



1 WATT SINGLE & DUAL OUTPUT

Unregulated
SIP Package

DC/DC Converters



FEATURES

- 1 Watt Unregulated Output Power
- Miniature Single – Inline Package (SIP)
- 3000Vdc Input/Output Isolation
- Single and Dual Output
- High Efficiency (Up to 80%)

SPU1 Series

Specifications

All specifications are typical at nominal input, full load and 25°C, unless otherwise noted.

INPUT

Input Voltage Range

| | |
|-------------------------|-----------------|
| 5V nominal input | 4.5 - 5.5 Vdc |
| 12V nominal input | 10.8 - 13.2 Vdc |
| 15V nominal input | 13.5 - 16.5 Vdc |
| 24V nominal input | 21.6 - 26.4 Vdc |

Input Filter Capacitor

OUTPUT

| | |
|--|----------------|
| Output Power | 1 Watt max. |
| Voltage Accuracy (Full Load and Nominal Vin) | ±5% |
| Minimum Load * | 10% fo FL |
| Line Regulation LL to HL at Full Load | 1.3%/1% of Vin |
| Load Regulation (20% to 100% FL).....(5V output..±10%) | Others...±8% |
| Ripple and Noise (20 MHz Bandwidth)..... | 100mV p-p |
| Temperature Coefficient | ±0.1%/°C, max. |
| Short Circuit Protection | Short term |

GENERAL

| | |
|--|---|
| Efficiency | See Table |
| Isolation Voltage (Input to Output) Standard...1000 Vdc min. | Suffix-HI...3000 Vdc min. |
| Isolation Resistance | 10 ⁹ Ohms, min. |
| Isolation Capacitance | 30pF, max. |
| Switching Frequency | 60KHz, min. |
| Safety Standard | IEC60950, UL60950, EN60950 (Built to meet) |
| Case Material..... | Non-Conductive Black Plastic |
| Base Material..... | None |
| Potting Material..... | Epoxy (UL94-V0) |
| Dimensions..... | 0.77" x 0.24" x 0.40" inches (19.6 x 6.0 x 10.2 mm) |
| Weight..... | 2.0 g. (0.071 oz.) |
| MTBF | 1.471 x 10 ⁷ Hours |

ENVIRONMENTAL

| | |
|-----------------------------------|---|
| Operating Temperature Range | -25°C to +85°C (with derating) |
| Storage Temperature Range | -55°C to +105°C |
| Thermal Shock..... | MIL-STD-810D |
| Vibration | 10~55Hz, 2G, 30minutes along X, Y and Z |
| Relative Humidity..... | 5% to 95% RH |

* The SPU1 Series requires a 10% minimum load on the output to maintain specified regulation. Operation under no-load condition will not damage these devices. However, they may not meet all listed specifications.

Selection Guide

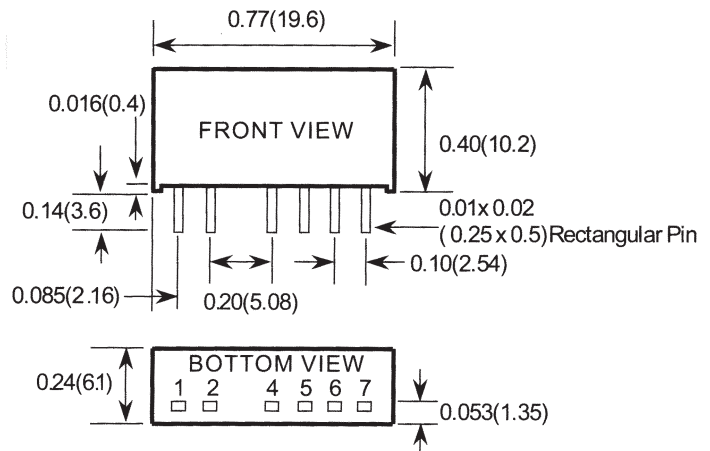
(Continued)

