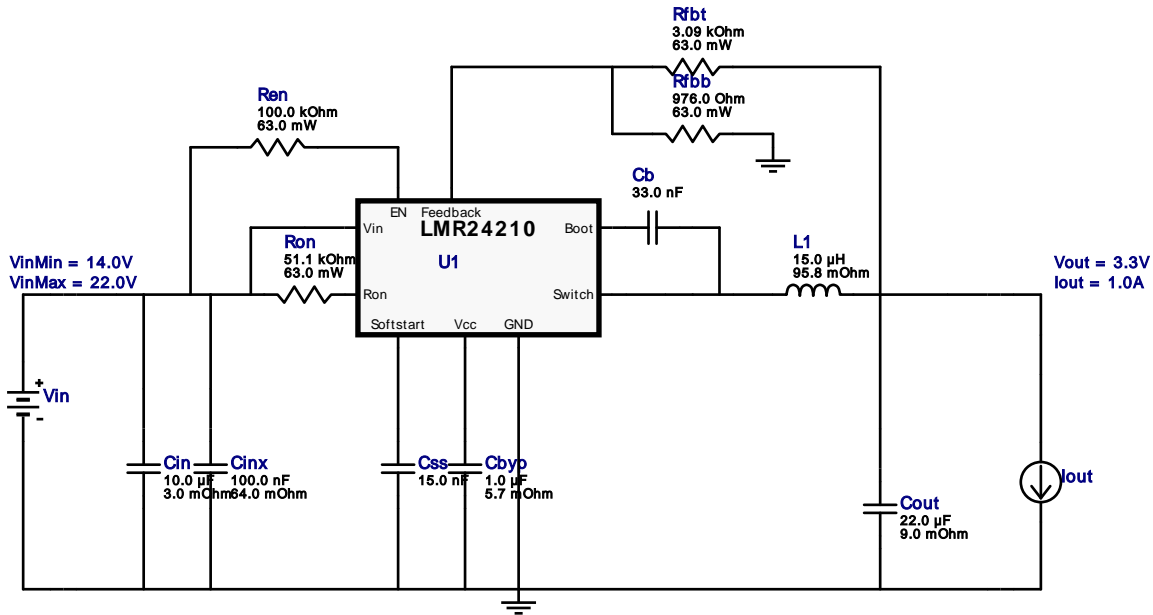



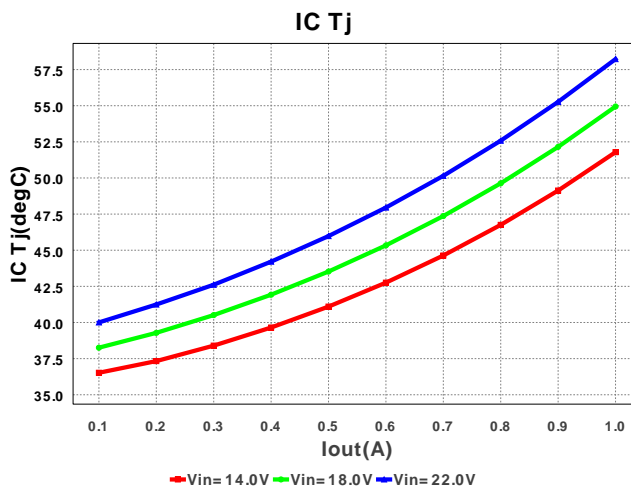
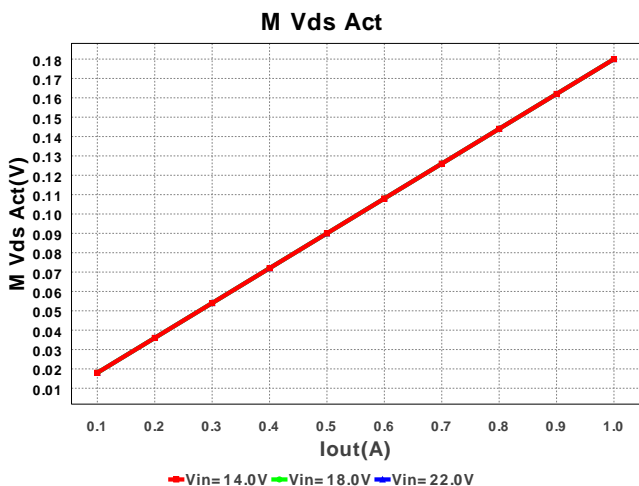
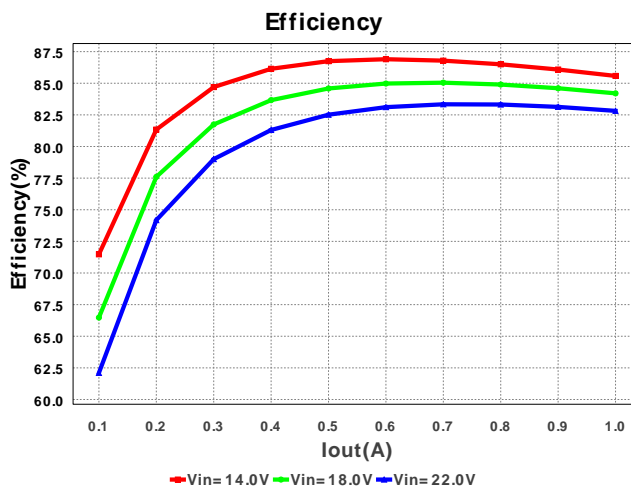
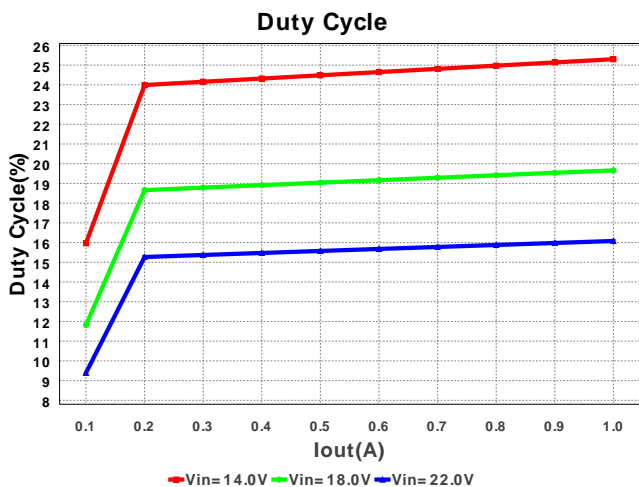
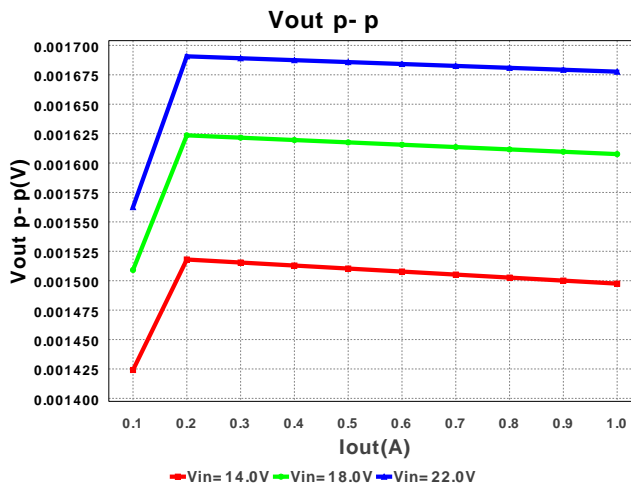
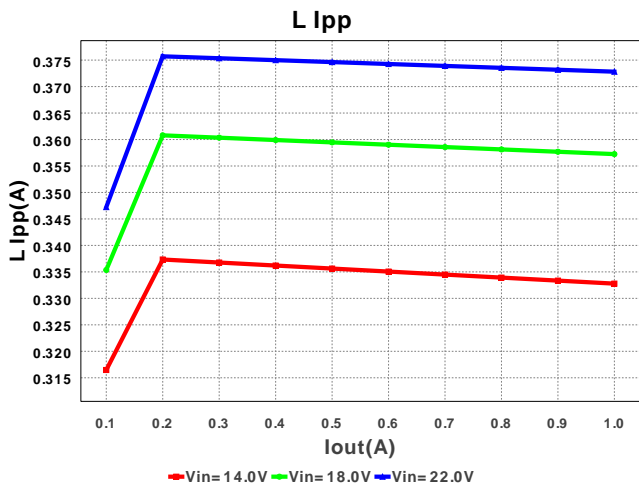


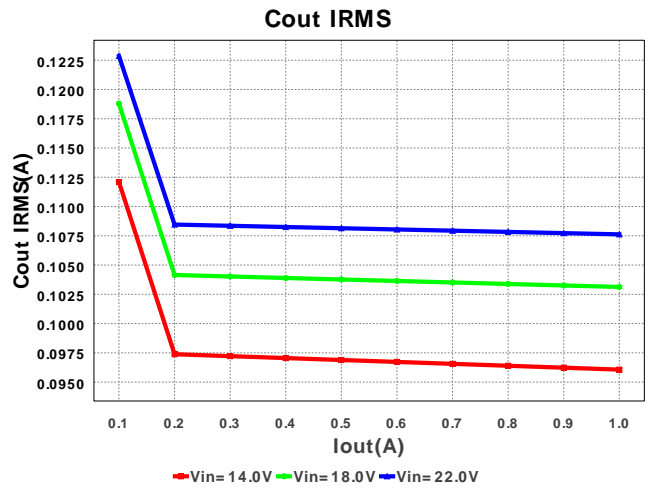
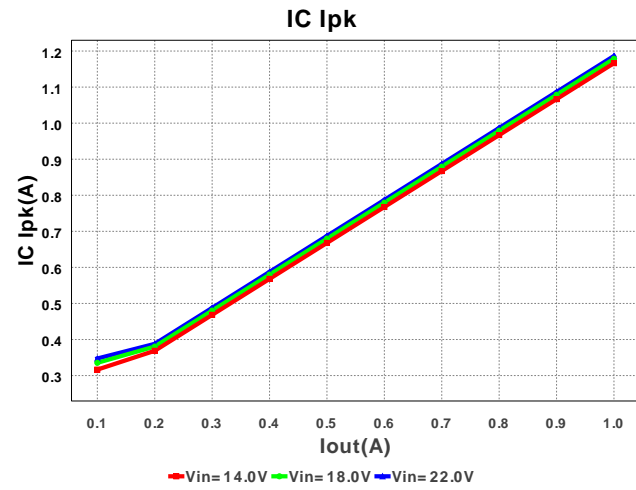
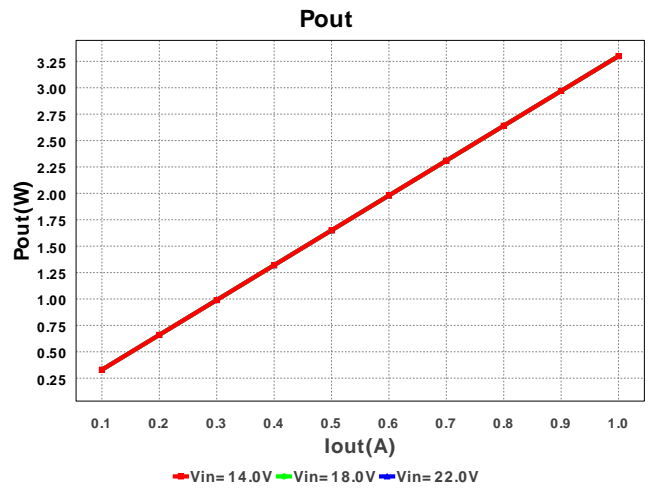
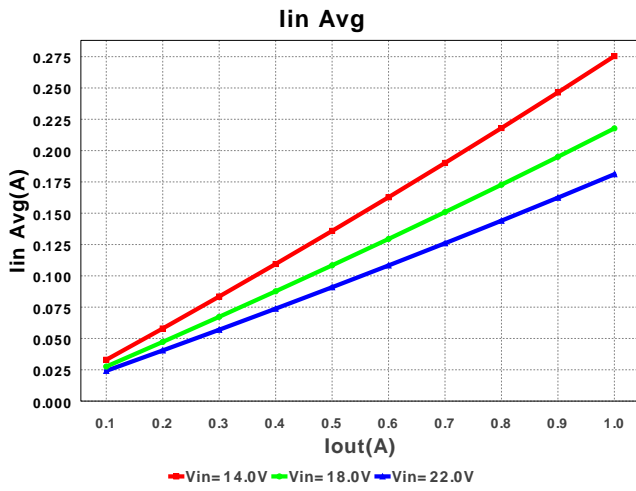
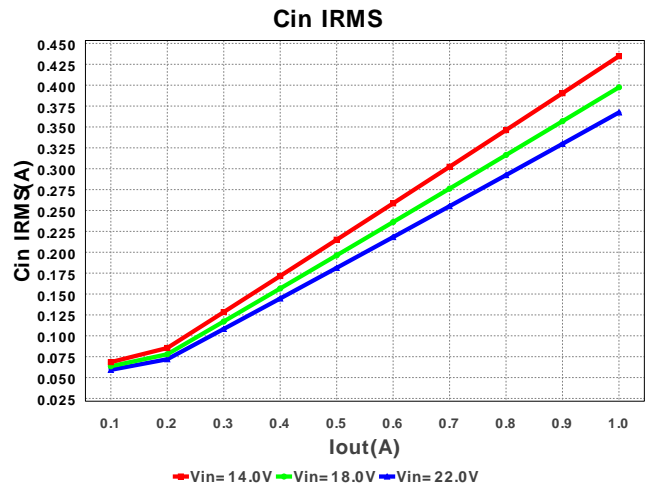
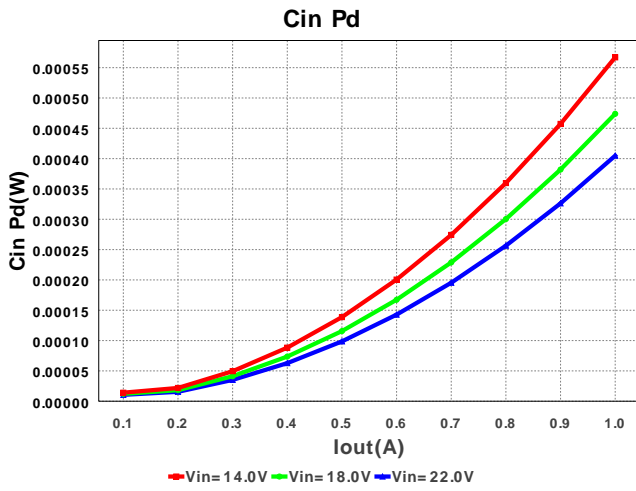
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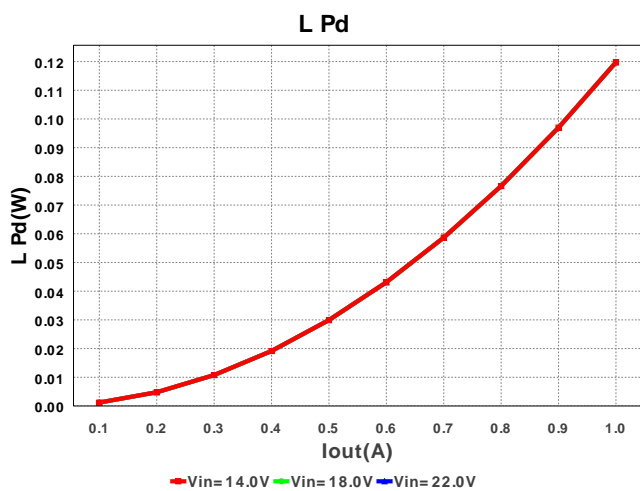
