

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

/ Device = LM3150MH/NOPB
0V Topology = Buck
Created = 8/22/16 6:20:49 AM
BOM Cost = \$6.39
Total Pd = 2.95W
Footprint = 505.0 mm²
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	<u>Value</u>			
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

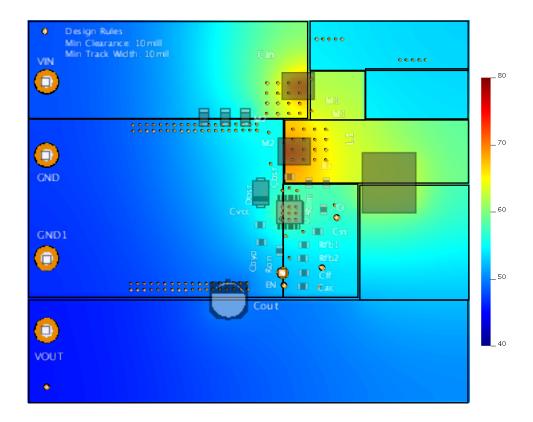
BOM

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 ldsMax=100.0Amps	1	\$0.89	TRANS_NexFET_Q5B 57.51 mm²
L1	XAL1010-472MEB	64°C	0.936W	Coilcraft	L=4.7E-6H DCR=0.0052Ohm	1	\$1.71	XAL1010 159.6 mm ²
								X

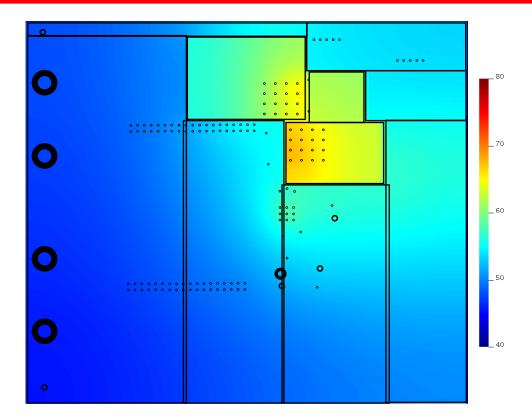
WEBENCH® Design

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=0.002082Ohn IRMS=5.02786A Cap=4.7E-5F	3 n	\$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						

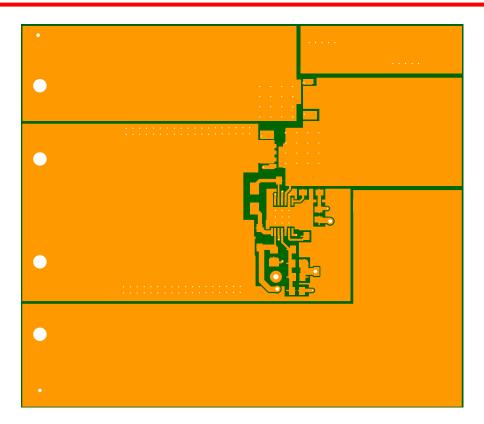
Thermal Images



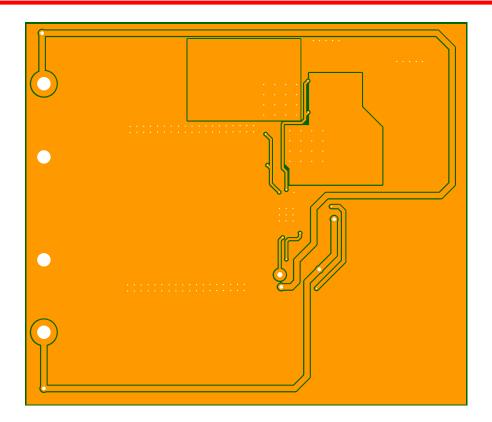
Thermal Top Image



Thermal Bottom Image

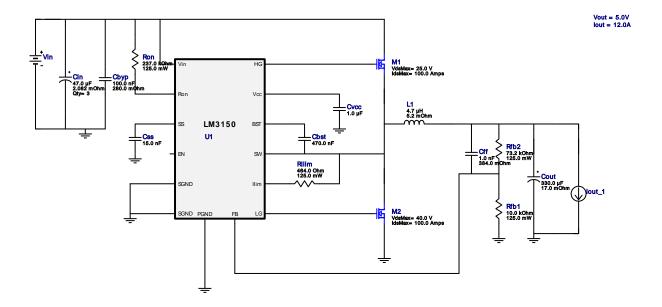


PCB Top Image



PCB Bottom Image

Schematic



Design Assistance

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

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