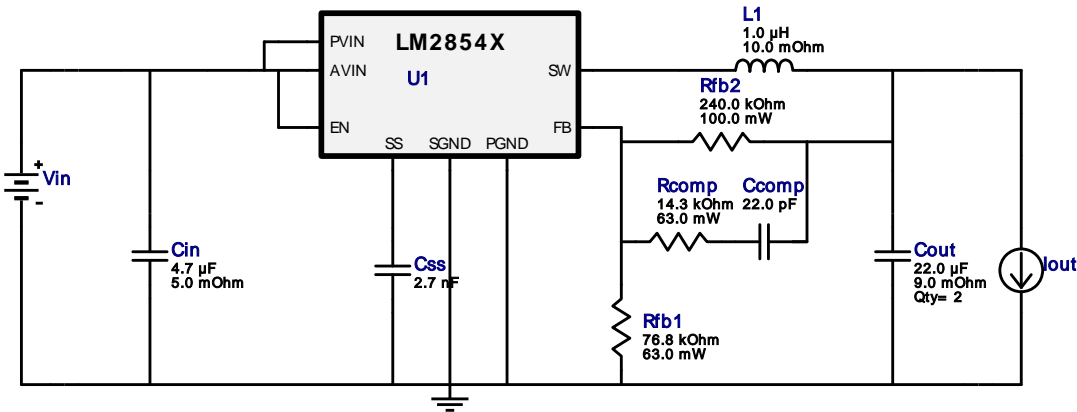









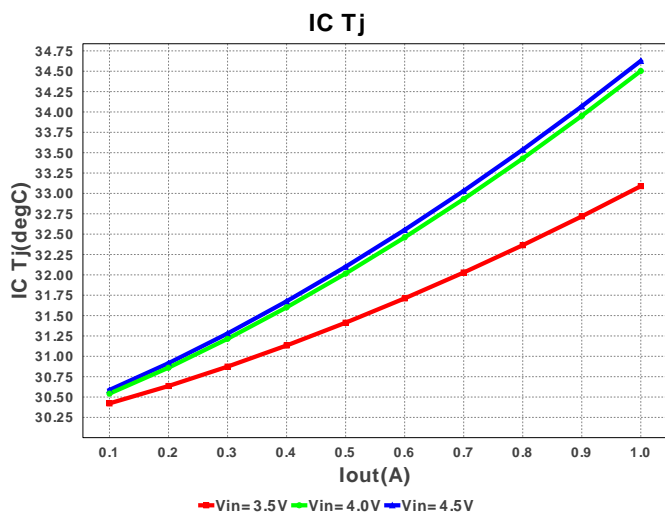
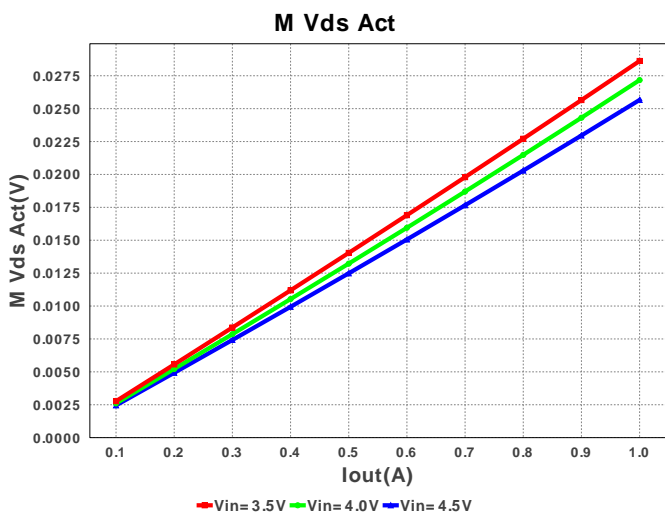
