VinMin = 7.0V
VinMax = 17.0V
Vout = 5.0V
Iout = 12.0A

Device = LM3150MH/NOPB
Topology = Buck
Created = 8/22/16 6:20:49 AM
BOM Cost = $6.39
Total Pd = 2.95W
Footprint = 505.0 mm^2
BOM Count = 17
tSim Id = 2

WEBENCH® Thermal Simulation Report

Design : 4493365/25 LM3150MH/NOPB
LM3150MH/NOPB 7.0V-17.0V to 5.00V @ 12.0A

Operating Condition

Name	Value
VIN_OP	17.0V
IOUT_OP	12.0A

Ambient Temperature

Name	Temperature
Ambient_plus_Z	30.0
Ambient_minus_Z	30.0

Air Flow

Name	Direction
Flow_Type	Convection
Flow_Rate	0.0LFM
Flow_Direction	Top to Bottom

Edge Temperature

Name	Temperature	Thermal Type
Edge_plus_X (Right)		Insulated
Edge_minus_X (Left)		Insulated
Edge_plus_Y (Top)		Insulated
Edge_minus_Y (Bottom)		Insulated

My Comments

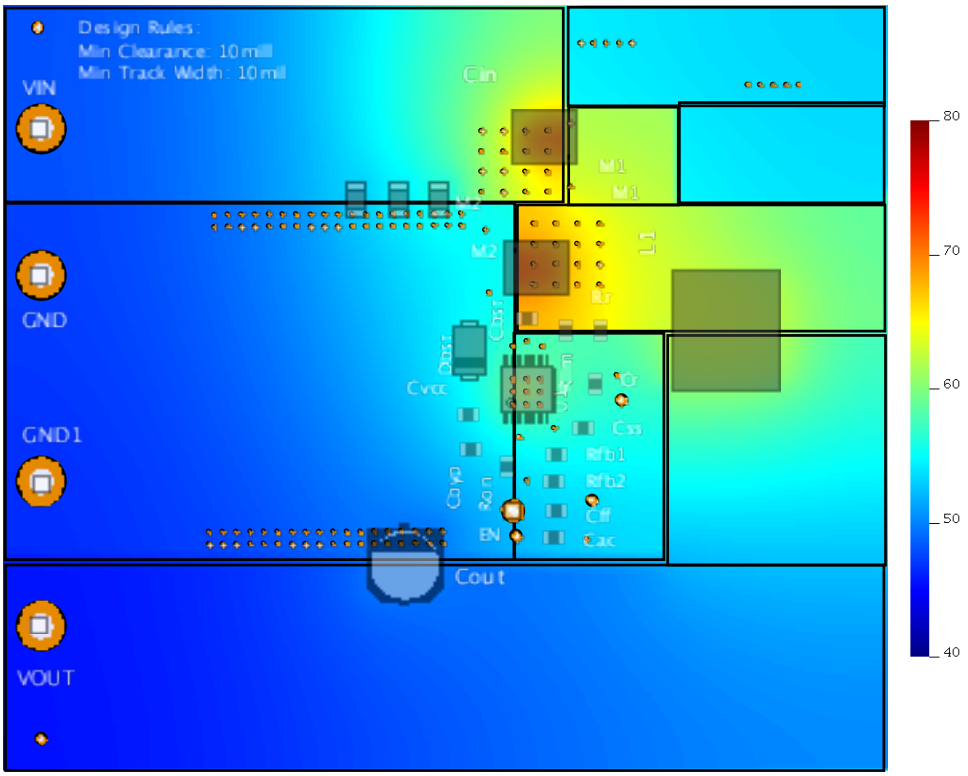
No comments

BOM

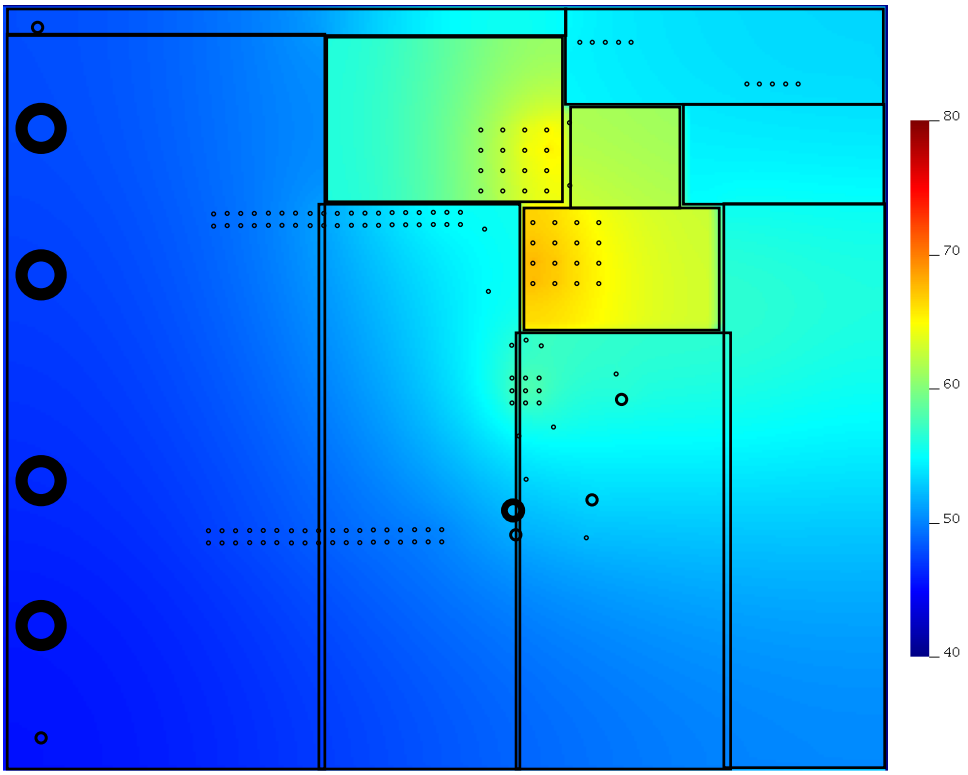
