op_point	IC junction temperature
15.	ICThetaJA	14.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
16.	IOUT_OP	2.0 A	Op_point	Iout operating point
17.	Phase Marg	88.735 deg	Op_point	Bode Plot Phase Margin
18.	VIN_OP	48.0 V	Op_point	Vin operating point
19.	Vout p-p	59.925 mV	Op_point	Peak-to-peak output ripple voltage
20.	Cin Pd	2.351 mW	Power	Input capacitor power dissipation
21.	Cout Pd	12.416 mW	Power	Output capacitor power dissipation
22.	IC Pd	4.12 W	Power	IC power dissipation
23.	Total Pd	3.155 W	Power	Total Power Dissipation
24.	Vout Tolerance	625.0 m%		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	48.0	Maximum input voltage

#	Name	Value	Description
3.	VinMin	24.0	Minimum input voltage
4.	Vout	12.0	Output Voltage
5.	base_pn	LMZ35003	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **LMZ35003** Product Folder : <http://www.ti.com/product/LMZ35003> : contains the data sheet and other resources.

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