TMF882x sensor shield
Board Details

1. Board Size: 2309.27 mils x 2100 mils
2. Board Thickness: 62.00 mil
3. Board Material: FR-4
4. Board Finish: ENIG
5. Component count: 43
6. Pad Count: 191
7. Hole Count: 103
8. Soldermask Color: Black
9. Silkscreen Color: White
10. No Silkscreen over exposed copper.
11. Dimensions shown are in mils unless marked.
12. No additional silkscreen to be added.
13. Boards Shall be fabricated to IPC-600 Class 1
14. The PCB assembly shall be ROHS compliant.
Board Details
1. Board Size: 2309.27 mils x 2100 mils
2. Board Thickness: 62.00 mil
3. Board Material: FR-4
4. Board Finish: ENIG
5. Component count: 43
6. Pad Count: 191
7. Hole Count: 103
8. Soldermask Color: Black
9. Silkscreen Color: White
10. No Silkscreen over exposed copper.
11. Dimensions shown are in mils unless marked.
12. No additional silkscreen to be added.
13. Boards Shall be fabricated to IPC-600 Class 1
14. The PCB assembly shall be ROHS compliant.
**Board Details**

1. Board Size: 2309.27 mils x 2100 mils
2. Board Thickness: 62.00 mil
3. Board Material: FR-4
4. Board Finish: ENIG
5. Component count: 43
6. Pad Count: 191
7. Hole Count: 103
8. Soldermask Color: Black
9. Silkscreen Color: White
10. No Silkscreen over exposed copper.
11. Dimensions shown are in mils unless marked.
12. No additional silkscreen to be added.
13. Boards shall be fabricated to IPC-600 Class 1
14. The PCB assembly shall be ROHS compliant.

---

**Layers Currently On**

Title Block

Title: TMF882x sensor shield

Number: MS-TMF882x_Shield-01

Rev: A

Print Name: Mid2 Layer - PWR

Print Date: 11/03/2021

Drawn By: J.J.D."
Board Details
1. Board Size: 2309.27 mils x 2100 mils
2. Board Thickness: 62.00 mil
3. Board Material: FR-4
4. Board Finish: ENIG
5. Component count: 43
6. Pad Count: 191
7. Hole Count: 103
8. Soldermask Color: Black
9. Silkscreen Color: White
10. No Silkscreen over exposed copper.
11. Dimensions shown are in mils unless marked.
12. No additional silkscreen to be added
13. Boards Shall be fabricated to IPC-600 Class 1
14. The PCB assembly shall be ROHS compliant.

Layers Currently On
- **Title**: TMF882x sensor shield
- **Number**: MS-TMF882x_Shield-01
- **Rev**: A
- **Print Name**: Bottom Layer
- **Variant**: (No Variations)
- **Print Date**: 11/02/2021
- **Drawn by**: JJS04

**Bottom**
- Board Outline
- Layer Stack
- Bottom Overlay

**Multi-Layer**
- Title_Block

**Bottom Overlay**
- Top Overlay
- Top Solder
  - Solder Resist: 0.10mil, 3.5mil, 6mil
- Copper: 0.20mil, 1.0mil, 4mil, 4.5mil
- FR-4: 0.20mil, 4mil, 4.5mil

**Dielectric**
- Dielectric1: FR-4, 0.20mil, 4mil, 4.5mil
- Dielectric2: FR-4, 0.20mil, 4mil, 4.5mil
- Copper: 0.20mil, 1.0mil, 4mil, 4.5mil

**Bottom**
- Bottom Overlay
- Solder Resist: 0.10mil, 3.5mil, 6mil
- Copper: 0.20mil, 1.0mil, 4mil, 4.5mil

**Total board thickness**: 62.00mil
Board Details
1. Board Size: 2309.27 mils x 2100 mils
2. Board Thickness: 62.00 mil
3. Board Material: FR-4
4. Board Finish: ENIG
5. Component count: 43
6. Pad Count: 191
7. Hole Count: 103
8. Soldermask Color: Black
9. Silkscreen Color: White
10. No Silkscreen over exposed copper.
11. Dimensions shown are in mils unless marked.
12. No additional silkscreen to be added.
13. Boards Shall be fabricated to IPC-600 Class 1
14. The PCB assembly shall be ROHS compliant.

Layers Currently On

Dimensions
Title_Block
Layer Stack
Drill Guide
Keep-Out Layer

Title  TMF882x sensor shield
Number MS-TMF882x_Shield-01
Rev A

Board Dimensions

Variant: [No Variations]  Print Date: 11/30/2021
Drawn by: [Signature]
Board Details
1. Board Size: 2309.27 mils x 2100 mils
2. Board Thickness: 62.00 mil
3. Board Material: FR-4
4. Board Finish: ENIG
5. Component count: 43
6. Pad Count: 191
7. Hole Count: 103
8. Soldermask Color: Black
9. Silkscreen Color: White
10. No Silkscreen over exposed copper.
11. Dimensions shown are in mils unless marked.
12. No additional silkscreen to be added.
13. Boards Shall be fabricated to IPC-600 Class 1
14. The PCB assembly shall be ROHS compliant.
1. Board Size: 2309.27 mils x 2100 mils
2. Board Thickness: 62.00 mil
3. Board Material: FR-4
4. Board Finish: ENIG
5. Component count: 43
6. Pad Count: 191
7. Hole Count: 103
8. Soldermask Color: Black
9. Silkscreen Color: White
10. No Silkscreen over exposed copper.
11. Dimensions shown are in mm unless marked.
12. No additional silkscreen to be added.
13. Boards Shall be fabricated to IPC-600 Class 1
14. The PCB assembly shall be ROHS compliant.

