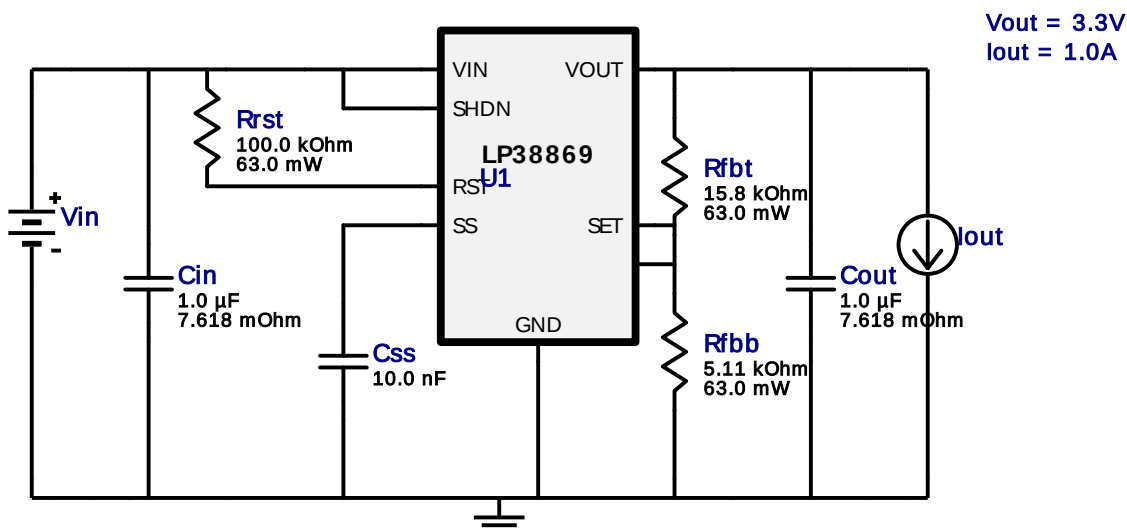


WEBENCH® Design Report

Design : 3893481/28 LP38869MHX/NOPB
LP38869MHX/NOPB 3.6V-4.2V to 3.30V @ 1.0A



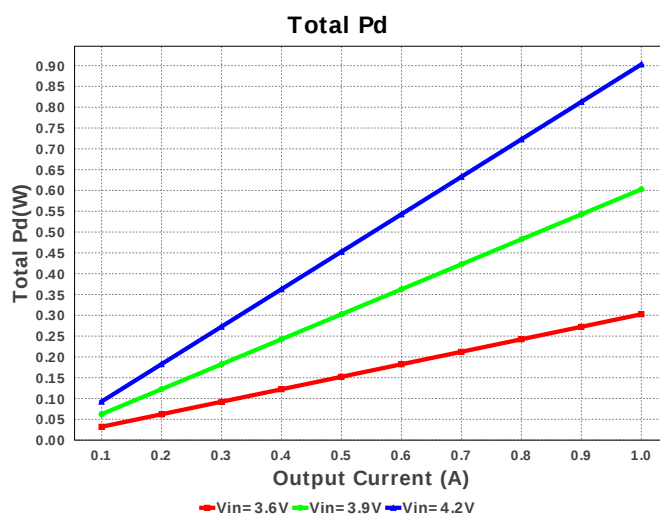
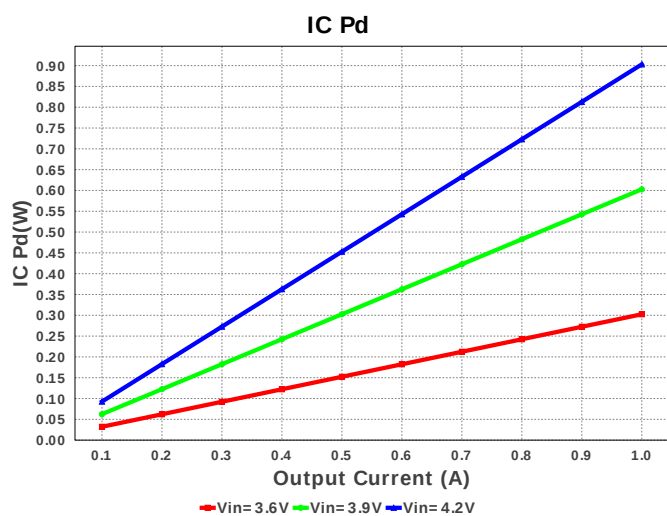
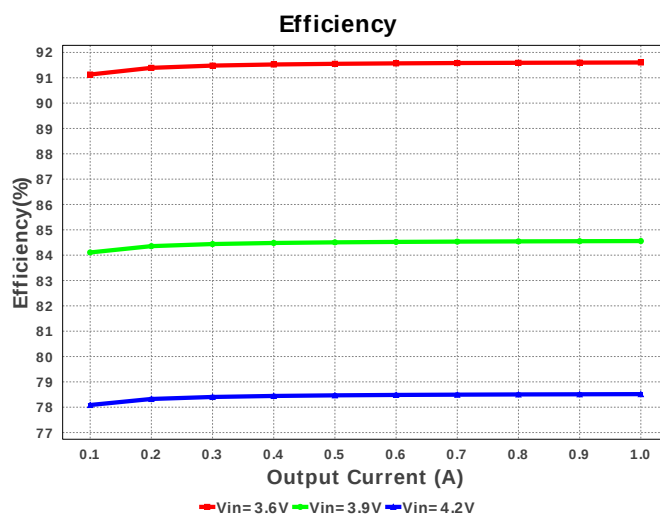
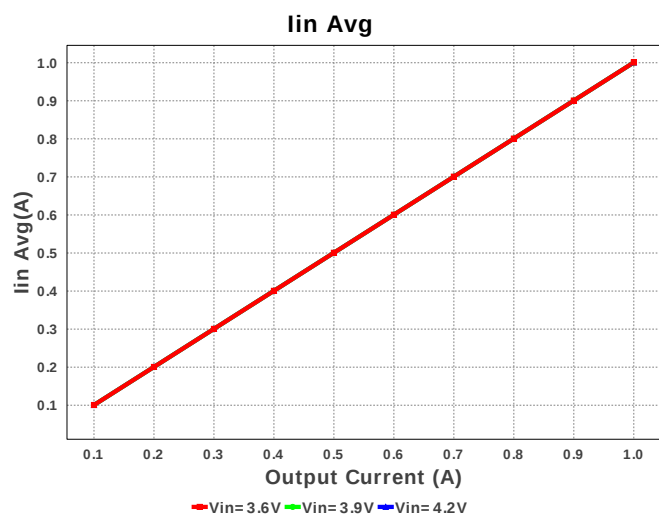
My Comments

