

WEBENCH® Thermal Simulation Report

 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 | Forced |
| Flow_Rate | 10.0LFM |
| Flow_Direction | Top to Bottom |




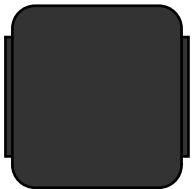
Edge Temperature

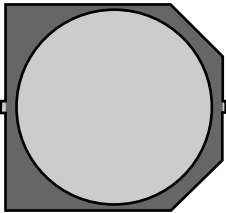



| Name | Temperature | Thermal Type |
|-----------------------|-------------|--------------|
| Edge_plus_X (Right) | | Insulated |
| Edge_minus_X (Left) | | Insulated |
| Edge_plus_Y (Top) | | Insulated |
| Edge_minus_Y (Bottom) | | Insulated |

My Comments

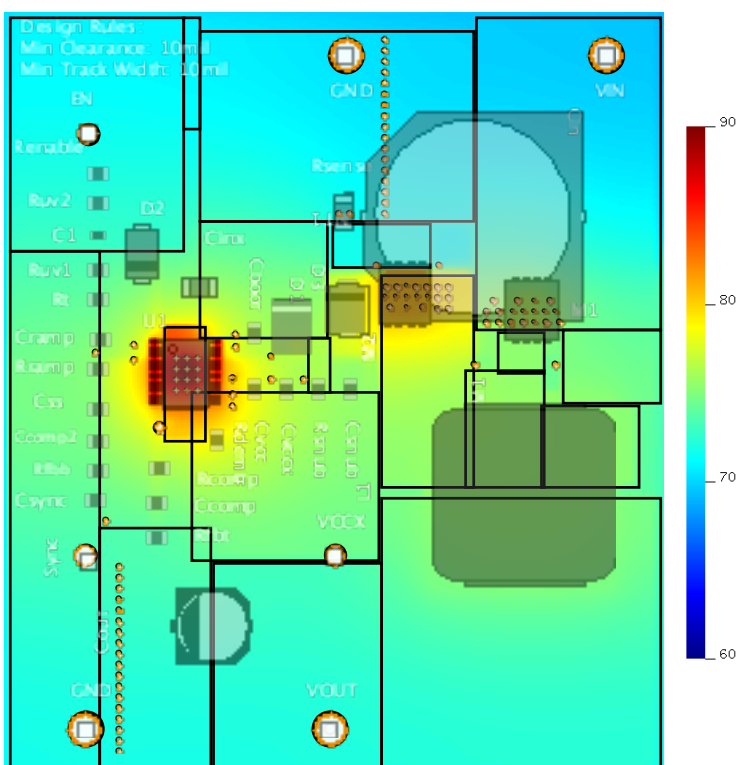
No comments

BOM

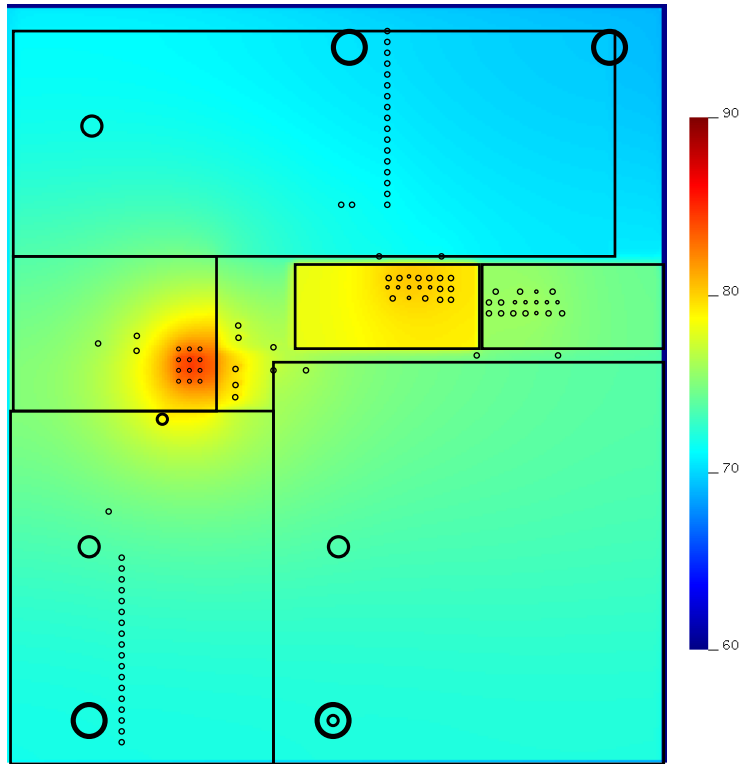
| Component Name(s) | Part Number | Max Temp | Power Dissipation | Manufacture | Properties | Qty | Price | Footprint |
|-------------------|--------------------|----------|-------------------|-----------------------|----------------------------------|-----|--------|--|
| pcb_bottom | | 85°C | | | | | |  |
