DESCRIPTION

UNIPOWER’s DCMOD® AJ-040D SERIES is a 40 Watt DC Input Power Supply platform with both standard and configurable models featuring 12, 24 or 48VDC inputs and output voltage(s) that can be quickly configured to order while maintaining all international safety approvals.

These power supplies are available in single or triple output configurations with outputs ranging from 1.5 to 48 VDC. The AJ-040D feature a high-density footprint; 24 or 48VDC Input ranges; international safety approvals; Class B emissions; and -20 ~ +70°C operation (see derating).

DCMOD® UPGRADES include a multitude of output voltage configurations, extended temperature operating range, attached wire harnesses and much, much more. All these modifications are available without any impact on safety approvals to reduce both development cost and time to market.

FEATURES

◆ 12V, 24V or 48V DC Input
◆ High-Density 3.6” x 2.5” Footprint
◆ 1 or 3 Outputs configurable from 1.5~48VDC
◆ International Safety Approvals
◆ >500k Hours MTBF, Demonstrated
◆ Optional -40°C Guaranteed Start-Up
◆ Double Sided PC Board

Contact UNIPOWER to discuss your application and define the right part number for your specific application:

Tel: +1-954-905-1070
Email: the.power.solution@unipowerco.com

For the AC input version see EASYMOD AJ-040U datasheet
For the Medical Approved version see MEDIMOD AJ-040UM datasheet

FIVE YEAR WARRANTY

INTERNATIONAL STANDARDS

UL/cUL 60950-1 2nd Ed.
EN60950-1 2nd Ed.
CB Report, IEC60950-1
CE Mark (LVD)
“IF WHAT YOU SEE IS WHAT YOU DON’T WANT, IT CAN EASILY BE CHANGED.” The DCMOD® family of switching power supplies has been designed with two precepts; (1) the laws of physics are immutable, and (2) the satisfaction of customer requirements and needs is paramount.

A host of modifications, only some of which are listed below, can and will be performed on products for customer programs requiring as few as 250 units per year. These “mods” are available at nominal premium (if any), normally without non-recurring engineering costs (although a one time documentation fee may be incurred), and usually with all safety agency approvals in place. This minimizes both product development cost and new product time to market. Effectively, DCMODs® allow small program requirements the luxury of costly custom power supply designs.

TYPICAL MODIFICATIONS
- Unique Output Combinations from 1.5 to >48 volts
- Low Output Ripple and Noise
- Extended Temperature Operating Range
- -40°C Start-Up
- Zero Load Operation

FLEXIBLE OUTPUT CONFIGURATION GUIDELINES
with 12, 24 or 48VDC Input and -20-50°C Operation

Single Output Capabilities

<table>
<thead>
<tr>
<th>OUTPUT CURRENT</th>
<th>1.5-3.3V</th>
<th>5V</th>
<th>12V</th>
<th>15V</th>
<th>24V</th>
<th>48V</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINIMUM</td>
<td>0A</td>
<td>0A</td>
<td>0A</td>
<td>0A</td>
<td>0A</td>
<td>0A</td>
</tr>
<tr>
<td>CONVECTION (3)</td>
<td>6A</td>
<td>6A</td>
<td>2.5A</td>
<td>2A</td>
<td>1.3A</td>
<td>0.6A</td>
</tr>
<tr>
<td>15 CFM AIR (4)</td>
<td>8A</td>
<td>8A</td>
<td>3.3A</td>
<td>2.6A</td>
<td>1.7A</td>
<td>0.8A</td>
</tr>
<tr>
<td>PEAK (5)</td>
<td>9.5A</td>
<td>9.5A</td>
<td>4A</td>
<td>3.3A</td>
<td>2.1A</td>
<td>1A</td>
</tr>
</tbody>
</table>

Multiple Output Capabilities

<table>
<thead>
<tr>
<th>OUTPUT</th>
<th>DC OUTPUT</th>
<th>MIN</th>
<th>CON (3)</th>
<th>AIR (4)</th>
<th>PEAK (4, 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>1.5 ~ 48V (7)</td>
<td>0.40A (2, 12)</td>
<td>4.0A</td>
<td>5.0A</td>
<td>6.0A</td>
</tr>
<tr>
<td>V2</td>
<td>1.5 ~ 48V (8)</td>
<td>0.10A (2, 12)</td>
<td>1.0A</td>
<td>1.2A</td>
<td>1.5A</td>
</tr>
<tr>
<td>V3</td>
<td>1.5 ~ 48V (8)</td>
<td>0.08A (2, 12)</td>
<td>0.8A</td>
<td>1.0A</td>
<td>1.2A</td>
</tr>
</tbody>
</table>

(1) Full power out on V3 with minimal V1 and V2 loading—Option.
(2) 10% minimum load for stated regulation on multiple O/P units.
(3) Convection cooling.
(4) 15 CFM forced air cooling conditions.
(5) 30 seconds maximum duration.
(6) Most output combinations from 1.5 to 48+ Volts possible; up to maximum rated Current / Power. Consult UNIPOWER.
(7) Specify 0.1V increments.
(8) Specific output voltage is current dependent.
(9) Regulation may degrade under some output. Consult UNIPOWER.
(10) Consult UNIPOWER for Model #.
(11) For outputs >48 Volts, consult UNIPOWER.
(12) 10% minimum of marked rating.

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**INPUT**

<table>
<thead>
<tr>
<th>Voltage Range Options</th>
<th>9-18, 18-36 or 36-72 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>2A @ 48VDC / 3A @ 24VDC max / 6A @ 12VDC</td>
</tr>
</tbody>
</table>

**OUTPUT**

<table>
<thead>
<tr>
<th>Power</th>
<th>30W Convection / 40W with 15 CFM Airflow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency</td>
<td>70% Typical</td>
</tr>
<tr>
<td>Cross Regulation</td>
<td>+5%</td>
</tr>
<tr>
<td>Load Regulation</td>
<td>+3% max</td>
</tr>
<tr>
<td>Ripple / Noise, max.</td>
<td>+1% pk-pk max</td>
</tr>
<tr>
<td>Line Regulation</td>
<td>Max ±0.2%</td>
</tr>
</tbody>
</table>

**OVERVOLTAGE PROTECTION (V1 Only)**

- 20°C to +50°C (Full Load)
- 25°C to +70°C
- ±5% to 95%, Non-Condensing
- MTBF, Demonstrated: >500,000 Hours
- 15 CFM Airflow for Full Power
- Altitude: 10,000 feet

**PHYSICAL SPECIFICATIONS**

- Case Dimensions: 3.60 x 2.48 x 1.00" / 91.5 x 63.0 x 25.4mm
- Weight: 0.38 lbs (0.17 kg)
- Vibration from 10 - 55Hz: 1.0G Peak
- (3 orthogonal axes @ 1 octawatt, 5 minute dwell @ 4 major resonances)

**EMI STANDARDS**

- UL60950-1 2nd Ed., EN60950-1 2nd Ed., CB REPORT (IEC 60950-1), CE MARK (LVD)
- (not including 12VDC input models)

**SAFETY STANDARDS**

- FCC Class A & VDE Class A, CISPR 11, EN 55011 Class A
- (Class B optional, consult factory)