



# ABC41 Series

## Ultra Low Profile Open Frame Power Supplies

The ABC41 Series of ultra low open frame power supplies feature a wide universal AC input range of 85 V – 264 VAC, offering output power 40 W with natural convection cooling. They are available in a variety of isolated single output voltages. The ABC41 ultra low profile series is also available in a PCB mount format, facilitating simple embedded integration onto user’s main PCB assembly.

The high efficiency and high power density of the ABC family ensures minimal power loss in end-use equipment, thereby facilitating higher reliability, easier thermal management and meets regulatory approvals for environmentally-friendly end products.

These power supplies are ideal for broad range of telecom, datacom, industrial equipment and other applications.



### Key Features & Benefits

- 3 x 2 x 0.75 Inches Form factor
- PCB Mount option available
- 40 Watts Convection
- Approved to EN/IEC 60950
- Efficiencies 85% Typical
- -40 to 70 degree operating temperature
- 2 million hours, Telcordia -SR332-issue 3 MTBF
- Standby Power < 0.3 W

### Applications

- Instrumentation
- Lighting
- Industrial Applications
- Applied Computing
- Renewable Energy
- Test and Measurement
- Robotics
- Wireless Communication



**bel** POWER SOLUTIONS & PROTECTION

a bel group

[belfuse.com/power-solutions](http://belfuse.com/power-solutions)

## 1. MODEL SELECTION

MODEL NUMBER <sup>1</sup>	CONNECTOR	VOLTAGE	MAX. LOAD	MIN. LOAD	RIPPLE & NOISE <sup>2</sup>
ABC41-1T05L	Screw Terminal				
ABC41-1005L	Header	5 V	5 A	0.0 A	1.5%
ABC41-1005P	PCB Mount				
ABC41-1T12L	Screw Terminal				
ABC41-1012L	Header	12 V	3.33 A	0.0 A	1%
ABC41-1012P	PCB Mount				
ABC41-1T15L	Screw Terminal				
ABC41-1015L	Header	15 V	2.67 A	0.0 A	1%
ABC41-1015P	PCB Mount				
ABC41-1T24L	Screw Terminal				
ABC41-1024L	Header	24 V	1.67 A	0.0 A	1%
ABC41-1024P	PCB Mount				
ABC41-1T30L	Screw Terminal				
ABC41-1030L	Header	30 V	1.33 A	0.0 A	1%
ABC41-1030P	PCB Mount				
ABC41-1T48L	Screw Terminal				
ABC41-1048L	Header	48 V	0.83 A	0.0 A	1%
ABC41-1048P	PCB Mount				
ABC41-1T58L	Screw Terminal				
ABC41-1058L	Header	58 V	0.69 A	0.0 A	1%
ABC41-1058P	PCB Mount				
COVER-41-XBC <sup>3</sup>	metal cover kit accessory				

<sup>1</sup> For Class II Option (without input Earth pin) add suffix: -2 (e.g.: ABC41-1012L-2).

<sup>2</sup> Ripple is peak to peak with 20 MHz bandwidth and 10  $\mu$ F (Tantalum capacitor) in parallel with a 0.1  $\mu$ F capacitor at rated line voltage and load ranges. Output ripple can be more than 10% of the output voltage.

<sup>3</sup> When used in Cover Kit, de-rate output power to 70 % under all operating conditions. Cover Kit is not suited for PCB mount version.

## 2. INPUT SPECIFICATIONS

Specifications are for nominal input voltage, 25°C unless otherwise stated.

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input Voltage	Universal	85 - 264 VAC / 390 VDC
Input Frequency		47 - 63 Hz
Input Current	115 VAC: 230 VAC:	0.8 A max. 0.4 A max.
No Load Power	Typical	< 0.3 W
Inrush Current	115 VAC: 230 VAC: 264 VAC:	25 A 45 A 75 A
Leakage Current	Typical (N.A. For Class II Option- without input Earth pin)	300 $\mu$ A
Switching Frequency	Typical	65 kHz

### 3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power	Convection cooling	40 W
Efficiency	Typical	85%
Hold-up Time	230 VAC:	6 ms
Line Regulation		+/-0.5%
Load Regulation		+/-1%
Transient Response	25% step load change, at 0.1 A/ $\mu$ s slew rate, 50% duty cycle, 50 Hz = 4%	recovery time < 5 ms
Rise Time	Typical	50 ms
Set Point Tolerance		2% (3% for 5 V model)
Over Current Protection		> 110%
Over Voltage Protection		110 to 140%
Short Circuit Protection	Hiccup mode	

### 4. ENVIRONMENTAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Operating Temperature	Startup is guaranteed with spec. deviation, see Fig. 1	-40 to +70°C -40 to 0°C
Storage Temperature		-40 to +85°C
Relative Humidity	Non-condensing	5% to 95%
Altitude	Operating: Non-operating:	16,000 ft. 40,000 ft.
MTBF	Telcordia -SR332-issue 3	2 million hours

