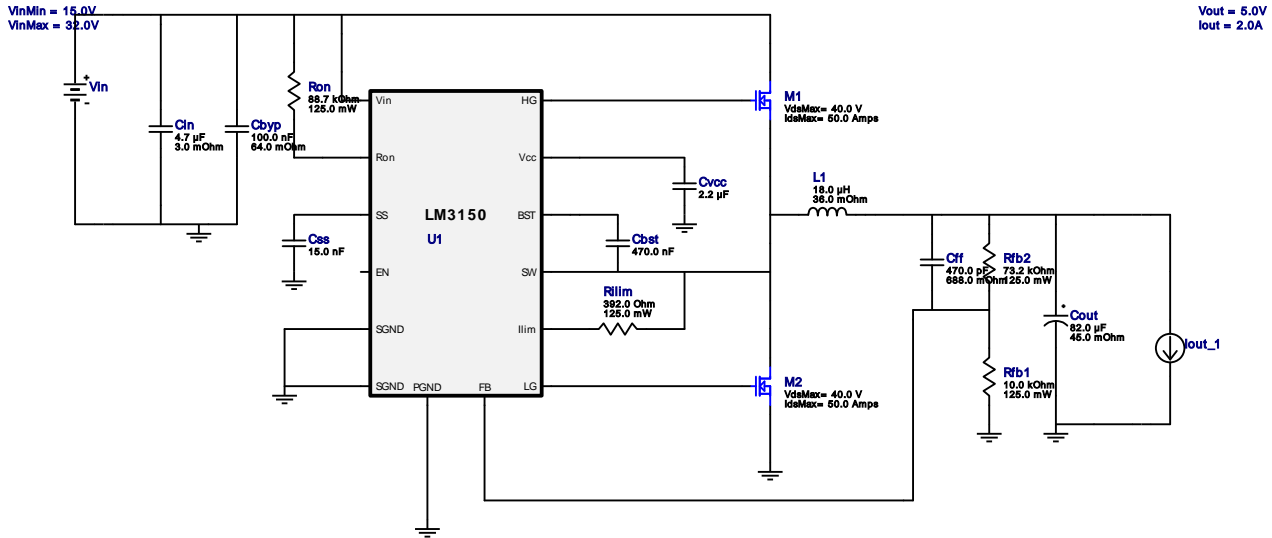








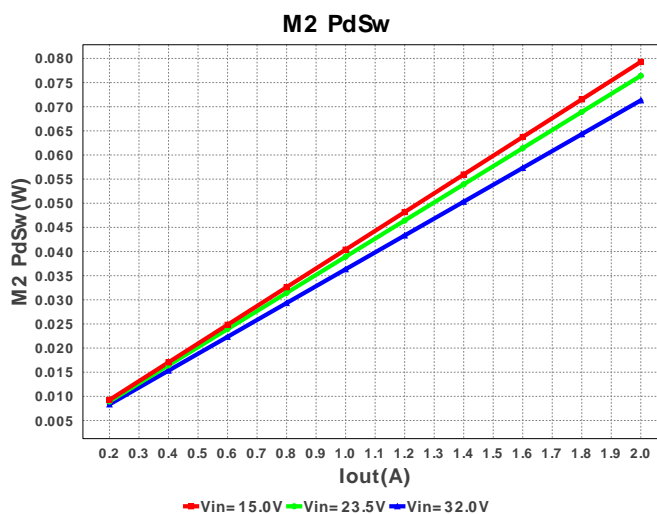
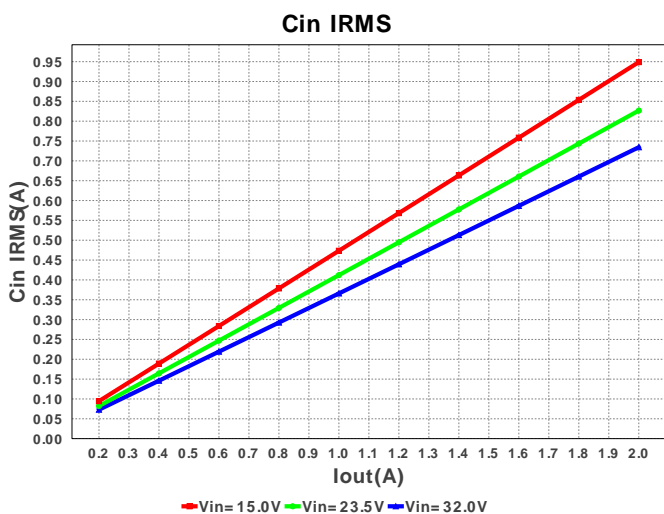
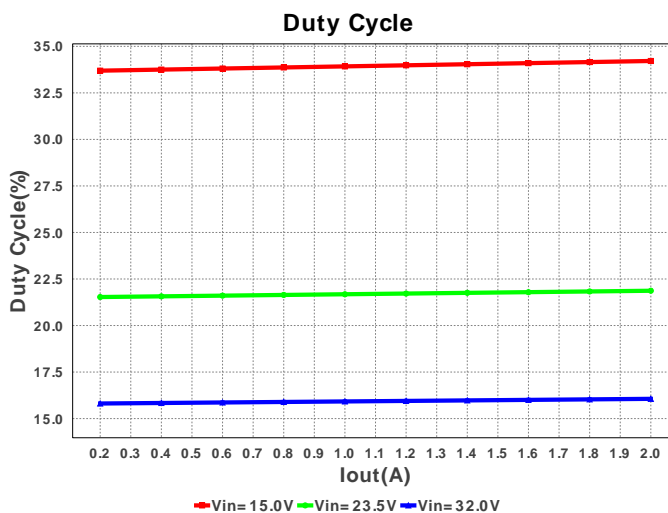
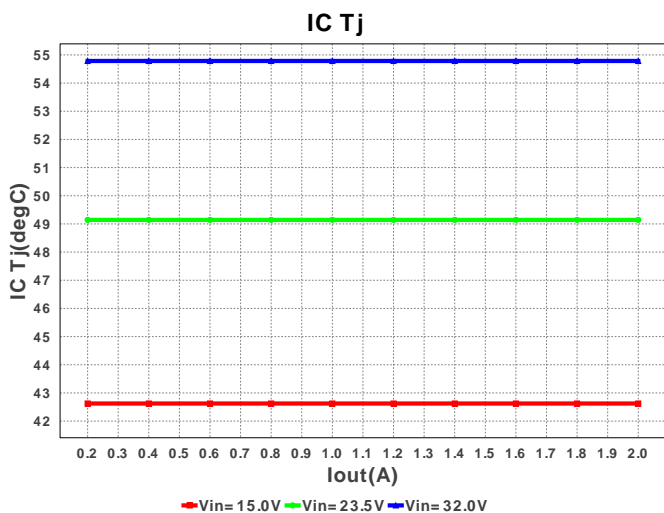


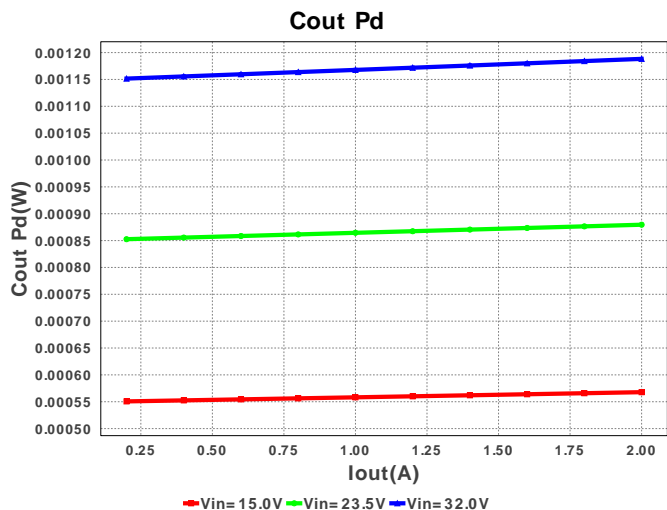
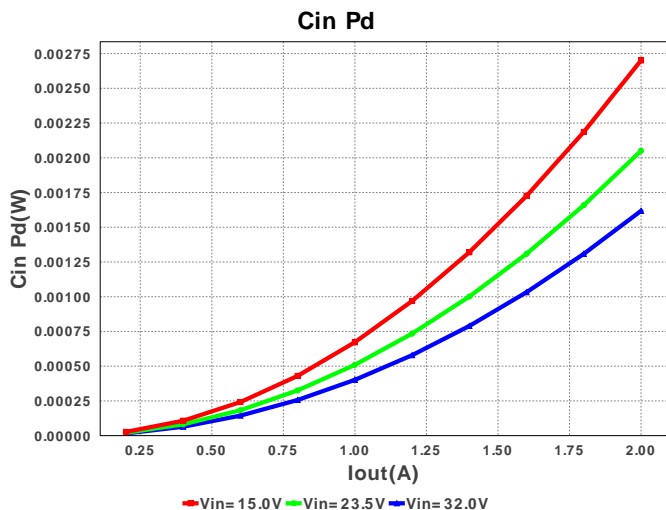
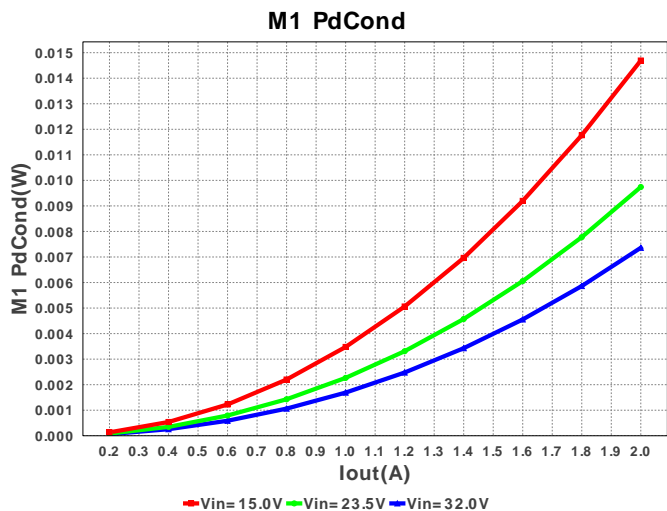
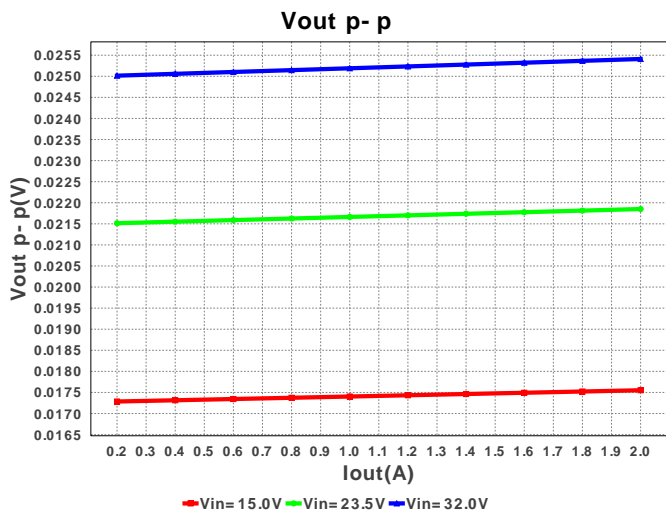
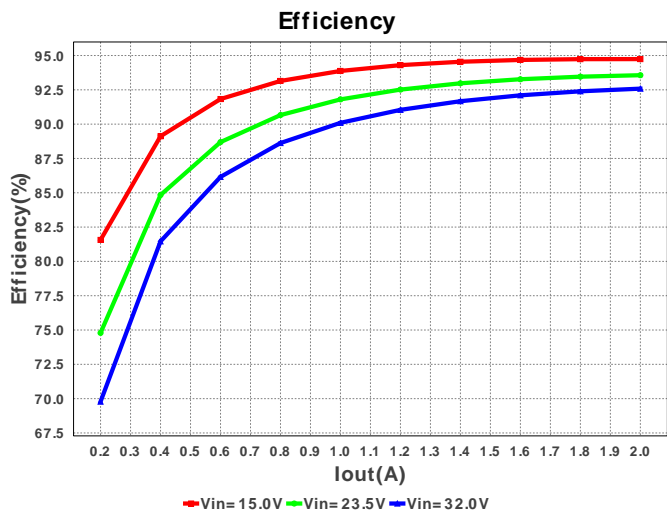
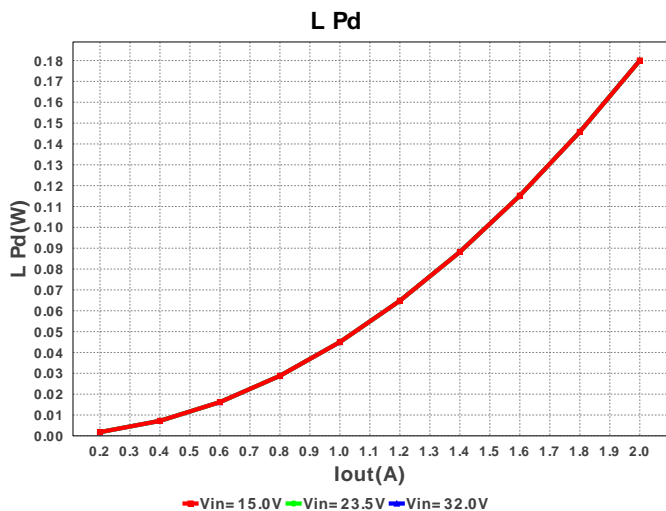
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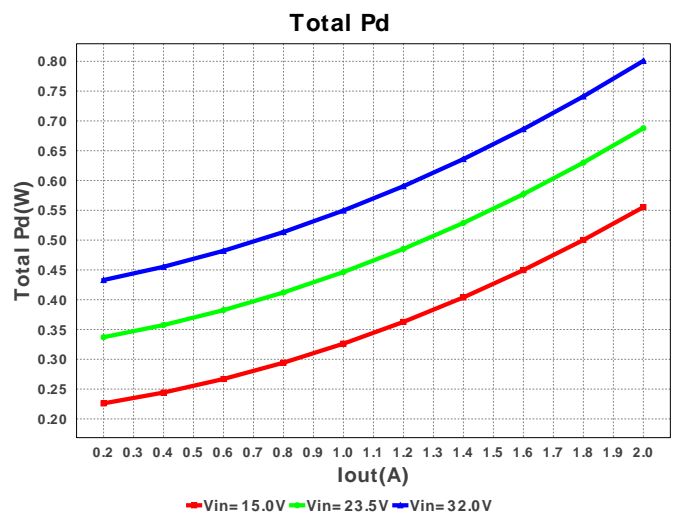
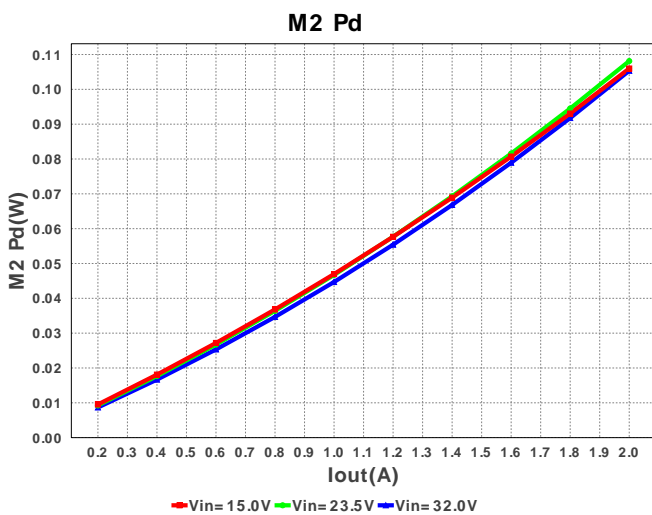