| M1 | BSC240N12NS3 G | 77°C | 0.203W | Infineon Technologies | VdsMax=120.0V IdsMax=37.0Amps | 1 | \$0.0 |  PG-TDSON-8 55.131 mm ² |
| M2 | BSC350N20NSFD | 81°C | 0.301W | Infineon Technologies | VdsMax=200.0V IdsMax=35.0Amps | 1 | \$0.0 |  PG-TDSON-8 55.131 mm ² |
| L1 | IHLP6767GZER820M11 | 76°C | 0.458W | Vishay-Dale | L=8.2E-5H DCR=0.09170hm | 1 | \$2.55 |  |

| Component Name(s) | Part Number | Max Temp | Power Dissipation | Manufacture | Properties | Qty | Price | Footprint |
|-------------------|----------------|----------|-------------------|-------------------|---|-----|--------|--|
| Cin | EEV-EB2E330SM | 72°C | 0.05W | Panasonic | VDC=250.0V ESR=0.40hm IRMS=0.56A Cap=3.3E-5F | 2 | \$1.31 | IHLP-6767GZ 366.722 mm ²  |
| Cout | UUD1V680MCL1GS | 73°C | 0.022W | Nichicon | VDC=35.0V ESR=0.34Ohm IRMS=0.28A Cap=6.8E-5F | 1 | \$0.12 | EB_K16 483.0 mm ²  SM_RADIAL_6.3BMM 79.98 mm ² |
| U1 | LM5116MHX/NOPB | 95°C | 1.265W | Texas Instruments | | 1 | \$2.42 |  MXA20A 71.4 mm ² |
| pcb_top | | 90°C | | | | | |  |