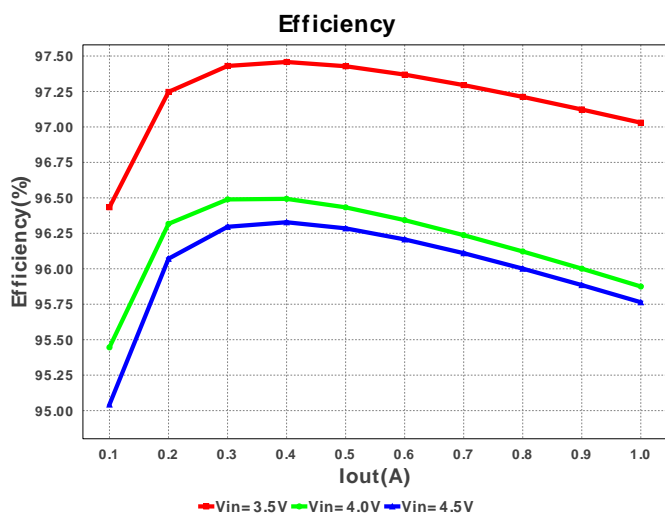
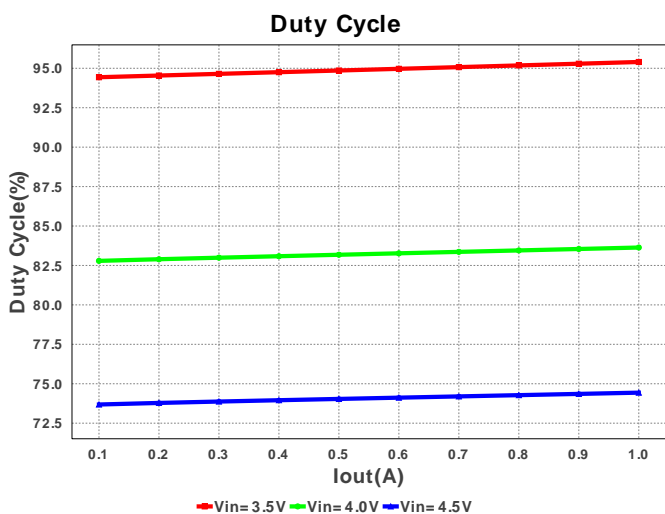
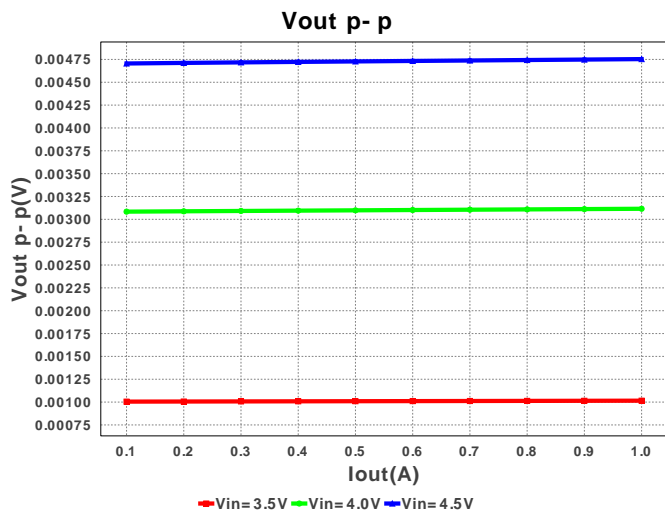
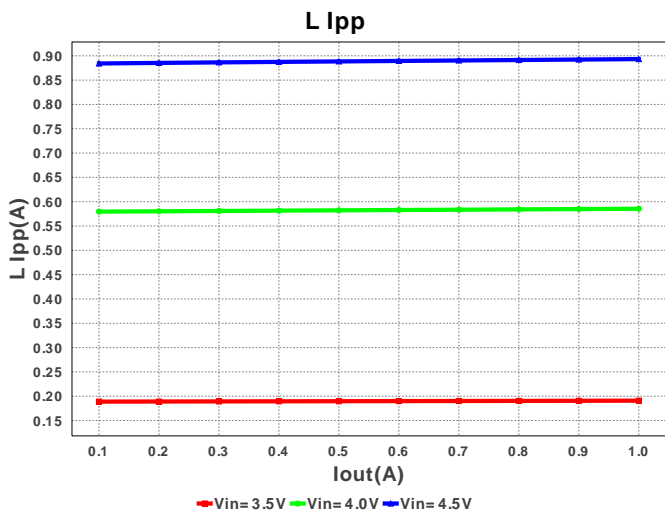