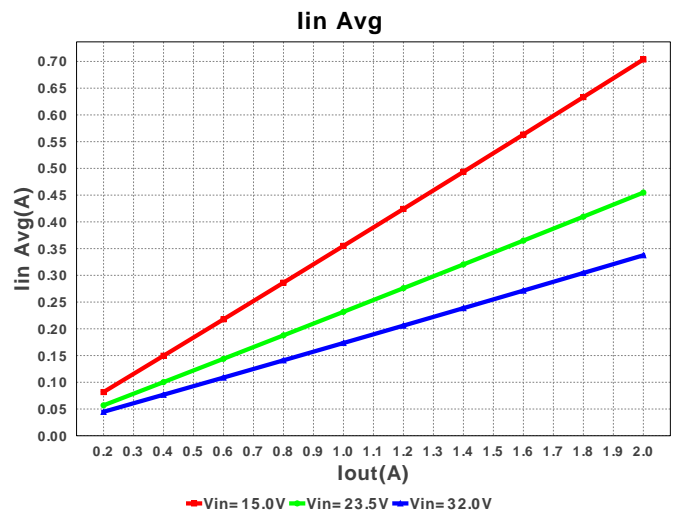
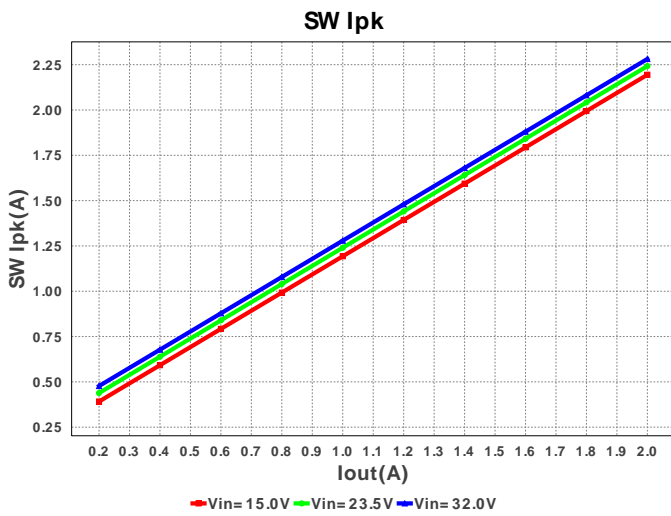
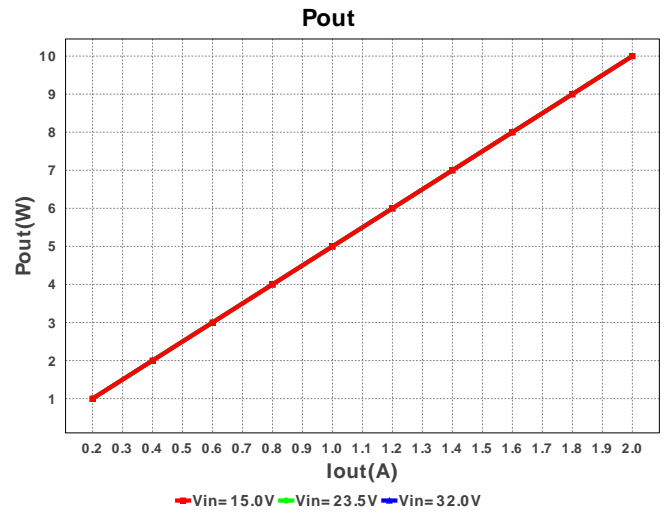
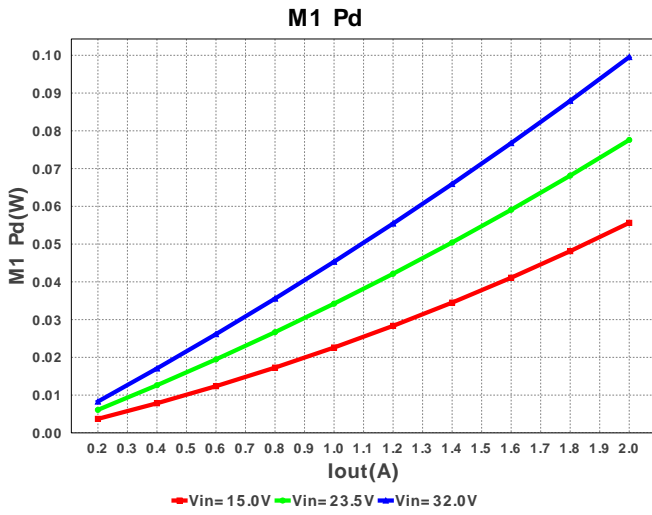
 Design : 3674641/450 LM3150MH/NOPB
 LM3150MHX/NOPB 15.0V-32.0V to 5.0V @ 2.0A

电气材料清单

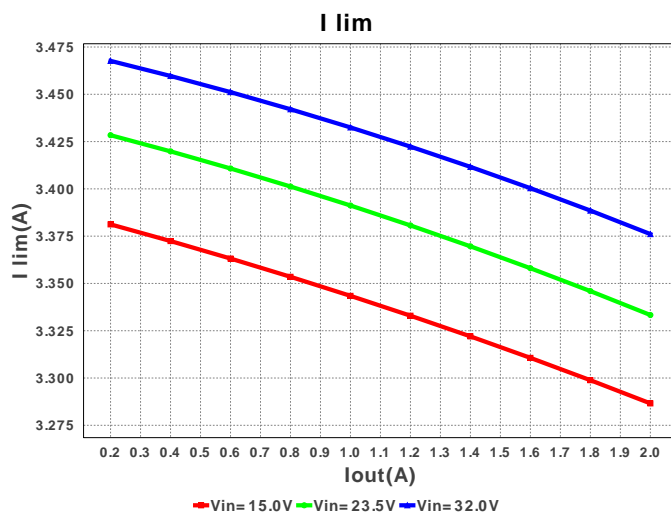
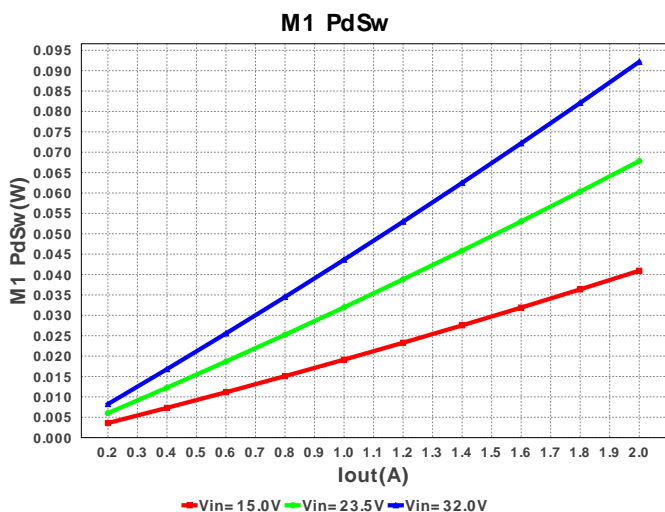
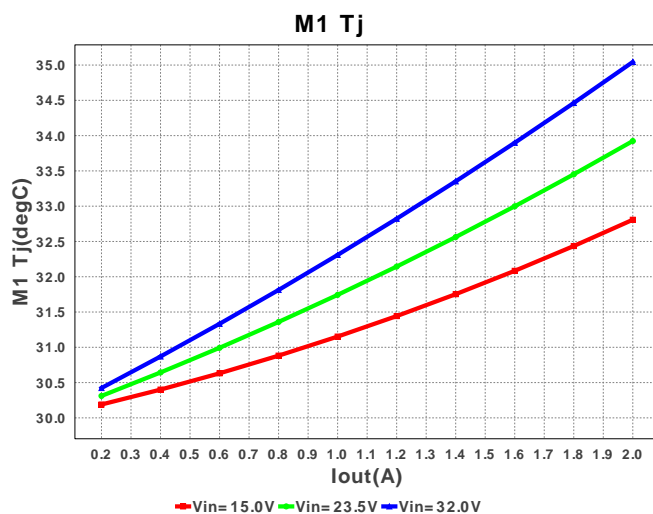
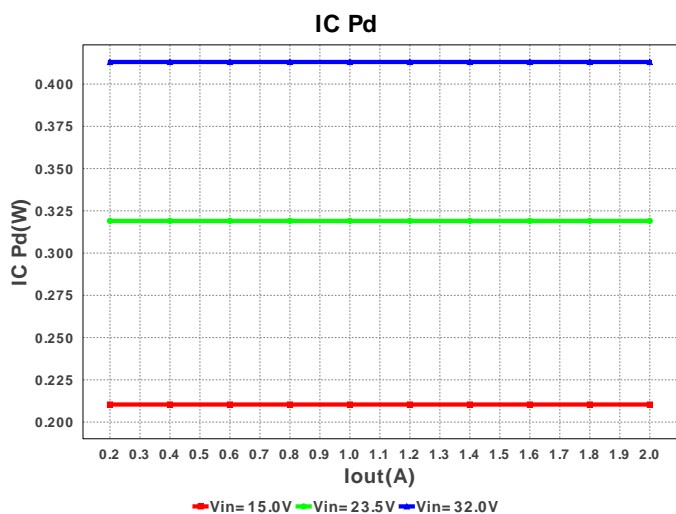
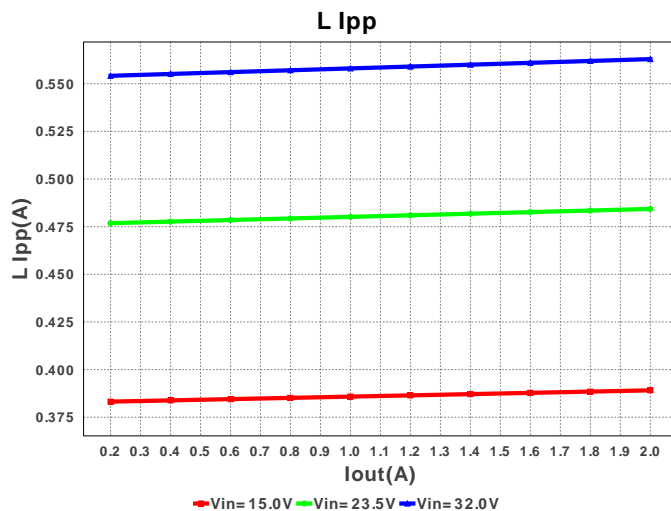
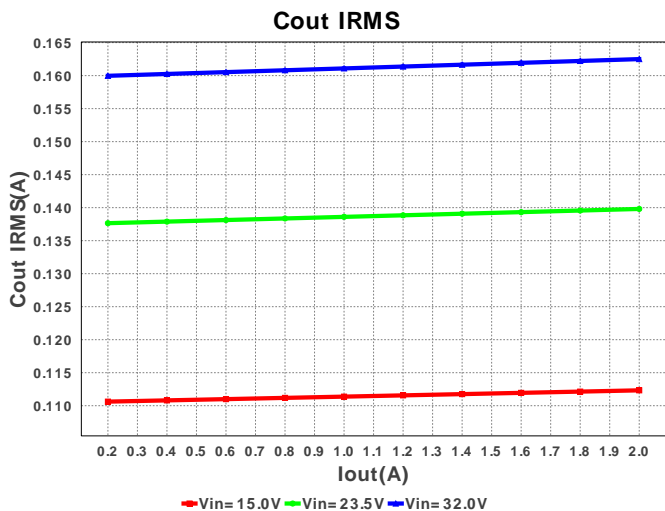
#	名称	制造商	零件编号	属性	Qty	Price	大小
1.	Cbst	Taiyo Yuden	EMK212B7474KD-T Series= X7R	Cap= 470.0 nF VDC= 16.0 V IRMS= 0.0 A	1	\$0.02	 0805 7mm2
