WEBENCH ® Thermal Simulation Report

VinMin = 13.0V
VinMax = 90.0V
Vout = 12.0V
Iout = 2.0A

Device = LM5116MHX/NOPB
Topology = Buck
Created = 2017-08-21 00:58:15.992
BOM Cost = $0.00
Total Pd = 2.44W
Footprint = 1,752.0 mm^2
BOM Count = 24
tSim Id = 2

Design : 4603753/54 LM5116MHX/NOPB
LM5116MHX/NOPB 13.0V-90.0V to 12.00V @ 2.0A

Operating Condition

Name	Value
VIN_OP	85.0V
IOUT_OP	2.0A

Ambient Temperature

Name	Temperature
Ambient_plus_Z	46.0
Ambient_minus_Z	46.0

Air Flow

Name	Direction
Flow_Type	Convection
Flow_Rate	0.0LFM
Flow_Direction	Top to Bottom

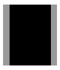
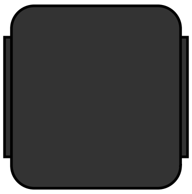
Edge Temperature

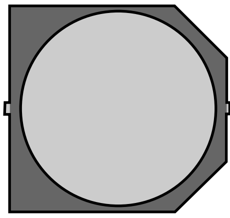
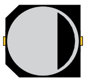
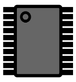
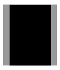
Name	Temperature	Thermal Type
Edge_plus_X (Right)		Insulated
Edge_minus_X (Left)		Insulated
Edge_plus_Y (Top)		Insulated
Edge_minus_Y (Bottom)		Insulated