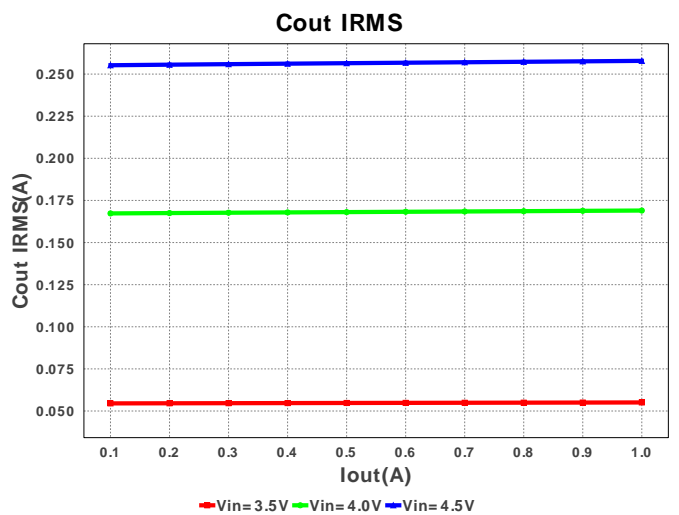
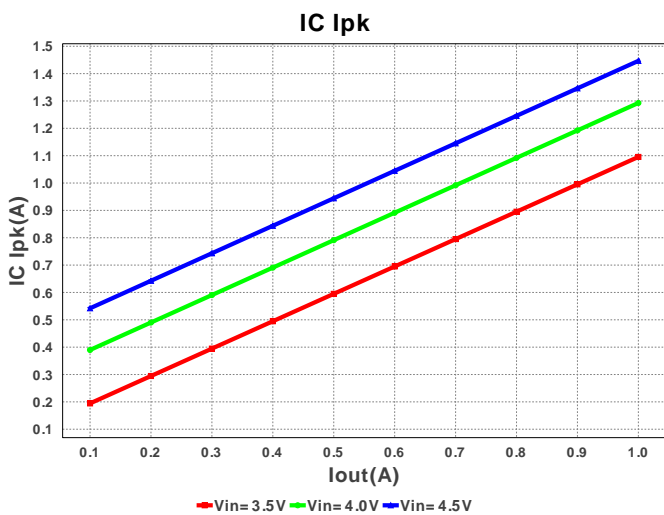
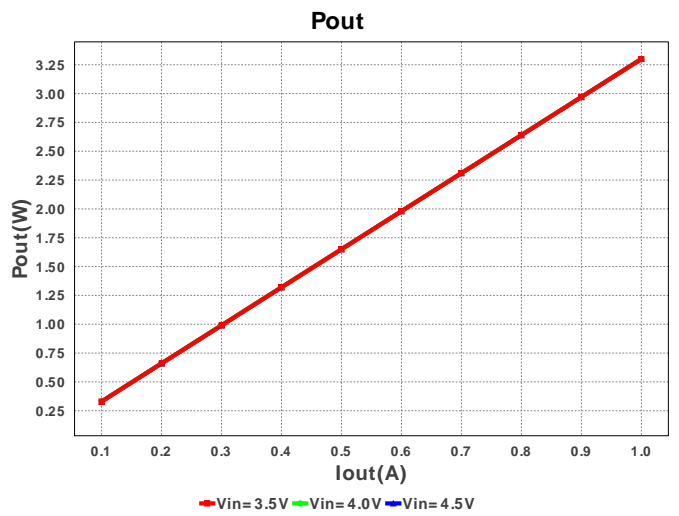
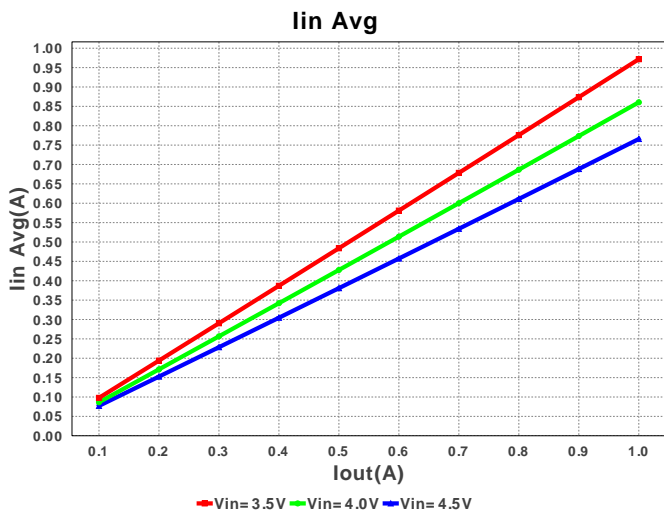
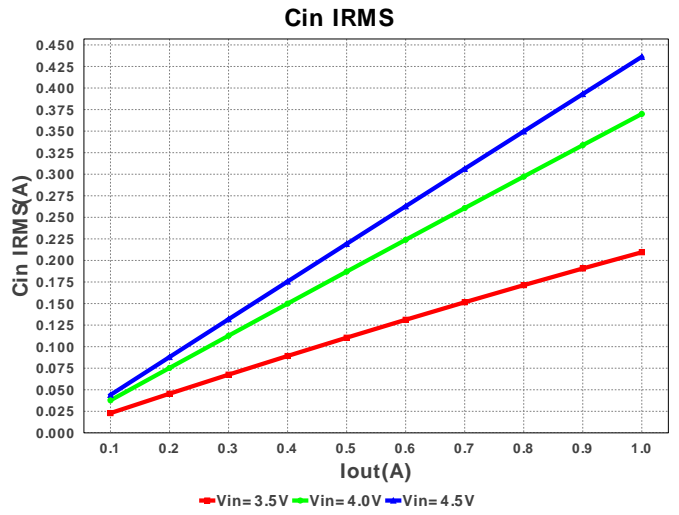