2.	Cbyp	Kemet	C0805C104K5RACTU Series= X7R	Cap= 100.0 nF ESR= 64.0 mOhm VDC= 50.0 V IRMS= 1.64 A	1	\$0.01	 0805 7mm2
3.	Cff	Kemet	C0805C471K5RACTU Series= X7R	Cap= 470.0 pF ESR= 688.0 mOhm VDC= 50.0 V IRMS= 213.0 mA	1	\$0.01	 0805 7mm2
4.	Cin	MuRata	GRM31CR71H475KA12L Series= X7R	Cap= 4.7 µF ESR= 3.0 mOhm VDC= 50.0 V IRMS= 4.98 A	1	\$0.10	 1206 11mm2
5.	Cout	Panasonic	6SVP82M Series= 261	Cap= 82.0 µF ESR= 45.0 mOhm VDC= 6.3 V IRMS= 1.7 A	1	\$0.42	 SM_RADIAL_6.3AMM 80mm2
6.	Css	Yageo America	CC0805KRX7R9BB153 Series= X7R	Cap= 15.0 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	 0805 7mm2
7.	Cvcc	Taiyo Yuden	EMK212B7225KG-T Series= X7R	Cap= 2.2 µF VDC= 16.0 V IRMS= 0.0 A	1	\$0.03	 0805 7mm2
8.	L1	Bourns	SRR1260-180M	L= 18.0 µH DCR= 36.0 mOhm	1	\$0.41	 SRR1260 210mm2

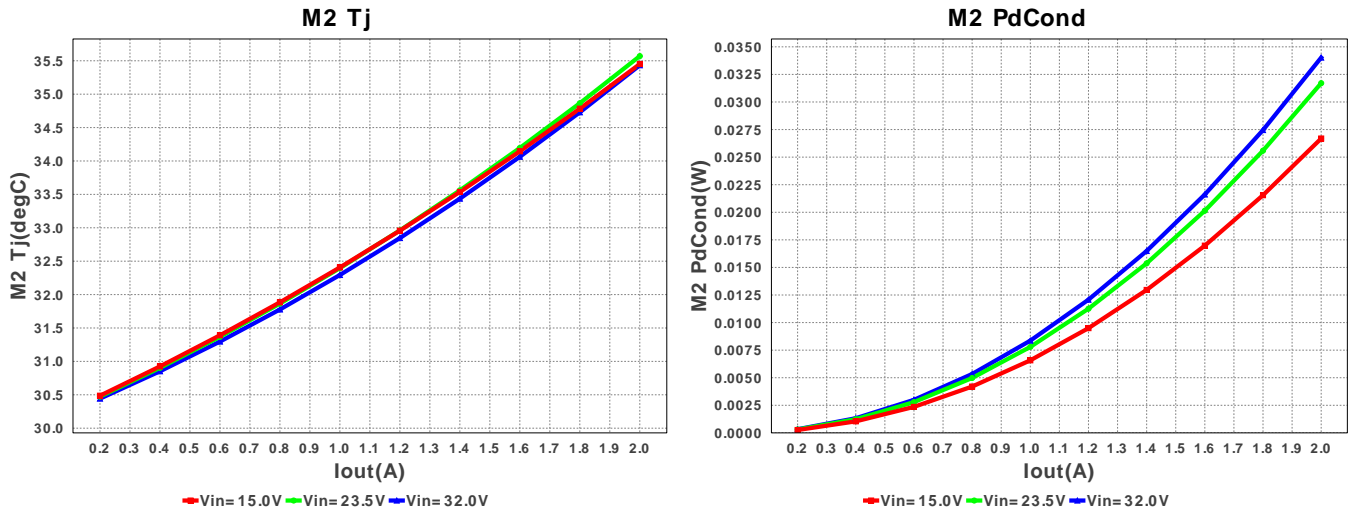
#	名称	制造商	零件编号	属性	Qty	Price	大小
9.	M1	Texas Instruments	CSD18504Q5A	VdsMax= 40.0 V IdsMax= 50.0 Amps	1	\$0.56	 TRANS_NexFET_Q5A 55mm2
10.	M2	Texas Instruments	CSD18504Q5A	VdsMax= 40.0 V IdsMax= 50.0 Amps	1	\$0.56	 TRANS_NexFET_Q5A 55mm2
