TMF8801 Daughter Card
TMF8801 Daughter Card

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Revision History

Version: A  J.Dolic
Initial Release

Suggested Board Reflow Profile

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Reference</th>
<th>Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average temperature gradient in preheating</td>
<td>$t_{\text{peak}}$</td>
<td>2.5 °C/sec</td>
</tr>
<tr>
<td>Soak time</td>
<td>$t_{\text{soak}}$</td>
<td>2 to 3 minutes</td>
</tr>
<tr>
<td>Time above 217 °C (T1)</td>
<td>$t_1$</td>
<td>Max 60 sec</td>
</tr>
<tr>
<td>Time above 230 °C (T2)</td>
<td>$t_2$</td>
<td>Max 50 sec</td>
</tr>
<tr>
<td>Time above $T_{\text{peak}} - 10$ °C (T3)</td>
<td>$t_3$</td>
<td>Max 10 sec</td>
</tr>
<tr>
<td>Peak temperature in reflow</td>
<td>$T_{\text{peak}}$</td>
<td>260 °C</td>
</tr>
<tr>
<td>Temperature gradient in cooling</td>
<td></td>
<td>Max -5 °C/sec</td>
</tr>
</tbody>
</table>

Title

TMF8801 Daughter Card

Size: A
Number: DC-TMF8801-01
Revision: B

Date: 20.03.2019
Sheet 2
File: \Project Page SchDoc
Drawn By: J.Dolic
Either Place U1 or U2, but not both
Board Details
1. Board Size: 750mil x 1250mil +/- 10%
2. Board Thickness: 62mil +/- 10%
3. Board material: FR4 with 0.5oz Copper
4. Component count: 25
5. Pad Count: 80
6. Hole Count: 43
7. Soldermask Color: Black
8. Silkscreen Color: White
9. No Silkscreen over exposed copper.
10. PCB Manufacturer not to add any additional silkscreen
11. Fabricate to IPC-600 Class 1 unless otherwise specified
12. RoHS compliant
13. There are two score marks on this board.

Layers Currently On

Title_Block
Top_Layer

BoardOutline

Top_Overlay

Multi-Layer

Title TMF8801 Daughter Card
Number DC-TMF8801-01
Print Name Top Layer

Variant: [No Variations] Print Date: 20.03.2019
File: PCH.PcbDoc Drawn By: J. Doe
Board Details
1. Board Size: 750mil x 1250mil +/- 10%
2. Board Thickness: 62mil +/- 10%
3. Board material: FR4 with 0.5oz Copper
4. Component count: 25
5. Pad Count: 80
6. Hole Count: 43
7. Soldermask Color: Black
8. Silkscreen Color: White
9. No Silkscreen over exposed copper.
10. PCB Manufacturer not to add any additional silkscreen
11. Fabricate to IPC-600 Class 1 unless otherwise specified
12. RoHS compliant
13. There are two score marks on this board.

Layers Currently On
- Title_Block
- MID1
- BoardOutline
- Multi-Layer

Title: TMF8801 Daughter Card
Number: DC-TMF8801-01
Rev: B
Print Name: Mid1 Layer - GND
Variant: [No Variations]
Print Date: 20.03.2019
Drawn By: J.Dolce
Board Details
1. Board Size: 750mil x 1250mil +/- 10%
2. Board Thickness: 62mil +/- 10%
3. Board material: FR4 with 0.5oz Copper
4. Component count: 25
5. Pad Count: 80
6. Hole Count: 43
7. Soldermask Color: Black
8. Silkscreen Color: White
9. No Silkscreen over exposed copper.
10. PCB Manufacturer not to add any additional silkscreen
11. Fabricate to IPC-600 Class 1 unless otherwise specified
12. RoHS compliant
13. There are two score marks on this board.