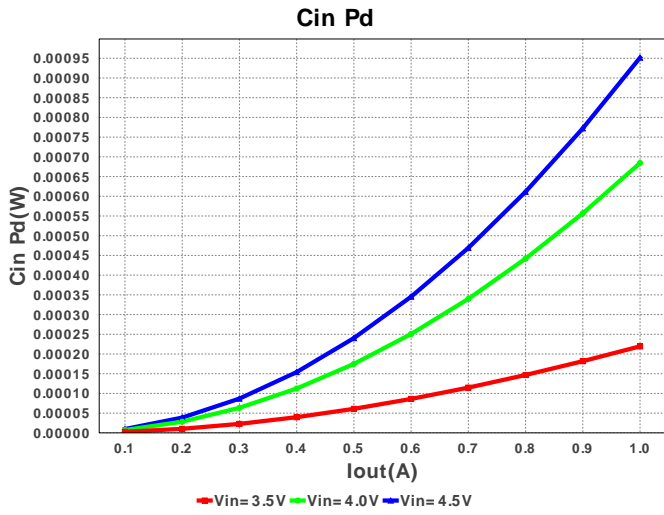
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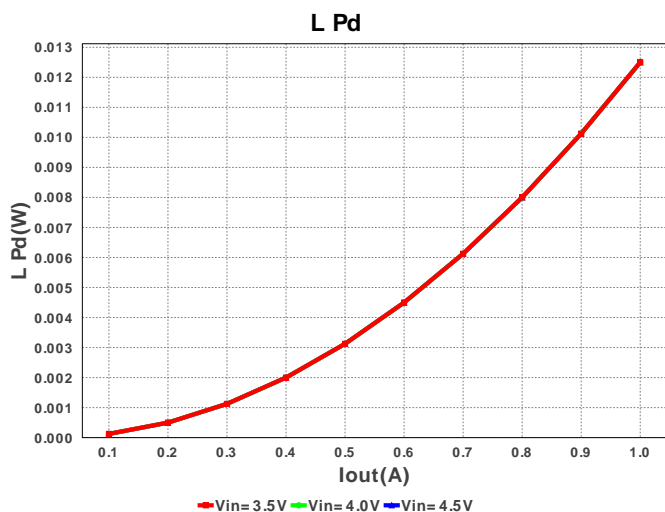
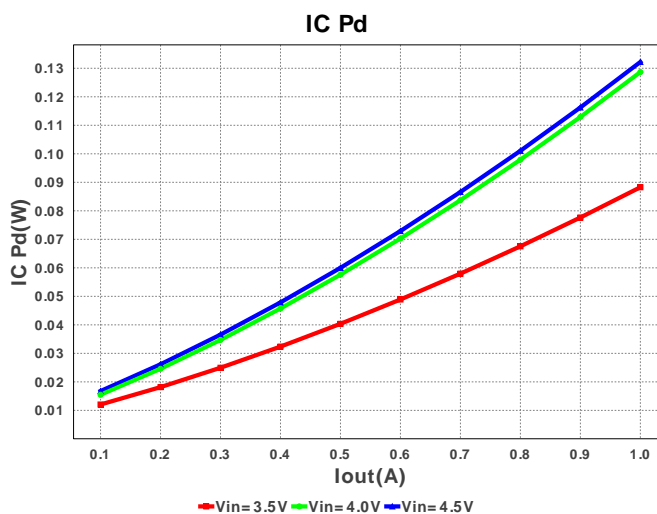
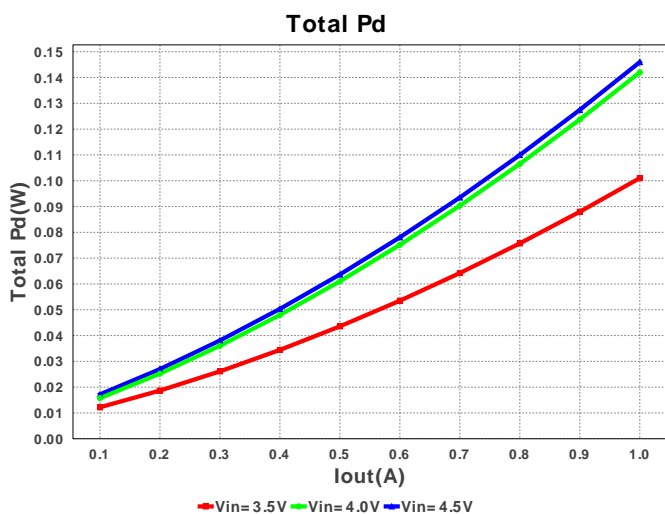