### 5. EMC SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Conducted Emissions	EN55032-B, CISPR22-B, FCC PART15-B	Pass
Radiated Emissions	EN 55032 A; with external core (King core K5B RC 25x12x15-M in input cable)	Pass Level B
Input Current Harmonics	EN 61000-3-2	Class D
Voltage Fluctuation and Flicker	EN 61000-3-3	Pass
ESD Immunity	EN 61000-4-2	Level 3, Criterion A
Radiated Field Immunity	EN 61000-4-3	Level 3, Criterion A
Electrical Fast Transient Immunity	EN 61000-4-4	Level 3, Criterion A
Surge Immunity	EN 61000-4-5	Level 3, Criterion A
Conducted Immunity	EN 61000-4-6	Level 3, Criterion A
Magnetic Field Immunity	EN 61000-4-8	Level 3, Criterion A
Voltage Dips, Interruptions	EN 61000-4-11	Criterion A & B

## 6. SAFETY SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Isolation Voltage	Input to Output:	4242 VDC
Safety Standard(s)	Approved to the latest edition of the following standards: CSA/UL60950-1, EN60950-1 and IEC60950-1. Class1 SELV	
Agency Approvals	Nemko, UL, C-UL	
CE mark	Complies with LVD Directive	

## 7. CONNECTOR & PIN DESCRIPTION

CONNECTOR	PIN	DESCRIPTION / CONDITION	MANUFACTURER / PN
AC Input Connector	J1 Screw Terminal / Header	Pin 1 AC Line Pin 2 Not Fitted Pin 3 AC Neutral	Tyco: 640445-3 Mating: 647402-3; Pins: 3-647409-1 (Header)
DC Output Connector	J2 Screw Terminal / Header	Pin 1, 2 V1 +VE Pin 3, 4 V1 -VE	Tyco: 640445-4 Mating: 647402-4; Pins: 3-647409-1

## 8. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION
Weight	approx. 100 g
Dimensions	76.2 x 50.8 x 19.05 mm (3 x 2 x 0.75 inches)



Figure 1. Derating Curve for all Outputs

De-rate linearly from 100% at 50°C to 50% at 70°C



Figure 2. Mechanical Drawing – Option with Header

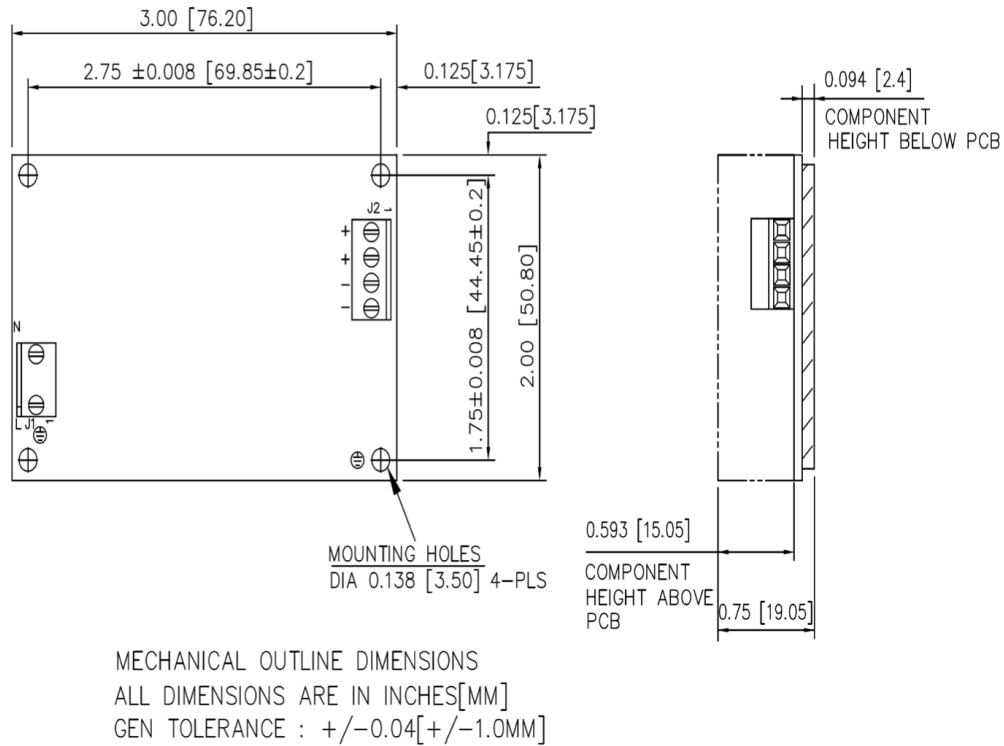


Figure 3. Mechanical Drawing – Option with Screw Terminal



Figure 4. Mechanical Drawing – PCB Mount Option

**NOTES:** In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following:

- 1 Stand off, used to mount PCB has OD of 5.4 mm max.
- 2 Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
- 3 Washer, if used, to have dia of 6.5 mm max.

**For more information on these products consult: [tech.support@psbel.com](mailto:tech.support@psbel.com)**

**NUCLEAR AND MEDICAL APPLICATIONS** - Products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

**TECHNICAL REVISIONS** - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.