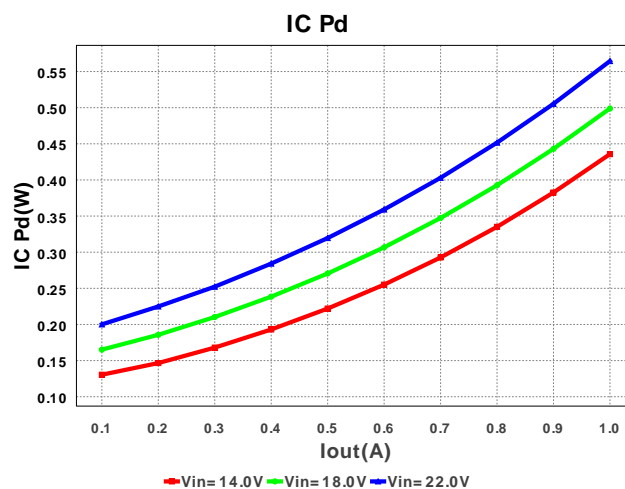
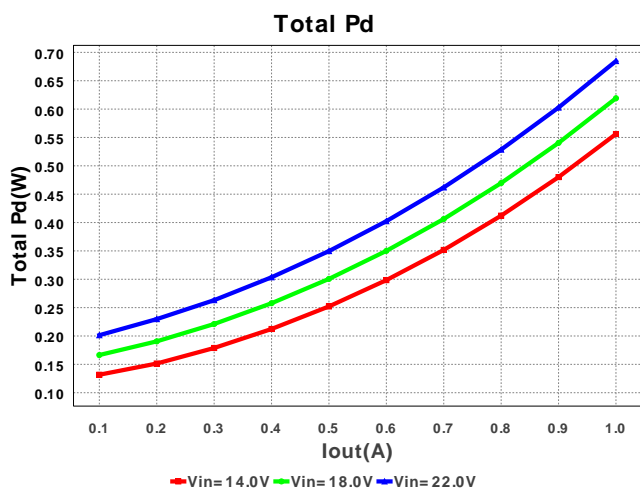
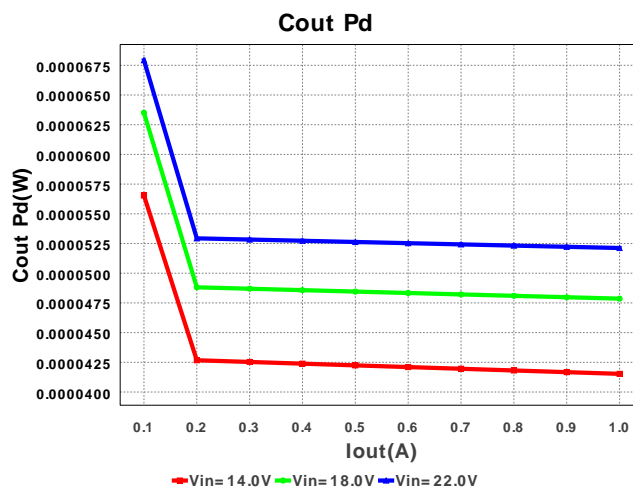
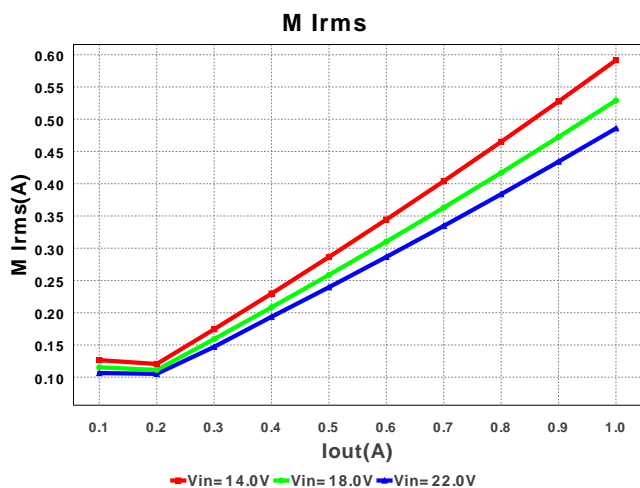
 Design : 1147140/183 LMR24210TL/NOPB
 LMR24210TL/NOPB 14.0V-22.0V to 3.3V @ 1.0A

电气材料清单

#	名称	制造商	零件编号	属性	Qty	Price	大小
1.	Cb	MuRata	GRM155R71E333KA88D Series= X7R	Cap= 33.0 nF VDC= 25.0 V IRMS= 0.0 A	1	\$0.01	0402 8mm2
2.	Cbyp	TDK	C1608X5R1C105K Series= X5R	Cap= 1.0 µF ESR= 5.7 mOhm VDC= 16.0 V IRMS= 0.0 A	1	\$0.01	0603 10mm2
3.	Cin	TDK	C5750X7R1H106M Series= X7R	Cap= 10.0 µF ESR= 3.0 mOhm VDC= 50.0 V IRMS= 5.5 A	1	\$0.68	 2220 60mm2