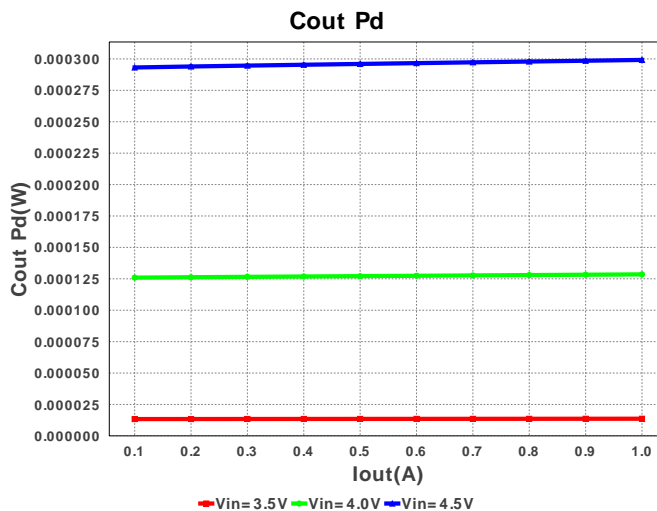
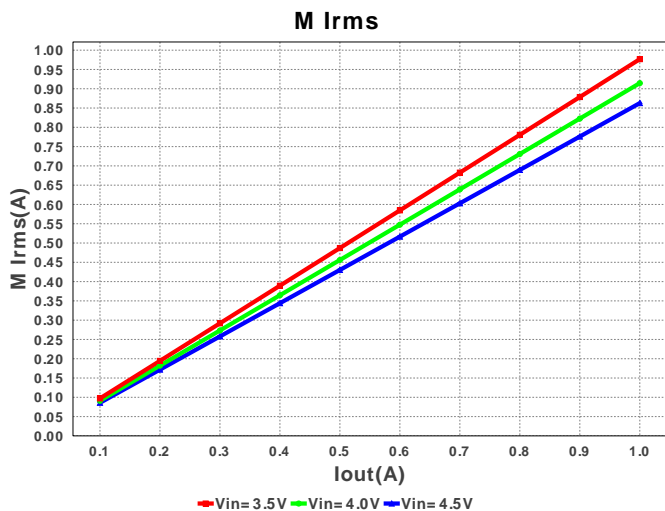
 Design : 3820738/89 LM2854MH-1000/NOPB
 LM2854MHX-1000/NOPB 3.5V-4.5V to 3.3V @ 1.0A
 VinMin = 3.5V
 VinMax = 4.5V