Component Name(s)	Part Number	Max Temp	Power Dissipation	Manufacture	Properties	Qty	Price	Footprint
pcb_bottom		68°C						
M1	CSD16321Q5	70°C	0.755W	Texas Instruments	VdsMax=25.0V IdsMax=100.0Amps	1	$0.69	 TRANS_NexFET_Q5 55.131 mm^2
M2	CSD18509Q5B	71°C	0.506W	Texas Instruments	VdsMax=40.0V IdsMax=100.0Amps	1	$0.89	 TRANS_NexFET_Q5B 57.51 mm^2
L1	XAL1010-472MEB	64°C	0.936W	Coilcraft	L=4.7E-6H DCR=0.0052Ohm	1	$1.71	 XAL1010 159.6 mm^2

Component Name(s)	Part Number	Max Temp	Power Dissipation	Manufacture	Properties	Qty	Price	Footprint
Cin	C3216X5R1E476M160AC	56°C	0.007W	TDK	VDC=25.0V ESR=0.002082Ohm IRMS=5.02786A Cap=4.7E-5F	3	$0.35	 1206 10.92 mm^2
Cout	6SVPC330M	49°C	0.024W	Panasonic	VDC=6.3V ESR=0.017Ohm IRMS=3.39A Cap=3.3E-4F	1	$0.32	 SM_RADIAL_6.3AMM 79.98 mm^2
U1	LM3150MH/NOPB	64°C	0.712W	Texas Instruments		1	$1.62	 MXA14A 58.8 mm^2
pcb_top		71°C						