My Comments

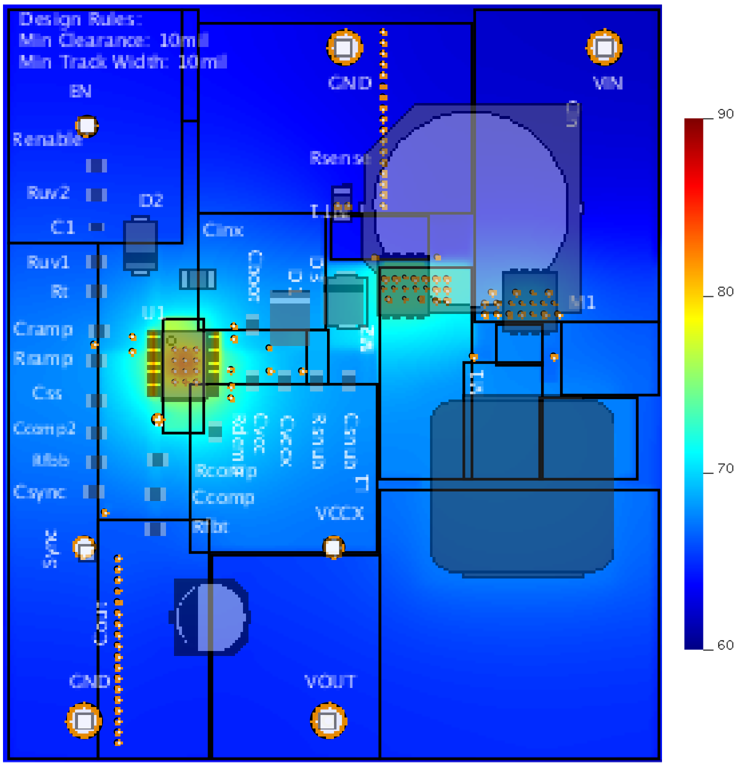
No comments

BOM

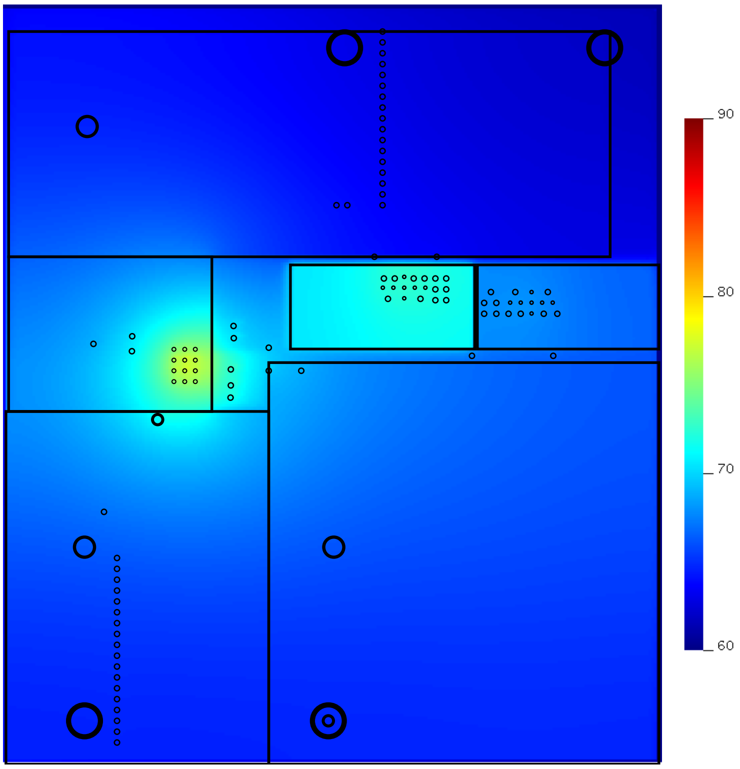
Component Name(s)	Part Number	Max Temp	Power Dissipation	Manufacture	Properties	Qty	Price	Footprint
pcb_bottom		77°C						
M1	BSC240N12NS3 G	69°C	0.203W	Infineon Technologies	VdsMax=120.0V IdsMax=37.0Amps	1	$0.0	 PG-TDSON-8 55.131 mm^2
M2	BSC350N20NSFD	73°C	0.301W	Infineon Technologies	VdsMax=200.0V IdsMax=35.0Amps	1	$0.0	 PG-TDSON-8 55.131 mm^2
L1	IHLP6767GZER820M11	68°C	0.458W	Vishay-Dale	L=8.2E-5H DCR=0.0917Ohm	1	$2.55	

Component Name(s)	Part Number	Max Temp	Power Dissipation	Manufacture	Properties	Qty	Price	Footprint
								IHLP-6767GZ 366.722 mm^2
Cin	EEV-EB2E330SM	64°C	0.05W	Panasonic	VDC=250.0V ESR=0.4Ohm IRMS=0.56A Cap=3.3E-5F	2	$1.31	 EB_K16 483.0 mm^2
Cout	UUD1V680MCL1GS	66°C	0.022W	Nichicon	VDC=35.0V ESR=0.34Ohm IRMS=0.28A Cap=6.8E-5F	1	$0.12	 SM_RADIAL_6.3BMM 79.98 mm^2
U1	LM5116MHX/NOPB	87°C	1.265W	Texas Instruments		1	$2.42	 MXA20A 71.4 mm^2
pcb_top		82°C						