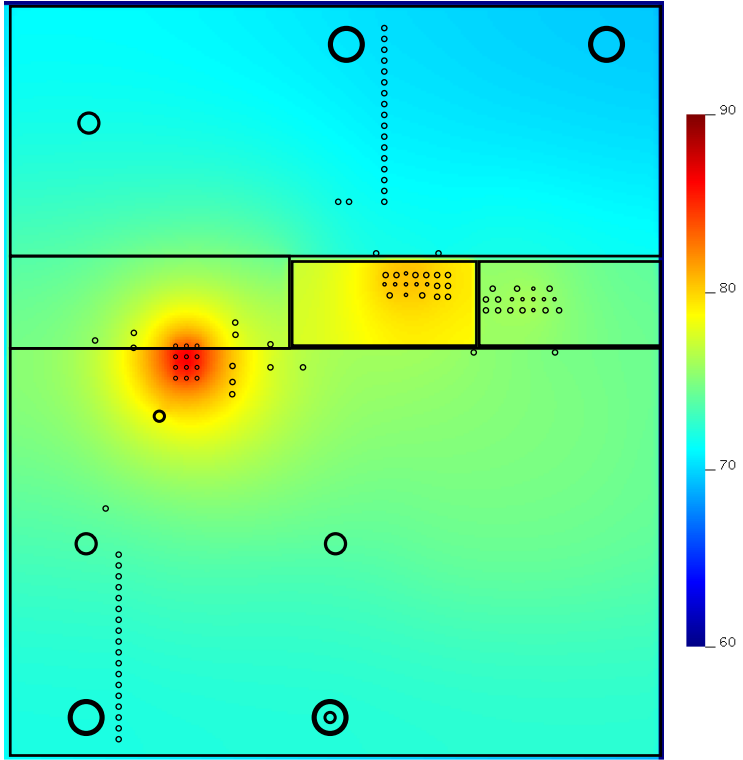
Thermal Images



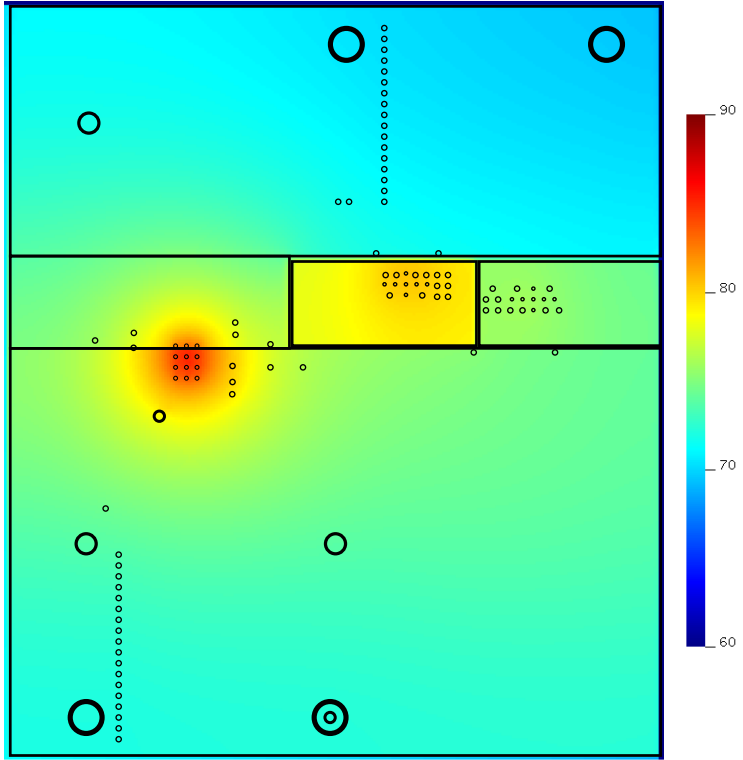
Thermal Top Image



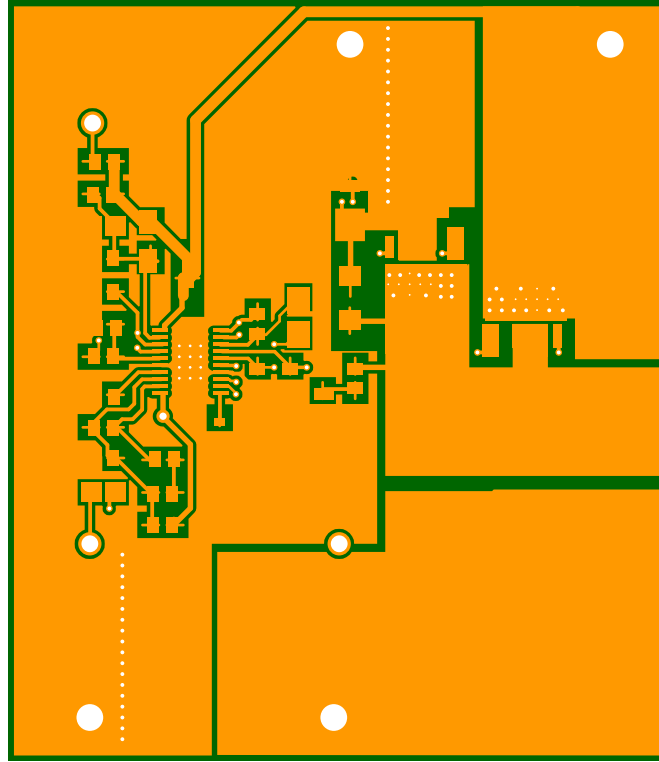
Thermal Bottom Image