### Layer Stack Legend

<table>
<thead>
<tr>
<th>Material</th>
<th>Layer</th>
<th>Thickness</th>
<th>Dielectric Material</th>
<th>Type</th>
<th>Gerber</th>
<th>Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface</td>
<td>Top Overlay</td>
<td>0.01mm</td>
<td>Solder Resist</td>
<td>GTO</td>
<td>Legend</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>Top Solder</td>
<td>0.02mm</td>
<td>Solder Mask</td>
<td>GTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOP</td>
<td>0.20mm</td>
<td>Signal</td>
<td>GBL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core</td>
<td></td>
<td>0.04mm</td>
<td>Dielectric</td>
<td>G1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>MID1</td>
<td>0.04mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepreg</td>
<td></td>
<td>1.04mm</td>
<td>FR-4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core</td>
<td>MID2</td>
<td>0.04mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>BOTTOM</td>
<td>0.02mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface</td>
<td>Bottom Solder</td>
<td>0.01mm</td>
<td>Solder Resist</td>
<td>Legend</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Overlay</td>
<td></td>
<td>0.11mm</td>
<td>Solder Mask</td>
<td>GBS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.10mm</td>
<td>Legend</td>
<td>GBO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total thickness: 1.57mm
## Bill of Materials

### TMF882x sensor shield

<table>
<thead>
<tr>
<th>Designator</th>
<th>Comment</th>
<th>Manufacturer</th>
<th>Manufacturer Part Number</th>
<th>Description</th>
<th>Name Error</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1, C2, C3</td>
<td>0.1uF, 0.4002, 10%</td>
<td>Murata</td>
<td>GRM155R71E104KE14D</td>
<td>Cap Ceramic 0.1uF 25V X7R 10% SMD 0402 125C Paper T/R, GRM155R71E104KE14D</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>1uF</td>
<td>Murata</td>
<td>GRM188R71A05KA61D</td>
<td>CAP/CER 1UF 10V X7R 0603</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>C5, C6, C7</td>
<td>0.1uF</td>
<td>Murata</td>
<td>GRM188R72A104KA35D</td>
<td>Multilayer Ceramic Capacitors MLCC - SMD/SMF 0.1uF 6.3Volts X7R 10%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CN1, CN6</td>
<td>8Pin Arduino Conn</td>
<td>Samtec</td>
<td>SSQ-108-04-G-S</td>
<td>Conn Socket Strip SKT 8 POS 2.54mm Solder ST Thru-Hole</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>CN2</td>
<td>6Pin Arduino Conn</td>
<td>Samtec</td>
<td>SSQ-106-04-G-S</td>
<td>Conn Socket Strip SKT 6 POS 2.54mm Solder ST Thru-Hole</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CN4</td>
<td>10Pin Arduino Conn</td>
<td>Samtec</td>
<td>SSQ-110-04-G-S</td>
<td>Conn Socket Strip SKT 10 POS 2.54mm Solder ST Thru-Hole</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>M1, M2</td>
<td>Mounting Hole</td>
<td>PennEngineering</td>
<td>SMTSO-M1.6-1ET</td>
<td>Mounting nut M1.6 thread, Mounting nut M1.6 thread</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>R1, R2</td>
<td>10k</td>
<td>Vishay</td>
<td>CRCW060310K0FKEA</td>
<td>VISHAY - CRCW060310K0FKEA - SMD Chip Resistor, 0603 [1608 Metric], 10 kohm, CRCW e3 Series, 75 V, Thick Film, 100 mW</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>R5, R6</td>
<td>1M</td>
<td>Vishay Dale</td>
<td>CRCW06031M0FKEAHP</td>
<td>VISHAY - CRCW06031M0FKEAHP RES, AEC-Q200, THICK FILM, 1M, 0603</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>R7, R12</td>
<td>0R</td>
<td>Multicomp</td>
<td>MC0.063WB0030R</td>
<td>MULTICOMP MC0.063WB0030R Chip Resistor, MC Series, 0.063 W, 50 V, 0603 [1608 Metric]</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>R8</td>
<td>46.4k</td>
<td>Multicomp</td>
<td>MC0.063WB603146K4FR</td>
<td>RESISTOR, 46.4K, 0.063W, 1%, 0603, REEL</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>R9</td>
<td>30.9k</td>
<td>Vishay</td>
<td>CRCW060330K9FKEA</td>
<td>RES SMD 30.9K CH1 1% 1/10W 0603</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>R10</td>
<td>200k</td>
<td>Vishay</td>
<td>CRCW02012009FNEED</td>
<td>Res Thick Film 0201 200k Ohm 1% 1/20W 2000ppm°C Molded SMD SMD Paper T/R</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>R13, R14</td>
<td>1k5</td>
<td>Vishay</td>
<td>CRCW06031K50FKEA</td>
<td>Res Thick Film 0603 1.5K Ohm 1% 0.1W/110V ±10ppm/C Pad SMD Automotive T/R</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>SW1</td>
<td>SW, SMT, PB</td>
<td>ITT / C&amp;K Components</td>
<td>KMR221GLFS</td>
<td>SW, SMT, PB, KMR221GLFS</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>U1</td>
<td>TCF</td>
<td>ams AG</td>
<td>TMF882x</td>
<td>TCF TMF882x</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>U2</td>
<td>TFS5601DOBVR</td>
<td>IT</td>
<td>TFS5601DOBVR</td>
<td>48 Low Dropout Regulator</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>U4</td>
<td>TXS0104ED</td>
<td>Texas Instruments</td>
<td>TXS0104ED</td>
<td>TEXAS INSTRUMENTS TXS0104ED - Voltage Level Translator, Bidirectional, 4 Input, 1 Output, 0.165 ns, 24 Mbps, 1.65 V to 3.3 V, SOIC-14</td>
<td>1</td>
<td></td>
</tr>
</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.