4.	Cinx	Kemet	C0805C104K5RACTU Series= X7R	Cap= 100.0 nF ESR= 64.0 mOhm VDC= 50.0 V IRMS= 1.64 A	1	\$0.01	 0805 13mm2
5.	Cout	MuRata	GRM21BR60J226ME39L Series= X5R	Cap= 22.0 µF ESR= 9.0 mOhm VDC= 6.3 V IRMS= 3.5 A	2	\$0.05	 0805 13mm2
6.	Css	MuRata	GRM155R71E153KA61D Series= X7R	Cap= 15.0 nF VDC= 25.0 V IRMS= 0.0 A	1	\$0.01	0402 8mm2
7.	L1	Bourns	SRN6045-150M	L= 15.0 µH DCR= 95.8 mOhm	1	\$0.16	 SRN6045 64mm2
8.	Ren	Vishay-Dale	CRCW0402100KFKED Series= CRCW..e3	Res= 100.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 8mm2
9.	Rfbb	Vishay-Dale	CRCW0402976RFKED Series= CRCW..e3	Res= 976.0 Ohm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 8mm2

#	名称	制造商	零件编号	属性	Qty	Price	大小
10.	Rfbt	Vishay-Dale	CRCW04023K09FKED Series= CRCW..e3	Res= 3.09 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 8mm2
11.	Ron	Vishay-Dale	CRCW040251K1FKED Series= CRCW..e3	Res= 51.1 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 8mm2
12.	U1	Texas Instruments	LMR24210TL/NOPB	Switcher	1	\$1.50	TLC28VFA 25mm2







工作数值

#	名称	数值	类别	说明
1.	Cin IRMS	367.351 mA	Current	输入电容器均方根纹波电流
2.	Cout IRMS	107.622 mA	Current	输出电容器均方根纹波电流
3.	IC Ipk	1.186 A	Current	电路内的峰值开关电流
4.	Iin Avg	181.12 mA	Current	平均输入电流