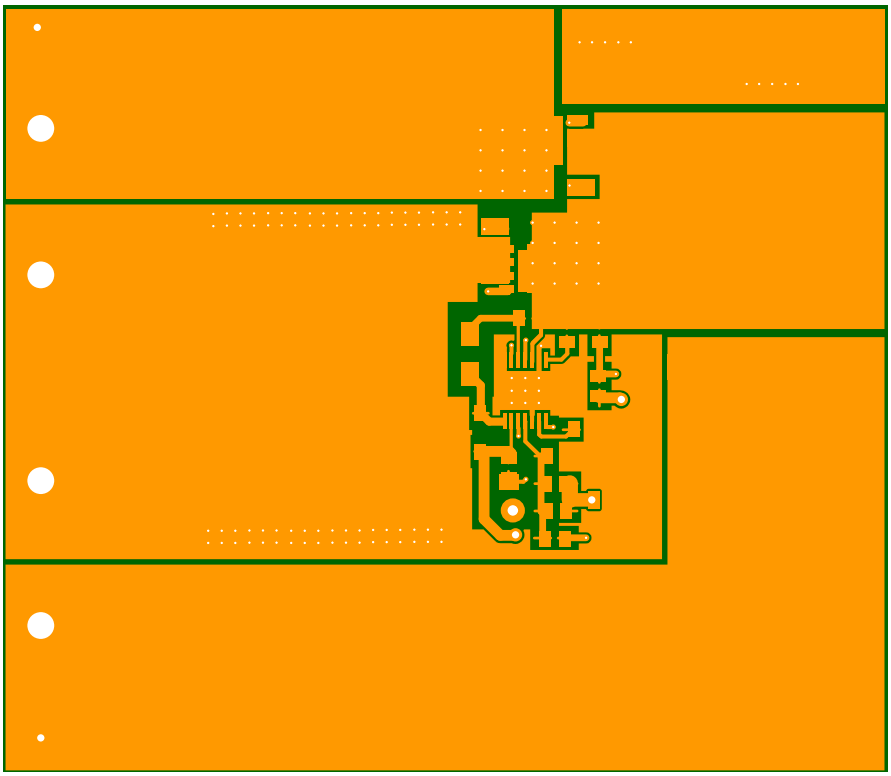
Thermal Images



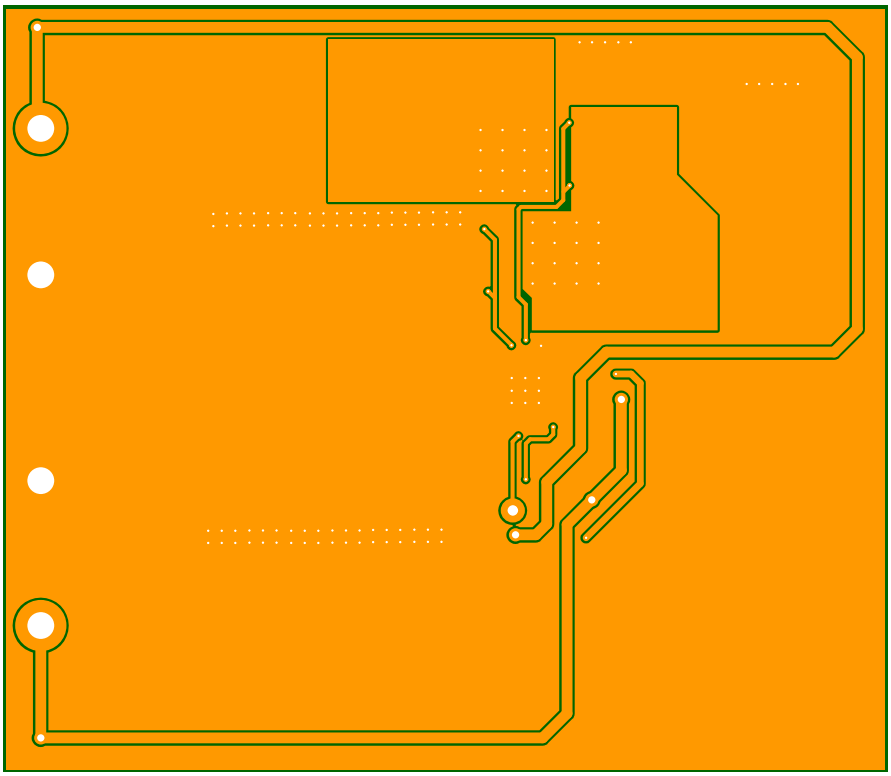
Thermal Top Image



Thermal Bottom Image

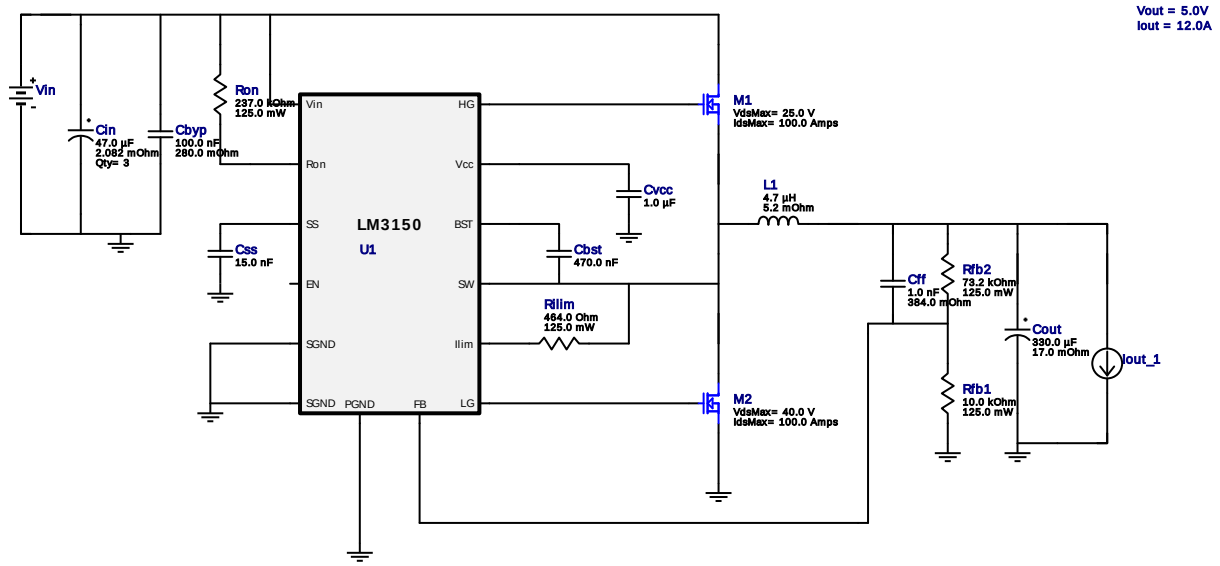


PCB Top Image



PCB Bottom Image

Schematic



Design Assistance

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