

# Switch Mode Power Supplies Single Output AC/DC Power Supply with PFC

# ABU125-050

#### **Description:**

The ABU125-050 is a single output power supply. This power supply is designed for a wide variety applications where high reliability is desired, including applications for the industrial and telecommunications markets. Excellent performance specifications are provided, together with compliance to European EMC (EN55022, Class B and EN61000-3-2), and Low Voltage directive.

#### Specifications (@25C)

#### **Input Characteristics:**

Input Voltage: 90-264VAC, 127-373VDC

Input Frequency Range: 47-63Hz

 Input Current:
 1.6A @ 115VAC, 0.8A @ 230VAC typ.

 Max Inrush Current:
 30A@115VAC, 60A@230VAC at cold start

 Power Factor:
 >0.95/230VAC, >0.98/115VAC at full load

**Leakage Current:** <2.4mA/240Vac

## **Output Characteristics:**

Output Voltage: 5VDC±2.0%Vdc

Output Current (Convection): 0-14A Output Power (Convection): 70W

Adjustable Output Range: 4.75 – 5.25V. Output voltage can be adjusted at VR51

 Ripple & Noise<sup>1</sup>:
 100mVp-p

 Load Regulation:
 ±1.0%

 Line Regulation:
 ±0.5%

 Efficiency:
 79.0%

 Start-up Time:
 1500ms/230VAC, 3000ms/115VAC, full load

 Rise-up Time:
 30ms/230VAC, 30ms/115VAC, full load

 Hold-up Time:
 14ms/230VAC, 14ms/115VAC, full load

**Over Current Protection:** 22.0 – 30.0A. Hiccup mode. Resets automatically once the fault condition is

removed.

Over Voltage Protection: 5.75 – 6.75 VDC.

#### **General Specifications:**

**Dimension (LxWxH):** 127(5.0) x 76.2(3.0) x 27.0(1.05) mm (in)

Weight: 300g

Cooling: Natural Convection or FAN at 15CFM

Isolation Resistance: I/P—O/P, I/P—FG, O/P—FG: 500VDC/100M Ohms
Dielectric Strength: I/P—O/P:3KVAC: I/P—FG:1.5KVAC: O/P—FG:0.5KVAC

Warranty: 3 years

**MTBF:** 200K hrs. min. MIL-HDBK-217F (25°C)

## **Environmental Specifications:**

Operating Temperature: -20° to 50°C at full load (Refer to output load derating curve)

Operating Humidity: 20 to 90% RH, non-condensing

Storage Temperature: -40 to 85°C

**Storage Humidity:** 10 to 95% RH, non-condensing

Temperature Drift: <0.04%/°C (0-50°C)

Vibration: 10-500Hz, 2G 10min/cycle, period of 60min, each X, Y & Z axis

#### EMC & Safety Specifications<sup>2</sup>:

EMI Emissions: Compliance to EN55022, CISPR22 Class B (Conducted & Radiated)

Harmonic Current: Compliance to EN61000-3-2, 3

**EMS Immunity:** Compliance to EN61000-4-2, 3-6, 8 & 11; EN55024 heavy, light

industry level, criteria A

Safety Approval: UL 60950-1, (insulation class -1)





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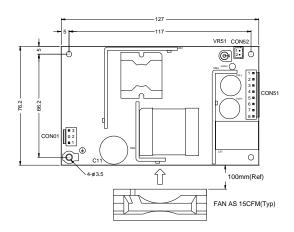
<sup>1</sup> Ripple and noise are measured at 20MHz of bandwidth by using a 12" twisted-pair wire termination with a 0.1uF & 47uF parallel capacitors.

<sup>&</sup>lt;sup>2</sup> The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.



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## **Outline Dimensions (mm):**



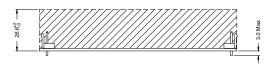
#### NOTE:

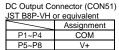
- 1. All I/O connection shall Follow specified Model Label.
- 2. Temp =+50°C (max) at full load.

# **Connections:**

AC Input Connector (CON1)

JST B3P-VH of equivalent	
	Assignment
P1	AC/N
P	(N.C.)
P3	AC/L

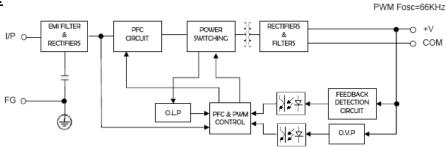




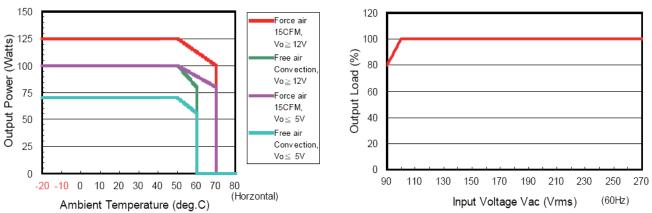
DC Output Connector (ON52-Optional) JST B2B-XH

	Assignment
P1	Vs+
P2	Vs-

### **Block Diagram:**



#### **Derating Curve:**



RoHS Compliance: As of manufacturing date February 2016, all standard products meet the requirements of 2015/863/EU, known as the RoHS 3 initiative.

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<sup>\*</sup> Upon printing, this document is considered "uncontrolled". Please contact Triad Magnetics' website for the most current version.

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