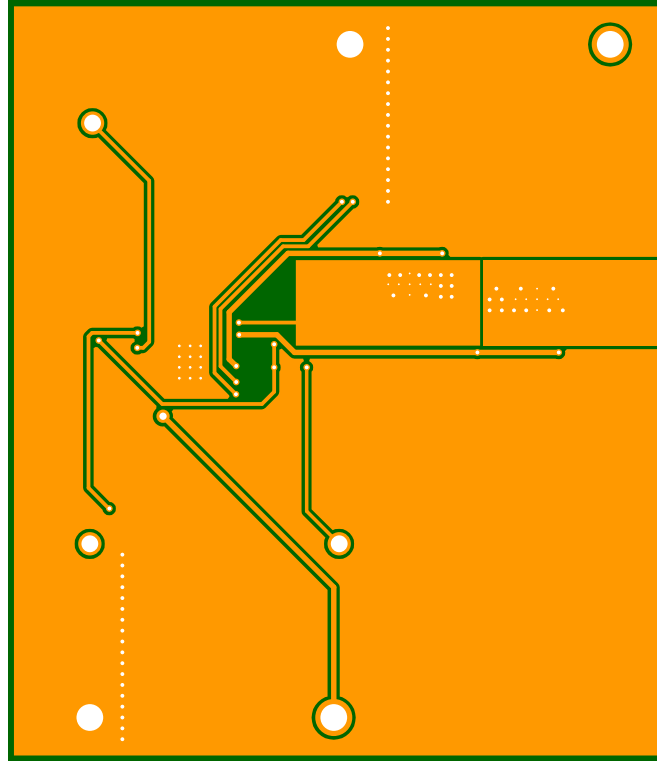
Thermal MID1 Image



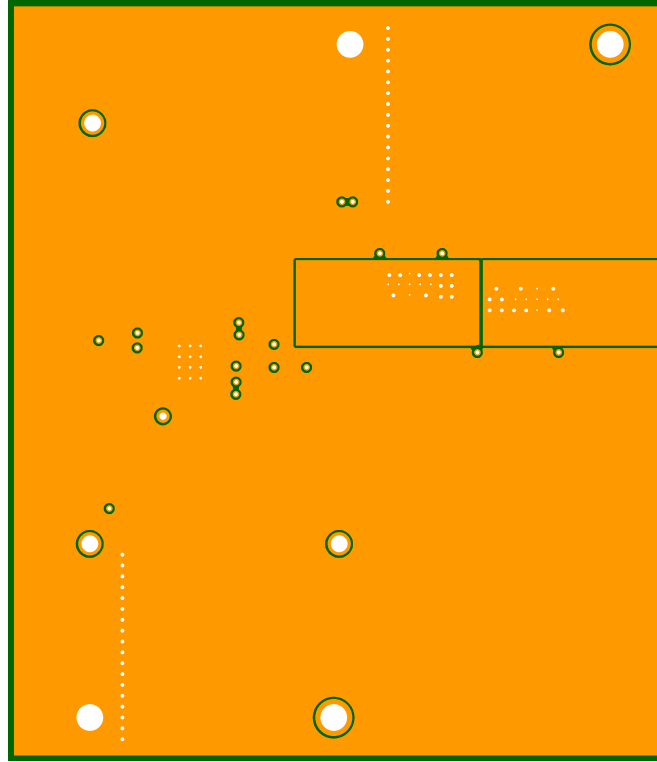
Thermal MID2 Image



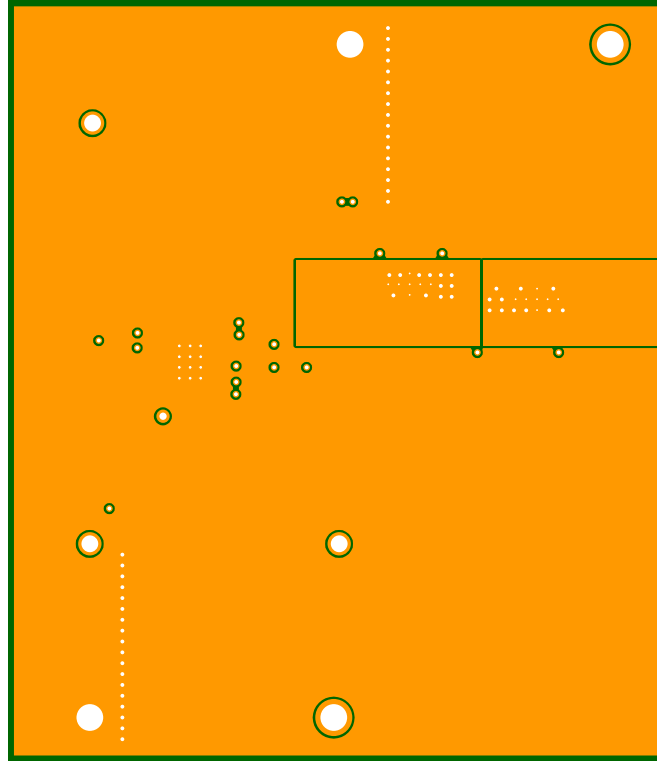
PCB Top Image