Layers Currently On
Title_Block
MID2
BoardOutline
Multi-Layer

Title TMF8801 Daughter Card
Number DC-TMF8801-01 Rev B
Print Name Mid2 Layer - PWR
Variant: [No Variations] Print Date: 20.03.2019
File: PCS.PcbDoc Drawn By: J.O'Rear
Board Details
1. Board Size: 750mil x 1250mil +/- 10%
2. Board Thickness: 62mil +/- 10%
3. Board Material: FR4 with 0.5oz Copper
4. Component count: 25
5. Pad Count: 80
6. Hole Count: 43
7. Soldermask Color: Black
8. Silkscreen Color: White
9. No Silkscreen over exposed copper.
10. PCB Manufacturer not to add any additional silkscreen
11. Fabricate to IPC-600 Class 1 unless otherwise specified
12. RoHS compliant
13. There are two score marks on this board.
Board Details
1. Board Size: 750mil x 1250mil +/- 10%
2. Board Thickness: 62mil +/- 10%
3. Board material: FR4 with 0.5oz Copper
4. Component count: 25
5. Pad Count: 80
6. Hole Count: 43
7. Soldermask Color: Black
8. Silkscreen Color: White
9. No Silkscreen over exposed copper.
10. PCB Manufacturer not to add any additional silkscreen
11. Fabricate to IPC-600 Class 1 unless otherwise specified
12. RoHS compliant
13. There are two score marks on this board.

Layers Currently On

- Title_Block
- Drill Guide
- BoardOutline
- Keep-Out Layer
- Multi-Layer

Title: TMF8801 Daughter Card
Number: DC-TMF8801-01
Rev: B

Board Dimensions

Variant: [No Variations]  Print Date: 20.03.2019
File: PGS.PlotDoc  Drawn By: J.Dolby
Board Details
1. Board Size: 750mil x 1250mil +/- 10%
2. Board Thickness: 62mil +/- 10%
3. Board material: FR4 with 0.5oz Copper
4. Component count: 25
5. Pad Count: 80
6. Hole Count: 43
7. Soldermask Color: Black
8. Silkscreen Color: White
9. No Silkscreen over exposed copper.
10. PCB Manufacturer not to add any additional silkscreen
11. Fabricate to IPC-600 Class 1 unless otherwise specified
12. RoHS compliant
13. There are two score marks on this board.

Layers Currently On

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Count</th>
<th>Hole Size</th>
<th>Plated</th>
<th>Hole Type</th>
<th>Drill Layer</th>
<th>Pair</th>
<th>Via/Pad</th>
<th>Pad Shape</th>
<th>Technology</th>
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<tbody>
<tr>
<td></td>
<td>2</td>
<td>100.00mil (2.540mm)</td>
<td>NPTH</td>
<td>Round</td>
<td>TOP - BOTTOM</td>
<td>Pad</td>
<td>Rounded</td>
<td>&lt;=0.00254</td>
<td></td>
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<tr>
<td></td>
<td>4</td>
<td>100.00mil (2.540mm)</td>
<td>PTH</td>
<td>Round</td>
<td>TOP - BOTTOM</td>
<td>Pad</td>
<td>Rounded</td>
<td>&lt;=0.00254+35x425</td>
<td></td>
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<td></td>
<td>37</td>
<td>0.0001 (0.025mm)</td>
<td>DTH</td>
<td>Round</td>
<td>TOP - BOTTOM</td>
<td>Use</td>
<td>Rounded</td>
<td>&lt;=0.0046x20</td>
<td></td>
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43 Total
Board Details
1. Board Size: 750mil x 1250mil +/- 10%
2. Board Thickness: 62mil +/- 10%
3. Board material: FR4 with 0.5oz Copper
4. Component count: 25
5. Pad Count: 80
6. Hole Count: 43
7. Soldermask Color: Black
8. Silkscreen Color: White
9. No Silkscreen over exposed copper.
10. PCB Manufacturer not to add any additional silkscreen
11. Fabricate to IPC-600 Class 1 unless otherwise specified
12. RoHS compliant
13. There are two score marks on this board.

Layers Currently On

Title_Block
BoardOutline
TopAssembly
Multi-Layer

Title  TMF8801 Daughter Card
Number DC-TMF8801-01
Rev B
Print Name TOP Assembly

Variant: (No Variations) Print Date: 20.03.2019
File: PCB_Pcb010c Drawn By: J.Dulin
Board Details
1. Board Size: 750mil x 1250mil +/- 10%
2. Board Thickness: 62mil +/- 10%
3. Board material: FR4 with 0.5oz Copper
4. Component count: 25
5. Pad Count: 80
6. Hole Count: 43
7. Soldermask Color: Black
8. Silkscreen Color: White
9. No Silkscreen over exposed copper.
10. PCB Manufacturer not to add any additional silkscreen
11. Fabricate to IPC-600 Class 1 unless otherwise specified
12. RoHS compliant
13. There are two score marks on this board.