| | Input Voltage Nominal (Range) (Vdc) | Output Voltage (Vdc) | Output Current (mA) | Efficiency % | Model Number | Case |
|----------------------|-------------------------------------|----------------------|---------------------|--------------|--------------|------|
| SINGLE OUTPUT | 4.5 - 5.5 | 5 | 200 | 71 | SPU1-5S5 | SIP |
| | 4.5 - 5.5 | 12 | 83 | 78 | SPU1-5S12 | SIP |
| | 4.5 - 5.5 | 15 | 67 | 78 | SPU1-5S15 | SIP |
| | 10.8 - 13.2 | 5 | 200 | 73 | SPU1-12S5 | SIP |
| | 10.8 - 13.2 | 12 | 83 | 79 | SPU1-12S12 | SIP |
| | 10.8 - 13.2 | 15 | 67 | 79 | SPU1-12S15 | SIP |
| | 13.5 - 16.5 | 5 | 200 | 73 | SPU1-15S5 | SIP |
| | 13.5 - 16.5 | 12 | 83 | 79 | SPU1-15S12 | SIP |
| | 13.5 - 16.5 | 15 | 67 | 79 | SPU1-15S15 | SIP |
| | 21.6 - 26.4 | 5 | 200 | 71 | SPU1-24S5 | SIP |
| | 21.6 - 26.4 | 12 | 83 | 76 | SPU1-24S12 | SIP |
| | 21.6 - 26.4 | 15 | 67 | 78 | SPU1-24S15 | SIP |
| DUAL OUTPUT | 4.5 - 5.5 | ±5 | ±100 | 72 | SPU1-5-5 | SIP |
| | 4.5 - 5.5 | ±12 | ±42 | 78 | SPU1-5-12 | SIP |
| | 4.5 - 5.5 | ±15 | ±33 | 78 | SPU1-5-15 | SIP |
| | 10.8 - 13.2 | ±5 | ±100 | 74 | SPU1-12-5 | SIP |
| | 10.8 - 13.2 | ±12 | ±42 | 80 | SPU1-12-12 | SIP |
| | 10.8 - 13.2 | ±15 | ±33 | 80 | SPU1-12-15 | SIP |
| | 13.5 - 16.5 | ±5 | ±100 | 74 | SPU1-15-5 | SIP |
| | 13.5 - 16.5 | ±12 | ±42 | 80 | SPU1-15-12 | SIP |
| | 13.5 - 16.5 | ±15 | ±33 | 80 | SPU1-15-15 | SIP |
| | 21.6 - 26.4 | ±5 | ±100 | 72 | SPU1-24-5 | SIP |
| | 21.6 - 26.4 | ±12 | ±42 | 78 | SPU1-24-12 | SIP |
| | 21.6 - 26.4 | ±15 | ±33 | 79 | SPU1-24-15 | SIP |

Mechanical Specifications

| STANDARD | | |
|----------|---------|---------|
| PIN | SINGLE | DUAL |
| 1 | +INPUT | +INPUT |
| 2 | -INPUT | -INPUT |
| 4 | -OUTPUT | -OUTPUT |
| 5 | NC | COMMON |
| 6 | +OUTPUT | +OUTPUT |

| Suffix HI Models (3000Vdc isolation) | | |
|--------------------------------------|---------|---------|
| PIN | SINGLE | DUAL |
| 1 | +INPUT | +INPUT |
| 2 | -INPUT | -INPUT |
| 5 | -OUTPUT | -OUTPUT |
| 6 | NC | COMMON |
| 7 | +OUTPUT | +OUTPUT |



1. All Dimensions are in inches (mm)
2. Pin pitch tolerance ±0.014(0.35)



DABURN ELECTRONICS & CABLE

44 Richboynton Road, Dover, New Jersey 07801 U.S.A.

Tel: (973)328-3200 Fax: (973)328-3130 - Email: daburn@daburn.com - Website: www.daburn.com

Ver. 1.0