11.	Rfb1	Panasonic	ERJ-6ENF1002V Series= 225	Res= 10.0 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7mm2
12.	Rfb2	Panasonic	ERJ-6ENF7322V Series= 225	Res= 73.2 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7mm2
13.	Rilim	Vishay-Dale	CRCW0805392RFKEA Series= CRCW..e3	Res= 392.0 Ohm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7mm2
14.	Ron	Panasonic	ERJ-6ENF8872V Series= 225	Res= 88.7 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7mm2
15.	U1	Texas Instruments	LM3150MHX/NOPB	Switcher	1	\$1.55	 MXA14A 59mm2











工作数值

#	名称	数值	类别	说明
1.	Cin IRMS	734.332 mA	Current	输入电容器均方根纹波电流
2.	Cout IRMS	162.501 mA	Current	输出电容器均方根纹波电流
3.	I lim	3.376 A	Current	电流限幅阈值
4.	Iin Avg	337.51 mA	Current	平均输入电流
5.	L Ipp	562.921 mA	Current	峰值到峰值电感器纹波电流
6.	SW Ipk	2.281 A	Current	峰值开关电流
7.	BOM 数量	15	General	Total Design BOM count
8.	大小	531.0 mm ²	General	BOM组件的总所占面积
9.	频率	427.959 kHz	General	开关频率
10.	IC Tolerance	12.0 mV	General	IC Feedback Tolerance
11.	Pout	10.0 W	General	总输出功率
12.	总 BOM	\$3.72	General	Total BOM Cost
13.	占空比	16.06 %	Op_point	占空比
14.	效率	92.589 %	Op_point	稳态效率
15.	IC Tj	56.85 degC	Op_point	电路接点温度
16.	IOUT_OP	2.0 A	Op_point	Iout 操作点
17.	M1 Tj	35.044 degC	Op_point	M1 MOSFET 接点温度