PCB Bottom Image

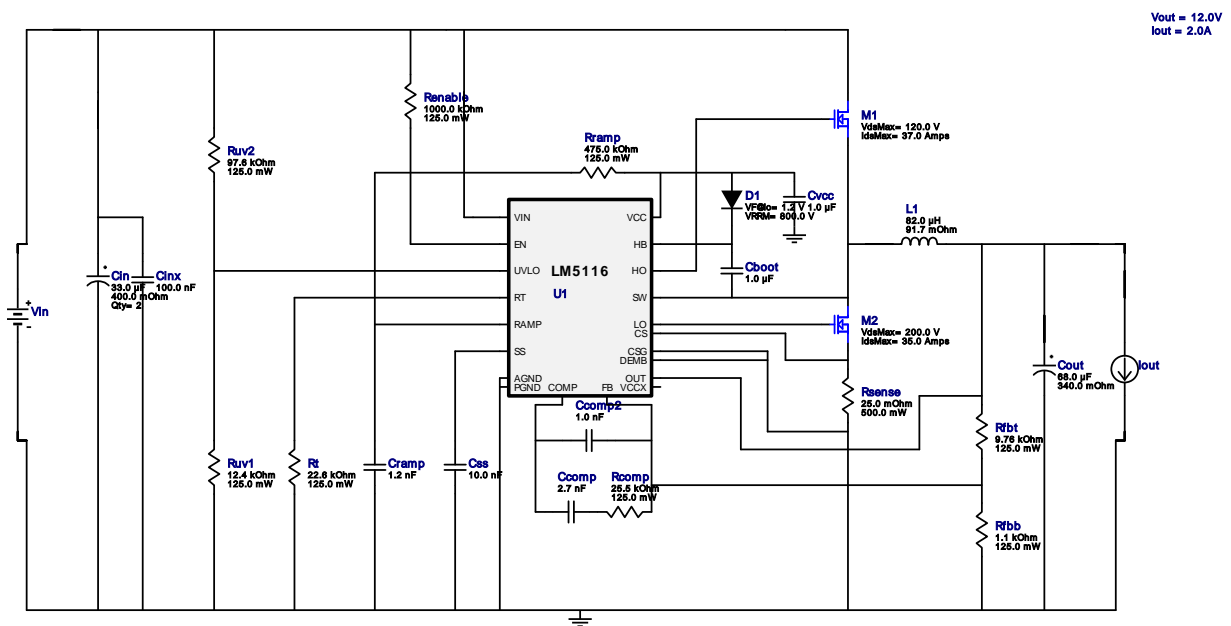


PCB MID1 Image



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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