5.	L Ipp	372.813 mA	Current	峰值到峰值电感器纹波电流
6.	M1 Irms	485.759 mA	Current	Q lavg
7.	BOM 数量	13	General	Total Design BOM count
8.	大小	243.0 mm ²	General	BOM组件的总所占面积
9.	频率	532.549 kHz	General	开关频率
10.	IC Tolerance	16.0 mV	General	IC Feedback Tolerance
11.	M Vds Act	180.0 mV	General	Voltage drop across the MosFET

#	名称	数值	类别	说明
12.	模式	CCM	General	传导模式
13.	Pout	3.3 W	General	总输出功率
14.	总 BOM	\$2.52	General	Total BOM Cost
15.	Vout OP	3.3 V	Op_Point	Operational Output Voltage
16.	占空比	16.081 %	Op_point	占空比
17.	效率	82.817 %	Op_point	稳态效率
18.	IC Tj	58.225 degC	Op_point	电路接点温度
19.	ICThetaJA	50.0 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.	VIN_OP	22.0 V	Op_point	Vin操作点
22.	Vout p-p	1.678 mV	Op_point	峰值到峰值输出纹波电压
23.	Cin Pd	404.841 μ W	Power	输入电容器功率耗散
24.	Cout Pd	52.121 μ W	Power	输出电容器功率耗散
25.	IC Pd	564.5 mW	Power	电路功率耗散
26.	L Pd	119.75 mW	Power	电感器功率耗散
27.	整体 Pd	684.681 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	22.0 V	最高输入电压
4.	Vin 最小	14.0 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	LMR24210	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. LMR24210 Product Folder : <http://www.ti.com/product/lmr24210> : 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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