Layers Currently On

- Title_Block
- BoardOutline
- BottomAssembly
- Multi-Layer

Title: TMF8801 Daughter Card
Number: DC-TMF8801-01
Rev: B
Print Name: BOTTOM Assembly Mirrored
Variant: (No Variations)
Print Date: 20.03.2019
File: PCB.ProDoc
Drawn By: J.Dultz
### Warnings

<table>
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<th>Warning Description</th>
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<td>Clearance Constraint (Gap=5mil) (All),(All)</td>
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<tr>
<td>Short-Circuit Constraint (Allowed=No) (All),(All)</td>
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</tr>
<tr>
<td>Short-Circuit Constraint (Allowed=Yes) (IsTextInverted),(All)</td>
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<tr>
<td>Un-Routed Net Constraint ( (All) )</td>
<td>0</td>
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<tr>
<td>Width Constraint (Min=4.921mil) (Max=393.701mil) (Preferred=11.811mil) (All)</td>
<td>0</td>
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<tr>
<td>Power Plane Connect Rule (Relief Connect ) (Expansion=15.748mil) (Conductor Width=5.906mil) (Air Gap=5.906mil)</td>
<td>0</td>
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<tr>
<td>Minimum Annular Ring (Minimum=5mil) (All)</td>
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<tr>
<td>Hole Size Constraint (Min=6mil) (Max=232.284mil) (All)</td>
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<td>Hole To Hole Clearance (Gap=11.811mil) (All),(All)</td>
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<td>Minimum Solder Mask Sliver (Gap=1mil) (All),(All)</td>
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<td>Silk To Solder Mask (Clearance=0mil) (IsPad),(All)</td>
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<td>Silk to Silk (Clearance=0mil) (All),(All)</td>
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<td>Net Antennae (Tolerance=20mil) (All)</td>
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<td>Height Constraint (Min=0mil) (Max=1000mil) (Preferred=500mil) (All)</td>
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<td><strong>Total</strong></td>
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<td>Class</td>
<td>Document</td>
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| Warning| Project Page.SchDoc | Incorrect link between project variant "Default Build" and schematic component Component R3 1K5.0402 1%
| Warning| Project Page.SchDoc | Incorrect link between project variant "Default Build" and schematic component Component R4 1K5.0402 1%
| Warning| Project Page.SchDoc | Incorrect link between project variant "Default Build" and schematic component Component U1 TOF
| Warning| Project Page.SchDoc | Incorrect link between project variant "Default Build" and schematic component Component U2 TOF
## Bill of Materials

**TMF8801 Daughter Card**

**Source Data From:** DC-TMF8801-01.PrjPcb  
**Project:** DC-TMF8801-01.PrjPcb  
**Variant:** None  
**Creation Date:** 20.03.2019 14:16:41  
**Print Date:** 20-Mar-19 2:16:52 PM

<table>
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<tr>
<th>Designator</th>
<th>Comment</th>
<th>Manufacturer</th>
<th>Manufacturer Part Number</th>
<th>Description</th>
<th>Alternate</th>
<th>Quantity</th>
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</thead>
<tbody>
<tr>
<td>C1, C2, C3</td>
<td>0.1uF, 6V3, 0402, 10%, 0.1uF, 6V3, 0402, 10%</td>
<td>Murata Electronics North America</td>
<td>GRM155R70J104KA01D</td>
<td>Cap 0.1uF, 6V3, 0402, 10%</td>
<td>YES</td>
<td>3</td>
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<tr>
<td>C4</td>
<td>1.0uF, 6V3, 0402, 20%</td>
<td>AVX</td>
<td>04026D105MAT2A</td>
<td>Cap 1.0uF, 6V3, 0402, 20%</td>
<td>YES</td>
<td>1</td>
</tr>
<tr>
<td>CN1</td>
<td>CONN FFC TOP 14POS 0.50MM R/A</td>
<td>Molex</td>
<td>0545501471</td>
<td>CONN FFC TOP 14POS 0.50MM R/A</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>M1, M2, M3, M4</td>
<td>Mounting Hole</td>
<td>PennEngineering</td>
<td>SMTO-M1-1ET</td>
<td>Mounting nut 0.1” Dia M1 thread</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>R1, R2, R5, R6</td>
<td>10K, 0402, 5%</td>
<td>Vishay Dale</td>
<td>CRCW040210K0JNED</td>
<td>Res, 10K, 0402, 5%</td>
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<tr>
<td>U2</td>
<td>TOF</td>
<td>ams AG</td>
<td>TMF8801</td>
<td>TOF</td>
<td></td>
<td>1</td>
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</tbody>
</table>

**Approved Notes:**
- Parts with alternate marked as YES may be replaced by an equivalent with preapproval from AMS.
- Parts from ams AG will be consigned.