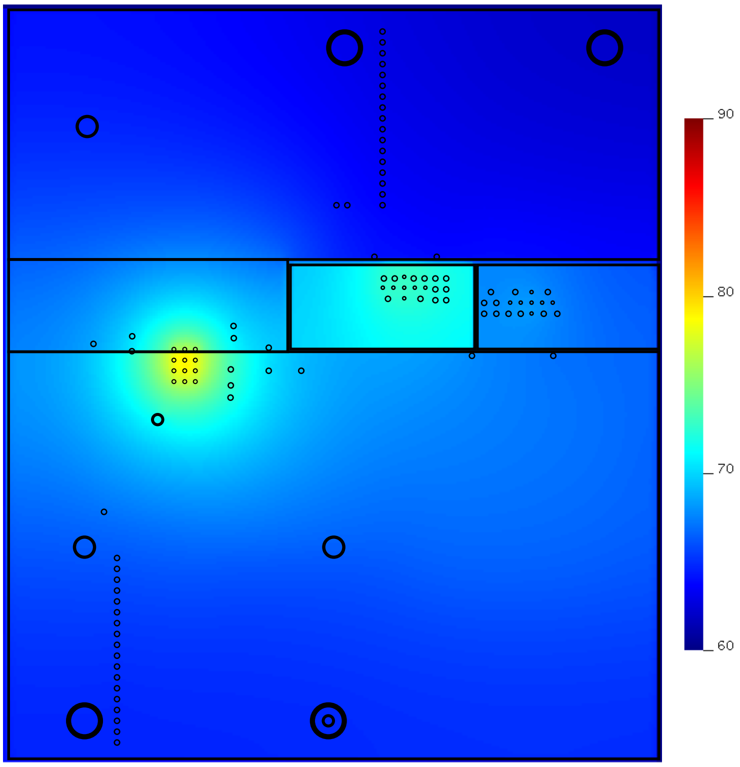
Thermal Images



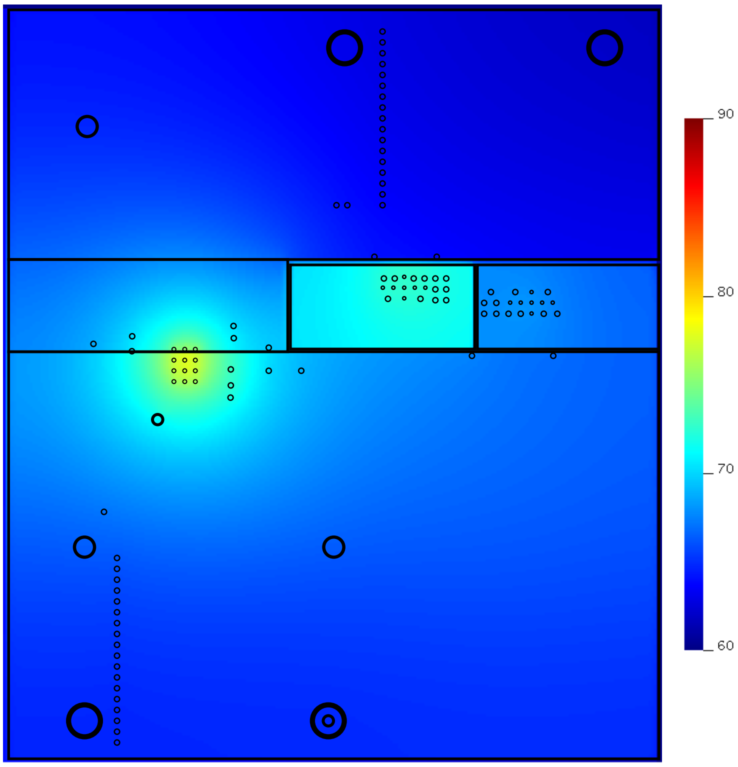
Thermal Top Image



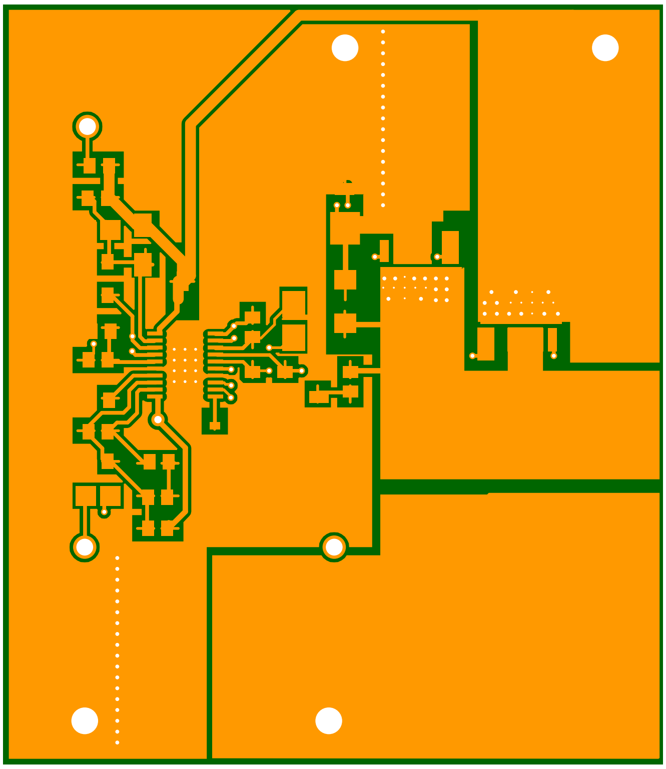
Thermal Bottom Image



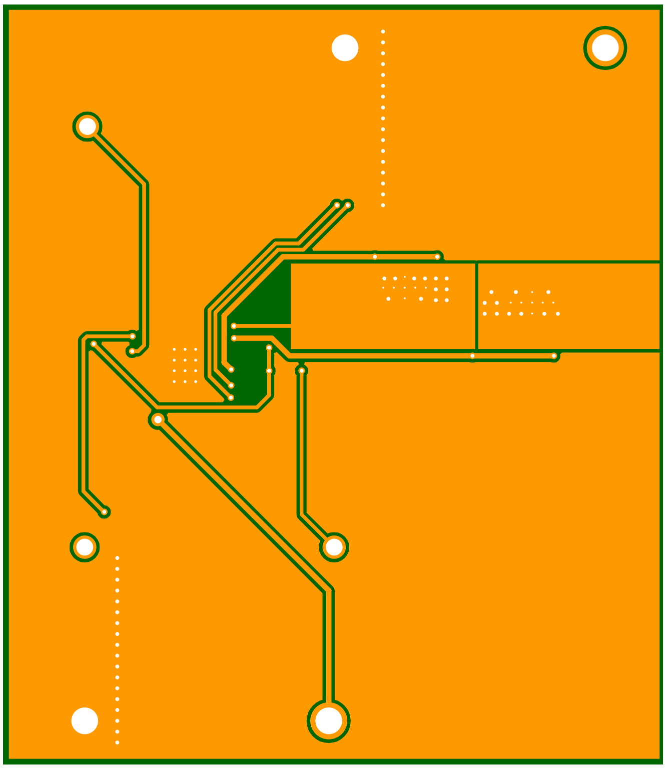