18.	M2 Tj	35.415 degC	Op_point	M2 MOSFET 接点温度
19.	VIN_OP	32.0 V	Op_point	Vin操作点
20.	Vout p-p	25.411 mV	Op_point	峰值到峰值输出纹波电压
21.	Cin Pd	1.618 mW	Power	输入电容器功率耗散
22.	Cout Pd	1.188 mW	Power	输出电容器功率耗散
23.	IC Pd	413.078 mW	Power	电路功率耗散
24.	L Pd	180.0 mW	Power	电感器功率耗散
25.	M1 Pd	99.529 mW	Power	M1 MOSFET 总功率耗散
26.	M1 PdCond	7.355 mW	Power	M1 MOSFET 传导损耗
27.	M1 PdSw	92.174 mW	Power	M1 MOSFET 开关损耗
28.	M2 Pd	104.989 mW	Power	M2 MOSFET 总功率耗散
29.	M2 PdCond	34.021 mW	Power	M2 MOSFET 传导损耗
30.	M2 PdSw	70.968 mW	Power	M2 MOSFET 开关损耗
31.	整体 Pd	800.412 mW	Power	总功率耗散

设计输入

#	名称	数值	说明
1.	输出电流	2.0 A	最大输出电流
2.	Iout1	2.0 Amps	Output Current #1
3.	Vin 最大	32.0 V	最高输入电压
4.	Vin 最小	15.0 V	最低输入电压
5.	输出电压:	5.0 V	输出电压
6.	Vout1	5.0 Volt	Output Voltage #1
7.	base_pn	LM3150	美国国家半导体的产品编号
8.	源	DC	输入源类别
9.	工作环境温度	30.0 degC	环境温度

设计协助

1. LM3150 Product Folder : <http://www.ti.com/product/lm3150> : contains the data sheet and other resources.

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You should completely validate and test your design implementation to confirm the system functionality for your application prior to production.

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