mEZD71201A Series

4.5V - 24V Input, 1A, DC/DC Power Supply

**FEATURES**
- 4.5V to 24V Wide Operating Input
- 1A Load Current
- Hiccup Short-Circuit Protection
- Over-/Under-Voltage Protection
- Over-Current Protection
- Over-Temperature Protection
- Open Design Files and BOM

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Input Voltage (V)</th>
<th>Output Voltage (V)</th>
<th>Output Current (A)</th>
</tr>
</thead>
</table>
| MEZD71201A-X | A - F: 4.5 - 24  
G: 6.5 - 24 | 1, 1.2, 1.5, 1.8, 
2.5, 3.3, 5 | 1 |
| Output Voltage Options |
| A = 1.0V  
B = 1.2V  
C = 1.5V  
D = 1.8V  
E = 2.5V  
F = 3.3V  
G = 5.0V |

**mEZD712xx FAMILY PRODUCTS**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Input Voltage (V)</th>
<th>Output Voltage (V)</th>
<th>Output Current (A)</th>
</tr>
</thead>
</table>
| mEZD71201A-X | 4.5 – 24 | 1, 1.2, 1.5, 1.8, 
2.5, 3.3, 5 | 1 |
| mEZD71202A-X | 4.5 – 24 | 1, 1.2, 1.5, 1.8, 
2.5, 3.3, 5 | 2 |
| mEZD71203A-X | 4.5 - 16 | 1, 1.2, 1.5, 1.8, 
2.5, 3.3 | 3 |
| mEZD71210A-A | 4.5 – 17 | 1 | 10 |

**ELECTRICAL CHARACTERISTICS**

Input Voltage Range $V_{IN, Min}$ higher than $V_{OUT}$ by 1V 4.5 or 6.5 to 24V

Output Voltage Set Accuracy $\pm 2.5\%$ (Typ.)

Output Voltage Ripple $V_{IN}=12V, V_{OUT}=3.3V$, Full Load 28mV

Line Regulation $V_{IN}$ from MIN to MAX, $V_{OUT}=3.3V$ $\pm 1\%$ (Typ.)

Load Regulation $I_{OUT}$ from MIN to MAX, $V_{OUT}=3.3V$ $\pm 1\%$ (Typ.)

Switching Frequency Typical Switching Frequency 400kHz

Short-Circuit Protection Short Output to Ground Hiccup Mode

Operating Temperature Range -40 to 85°C

Over-Temperature Protection OTP 150°C

Rise Time $V_{OUT}$ from 0% to 90% 0.75ms (Typ.)

Calculated MTBF MIL-HDBK-217F $4185 \times 10^3$hrs

**NOTE:** All electrical characteristics are tested under 25°C ambient temperature, $V_{IN}=12V$ unless otherwise noted.
mEZD71201A Series

4.5V - 24V Input, 1A, DC/DC Power Supply

DO-IT-YOURSELF SCHEMATIC

POWER DERATING

BILL OF MATERIALS

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>RefDes</th>
<th>Value</th>
<th>Description</th>
<th>Package</th>
<th>Manufacturer</th>
<th>Manufacturer P/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>C1</td>
<td>0.22µF</td>
<td>Ceramic Cap., 16V, X5R</td>
<td>0402</td>
<td>muRata</td>
<td>GRM155R61C224KA12D</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>C2</td>
<td>4.7µF</td>
<td>Ceramic Cap., 50V, X7R</td>
<td>1206</td>
<td>muRata</td>
<td>GRM31CR71H475KA12L</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>C3, C4</td>
<td>22µF</td>
<td>Ceramic Cap., 10V, X7T/X5R</td>
<td>0805</td>
<td>muRata</td>
<td>GRM21BD71A226ME44L/GRM21BR61A226ME51L</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>C5</td>
<td>1µF</td>
<td>Ceramic Cap., 10V, X5R</td>
<td>0402</td>
<td>muRata</td>
<td>GRM155R61A105KE01D</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>L1*</td>
<td>4.7µH</td>
<td>Idc 3.1A, DCR 45.6mΩ</td>
<td>5.5x5x3mm</td>
<td>Panasonic</td>
<td>ETQP3M4R7KVP</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>R1</td>
<td>499kΩ</td>
<td>Film Res., 1%</td>
<td>0402</td>
<td>Yageo</td>
<td>RC0402FR-07499KL</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>P1</td>
<td>3-pin</td>
<td>3-pin male connector, right angle</td>
<td>Bulk</td>
<td>MYIC</td>
<td>MPS010SRRRA-3</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>U1</td>
<td></td>
<td>Synchronous Step-Down Converter</td>
<td>FCQFN3x3-16</td>
<td>MPS</td>
<td>DIY71201-AX**</td>
</tr>
</tbody>
</table>

* Or equivalent. ** -X Output voltage options (A: 1.0V, B: 1.2V, C: 1.5V, D: 1.8V, E: 2.5V, F: 3.3V, G: 5.0V)

PRODUCT PACKAGE AND DIMENSIONS

NOTE:
Contact factory for different sizes of the boards (Quantity>2k).

For more information, Gerber files, and PCB layout, please contact mEZsupport@monolithicpower.com