Thermal MID1 Image



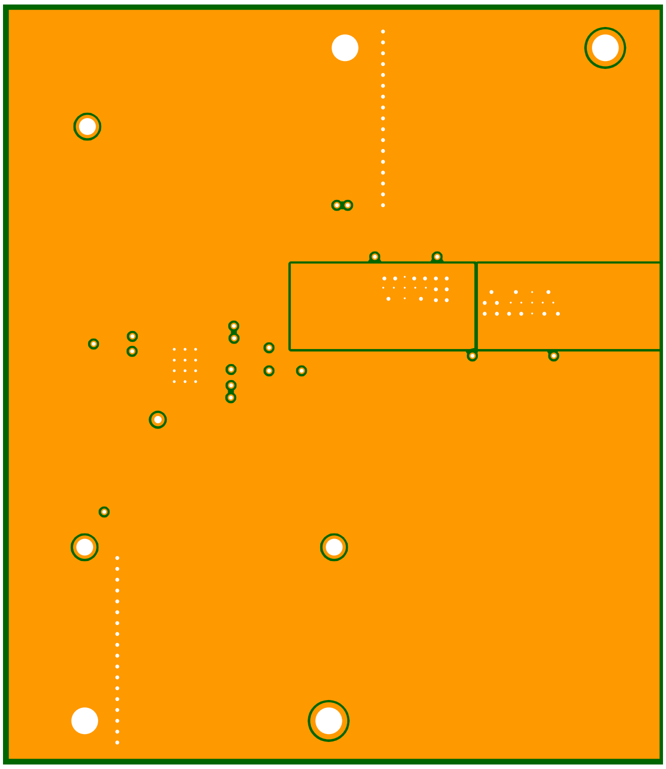
Thermal MID2 Image



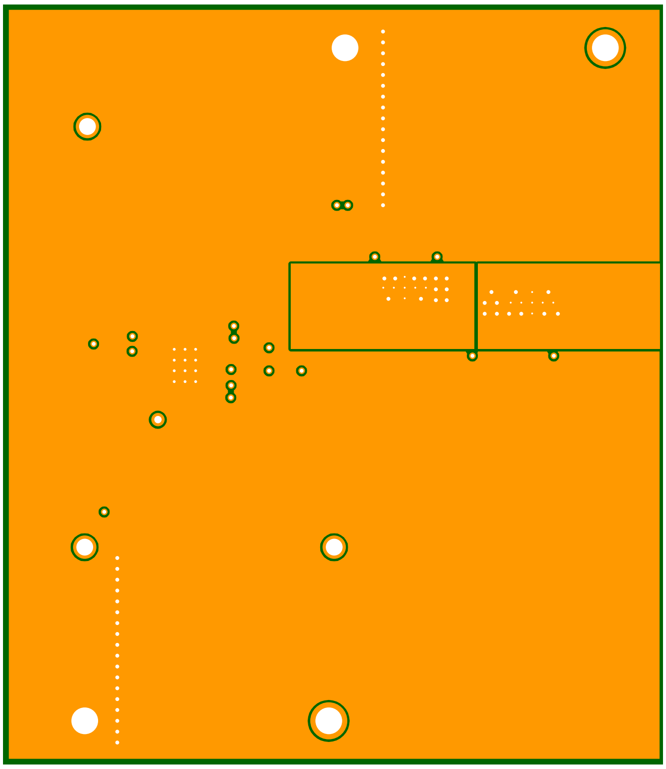
PCB Top Image



PCB Bottom Image

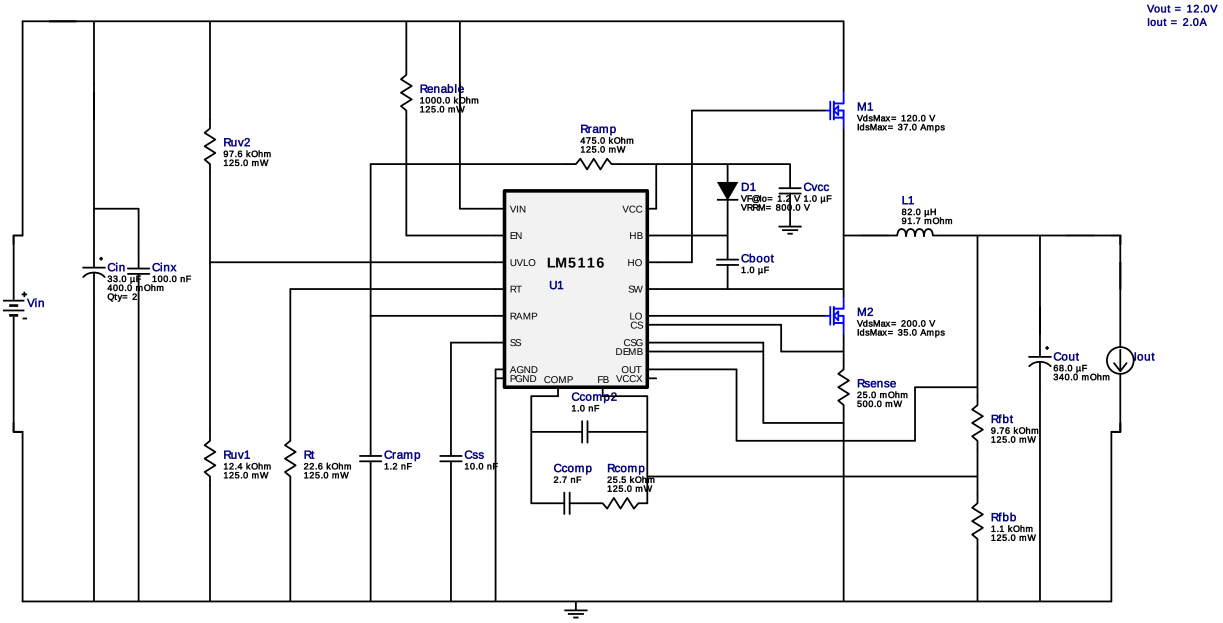


PCB MID1 Image



PCB MID2 Image

Schematic



Design Assistance

1. **LM5116** Product Folder : http://www.ti.com/product/LM5116 : contains the data sheet and other resources.

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