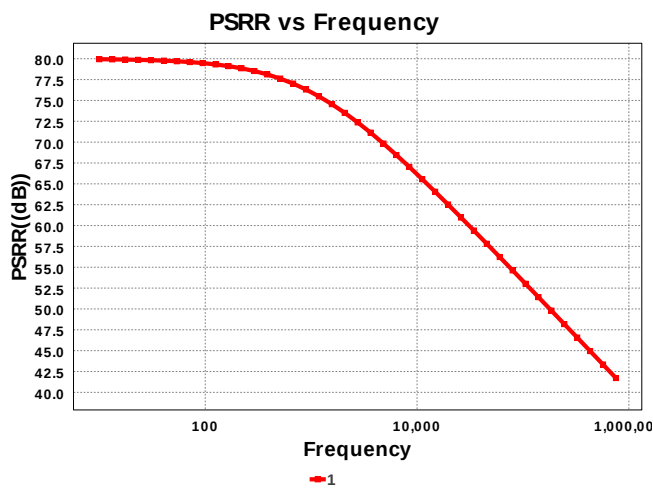
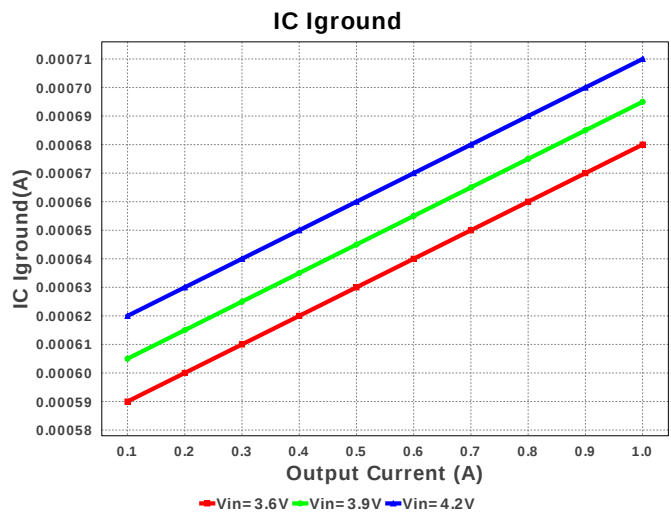
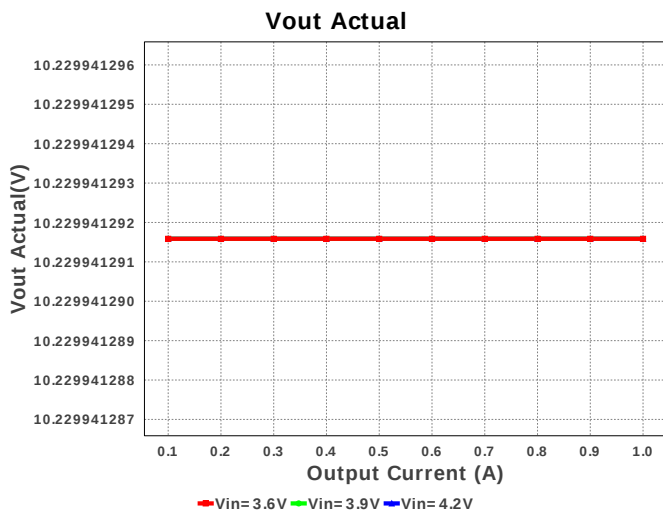
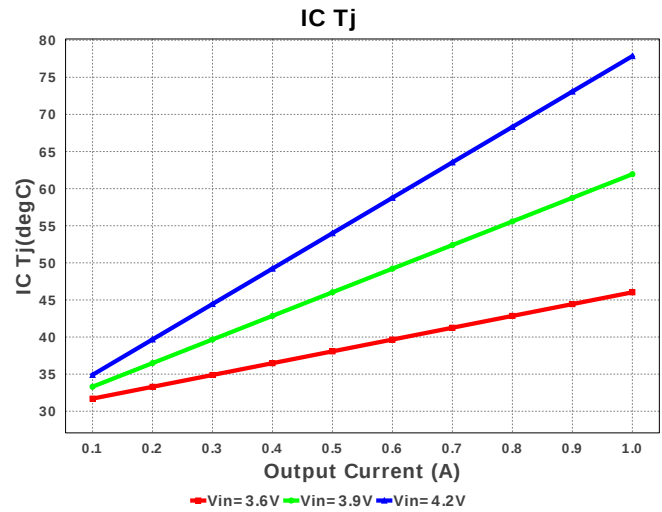
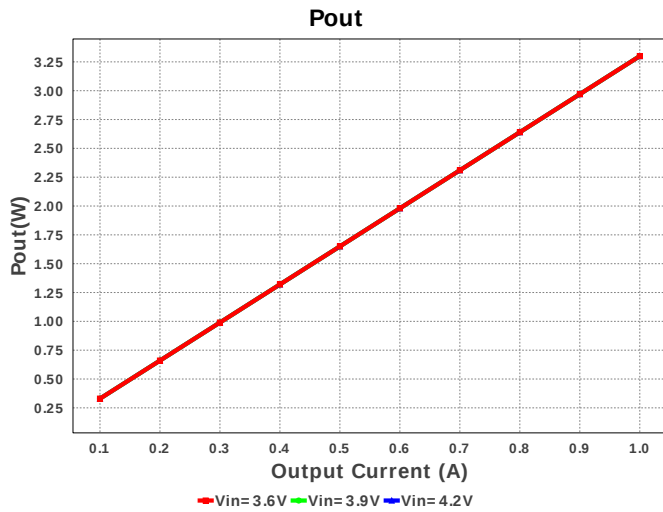
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Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cin	TDK	C1005X5R0J105M Series= X5R	Cap= 1.0 uF ESR= 7.618 mOhm VDC= 6.3 V IRMS= 0.0 A	1	\$0.01	0402 3 mm ²
2.	Cout	TDK	C1005X5R0J105M Series= X5R	Cap= 1.0 uF ESR= 7.618 mOhm VDC= 6.3 V IRMS= 0.0 A	1	\$0.01	0402 3 mm ²
3.	Css	MuRata	GRM033R60J103KA01D Series= X5R	Cap= 10.0 nF VDC= 6.3 V IRMS= 0.0 A	1	\$0.01	0201 2 mm ²
4.	Rfbb	Vishay-Dale	CRCW04025K11FKED Series= CRCW..e3	Res= 5.11 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
5.	Rfvt	Vishay-Dale	CRCW040215K8FKED Series= CRCW..e3	Res= 15.8 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
6.	Rrst	Vishay-Dale	CRCW0402100KFKED Series= CRCW..e3	Res= 100.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
7.	U1	Texas Instruments	LP38869MHX/NOPB	Switcher	1	\$0.90	 MXA16A 59 mm ²