 Vout = 3.3V
 Iout = 1.0A

电气材料清单

#	名称	制造商	零件编号	属性	Qty	Price	大小
1.	Ccomp	Yageo America	CC0805JRNP09BN220 Series= C0G/NP0	Cap= 22.0 pF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	 0805 7mm2
2.	Cin	MuRata	GRM188R60J475KE19D Series= X5R	Cap= 4.7 µF ESR= 5.0 mOhm VDC= 6.3 V IRMS= 2.0 A	1	\$0.02	 0603 5mm2
3.	Cout	MuRata	GRM21BR60J226ME39L Series= X5R	Cap= 22.0 µF ESR= 9.0 mOhm VDC= 6.3 V IRMS= 3.5 A	2	\$0.03	 0805 7mm2
4.	Css	Yageo America	CC0805KRX7R9BB272 Series= X7R	Cap= 2.7 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	 0805 7mm2
5.	L1	Bourns	SRN8040-1R0Y	L= 1.0 µH DCR= 10.0 mOhm	1	\$0.21	 SRN8040 100mm2
6.	Rcomp	Vishay-Dale	CRCW040214K3FKED Series= CRCW..e3	Res= 14.3 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3mm2
7.	Rfb1	Vishay-Dale	CRCW040276K8FKED Series= CRCW..e3	Res= 76.8 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3mm2
8.	Rfb2	Yageo America	RC0603FR-07240KL Series= 233	Res= 240.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	\$0.01	 0603 5mm2
9.	U1	Texas Instruments	LM2854MHX-1000/NOPB	Switcher	1	\$2.10	 MXA16A 59mm2







工作数值

#	名称	数值	类别	说明
1.	Cin IRMS	436.223 mA	Current	输入电容器均方根纹波电流
2.	Cout IRMS	257.852 mA	Current	输出电容器均方根纹波电流
3.	IC Ipk	1.447 A	Current	电路内的峰值开关电流
4.	Iin Avg	765.77 mA	Current	平均输入电流
5.	L Ipp	893.226 mA	Current	峰值到峰值电感器纹波电流
6.	M1 Irms	862.76 mA	Current	Q Iavg
7.	BOM 数量	10	General	Total Design BOM count
8.	大小	201.0 mm ²	General	BOM组件的总所占面积
9.	频率	1000.0 kHz	General	开关频率
10.	IC Tolerance	10.0 mV	General	IC Feedback Tolerance
11.	M Vds Act	25.662 mV	General	Voltage drop across the MosFET

#	名称	数值	类别	说明
12.	Pout	3.3 W	General	总输出功率
13.	总 BOM	\$2.43	General	Total BOM Cost
14.	Vout OP	3.3 V	Op_Point	Operational Output Voltage
15.	交叉频率	57.544 kHz	Op_point	波特图交叉频率
16.	占空比	74.435 %	Op_point	占空比
17.	效率	95.764 %	Op_point	稳态效率
18.	IC Tj	34.627 degC	Op_point	电路接点温度
19.	ICThetaJA	35.0 degC/W	Op_point	电路接点到环境热敏电阻
20.	IOUT_OP	1.0 A	Op_point	Iout 操作点
21.	相位裕度	49.426 deg	Op_point	波特图相位裕度
22.	VIN_OP	4.5 V	Op_point	Vin操作点
23.	Vout p-p	4.754 mV	Op_point	峰值到峰值输出纹波电压
24.	Cin Pd	951.454 μW	Power	输入电容器功率耗散
25.	Cout Pd	299.195 μW	Power	输出电容器功率耗散
26.	IC Pd	132.207 mW	Power	电路功率耗散
27.	L Pd	12.5 mW	Power	电感器功率耗散
28.	整体 Pd	145.971 mW	Power	总功率耗散

设计输入

#	名称	数值	说明
1.	输出电流	1.0 A	最大输出电流
2.	Iout1	1.0 Amps	Output Current #1
3.	Vin 最大	4.5 V	最高输入电压
4.	Vin 最小	3.5 V	最低输入电压
5.	输出电压:	3.3 V	输出电压
6.	Vout1	3.3 Volt	Output Voltage #1
7.	base_pn	LM2854X	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. LM2854X Product Folder : <http://www.ti.com/product/lm2854> : contains the data sheet and other resources.

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