Operating Values

#	Name	Value	Category	Description
1.	IC Ignd	710.052 μ A	Current	IC ground current
2.	Iin Avg	1.001 A	Current	Average input current
3.	BOM Count	7	General	Total Design BOM count
4.	FootPrint	76.0 mm ²	General	Total Foot Print Area of BOM components
5.	IC Tolerance	6.0 mV	General	IC Feedback Tolerance
6.	Pout	3.3 W	General	Total output power
7.	Softstart Time	1.86 ms	General	Softstart Time (Calculated)
8.	Total BOM	\$0.96	General	Total BOM Cost
9.	Vin p-p	42.0 mV	Op_Point	Input Source ripple voltage
10.	Vout Actual	3.274 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
11.	Vout OP	3.3 V	Op_Point	Operational Output Voltage

#	Name	Value	Category	Description
12.	Efficiency	78.475 %	Op_point	Steady state efficiency
13.	IC Tj	77.858 degC	Op_point	IC junction temperature
14.	ICThetaJA	53.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
15.	IOUT_OP	1.0 A	Op_point	Iout operating point
16.	Input Ripple Frequency	100.0 kHz	Op_point	Input Source Ripple Frequency for PSRR Calculation
17.	PSRR est.	-53.343 dB	Op_point	Power Supply Rejection Ratio, estimated
18.	VIN_OP	4.2 V	Op_point	Vin operating point
19.	Vout p-p	90.391 μ V	Op_point	Peak-to-peak output ripple voltage
20.	IC Pd	902.982 mW	Power	IC power dissipation
21.	Total Pd	902.982 mW	Power	Total Power Dissipation
22.	Vout Tolerance	2.288 %		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	4.2	Maximum input voltage
3.	VinMin	3.6	Minimum input voltage
4.	Vout	3.3	Output Voltage
5.	base_pn	LP38869	Texas Instruments Base Part Number
6.	source	DC	Input Source Type
7.	ta	30.0	Ambient temperature

Design Assistance

1. LP38869 Product Folder : <http://www.ti.com/product/lp38869> : contains the data sheet and other resources.

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