

# DU1P0-SERIES



- 1 WATT UNREGULATED OUTPUT POWER
- SINGLE-IN-LINE PACKAGE (SIP)
- HIGH EFFICIENCY FOR LOW POWER APPLICATION
- UL 94-V0 NON-CONDUCTED CASE
- INTERNAL INPUT & OUTPUT FILTER
- INPUT / OUTPUT ISOLATION UP TO 3KVDC

The DU1P0 series are the standard building blocks for on-board distributed power systems. They are ideally suited to providing single and dual supplies on primarily digital boards with added benefit of galvanic isolation to reduce switching noise. All of the rated power may be drawn from a single pin provided the total load does not exceed 1 watt.

## TECHNICAL SPECIFICATION

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

OUTPUT SPECIFICATIONS		
Output power		1 Watt max
Voltage accuracy	Full load and nominal Vin	± 5%
Minimum load (Note 1)		10% of 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	20MHz bandwidth	100mVp-p
Temperature coefficient		±0.1% / °C, max
Short circuit protection		Short term
INPUT SPECIFICATIONS		
Input voltage range	5V nominal input	4.5 – 5.5VDC
	12V nominal input	10.8 – 13.2VDC
	15V nominal input	13.5 – 16.5VDC
	24V nominal input	21.6 – 26.4VDC
Input filter		Capacitor

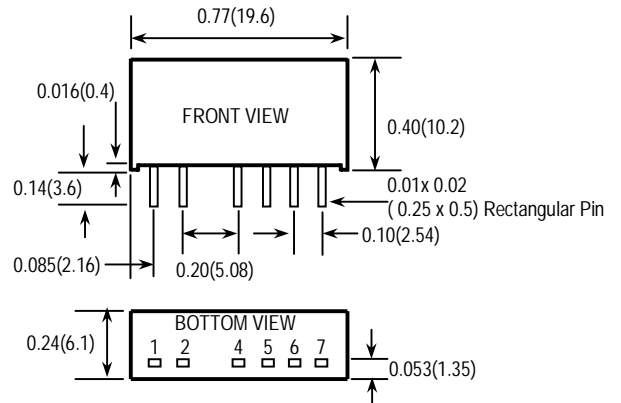
GENERAL SPECIFICATIONS			
Efficiency			See table
Isolation voltage	Input to Output	Standard Suffix-N	1000VDC, min 3000VDC, min
Isolation resistance			10 <sup>9</sup> ohms, min
Isolation capacitance			30pF, max
Switching frequency			60KHz, min
Design meet safety standard			UL1950, EN60950
Case material			Non-conductive black plastic
Base material			None
Potting material			Epoxy (UL94-V0)
Dimensions			0.77 X 0.24 X 0.40 Inch (19.6 X 6.0 X 10.2 mm)
Weight			2.0g (0.071oz)
MTBF (Note 2)			1.471 x 10 <sup>7</sup> hrs
ENVIRONMENTAL SPECIFICATIONS			
Operating temperature range			-25°C ~ +85°C (with derating)
Storage temperature range			-55°C ~ +105°C
Thermal shock			MIL-STD-810D
Vibration			10-55Hz, 2G, 30minutes along X,Y and Z
Relative humidity			5% to 95% RH



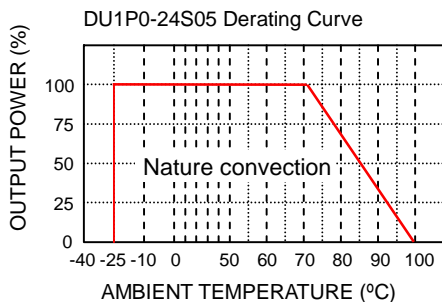
Model Number	Input Range	Output Voltage	Output Current	Input Current <sup>(3)</sup>	Eff <sup>(4)</sup> (%)	Capacitor Load max <sup>(5)</sup>
DU1P0-05S05	4.5 – 5.5 VDC	5 VDC	200mA	298mA	71	6.2uF
DU1P0-05S12	4.5 – 5.5 VDC	12 VDC	83mA	269mA	78	6.2uF
DU1P0-05S15	4.5 – 5.5 VDC	15 VDC	67mA	272mA	78	6.2uF
DU1P0-05D05	4.5 – 5.5 VDC	± 5 VDC	± 100mA	295mA	72	3.0uF
DU1P0-05D12	4.5 – 5.5 VDC	± 12 VDC	± 42mA	273mA	78	3.0uF
DU1P0-05D15	4.5 – 5.5 VDC	± 15 VDC	± 33mA	268mA	78	3.0uF
DU1P0-12S05	10.8 – 13.2 VDC	5 VDC	200mA	121mA	73	6.2uF
DU1P0-12S12	10.8 – 13.2 VDC	12 VDC	83mA	111mA	79	6.2uF
DU1P0-12S15	10.8 – 13.2 VDC	15 VDC	67mA	112mA	79	6.2uF
DU1P0-12D05	10.8 – 13.2 VDC	± 5 VDC	± 100mA	119mA	74	3.0uF
DU1P0-12D12	10.8 – 13.2 VDC	± 12 VDC	± 42mA	111mA	80	3.0uF
DU1P0-12D15	10.8 – 13.2 VDC	± 15 VDC	± 33mA	109mA	80	3.0uF
DU1P0-15S05	13.5 – 16.5 VDC	5 VDC	200mA	97mA	73	6.2uF
DU1P0-15S12	13.5 – 16.5 VDC	12 VDC	83mA	89mA	79	6.2uF
DU1P0-15S15	13.5 – 16.5 VDC	15 VDC	67mA	89mA	79	6.2uF
DU1P0-15D05	13.5 – 16.5 VDC	± 5 VDC	± 100mA	95mA	74	3.0uF
DU1P0-15D12	13.5 – 16.5 VDC	± 12 VDC	± 42mA	88mA	80	3.0uF
DU1P0-15D15	13.5 – 16.5 VDC	± 15 VDC	± 33mA	87mA	80	3.0uF
DU1P0-24S05	21.6 – 26.4 VDC	5 VDC	200mA	62mA	71	6.2uF
DU1P0-24S12	21.6 – 26.4 VDC	12 VDC	83mA	58mA	76	6.2uF
DU1P0-24S15	21.6 – 26.4 VDC	15 VDC	67mA	57mA	78	6.2uF
DU1P0-24D05	21.6 – 26.4 VDC	± 5 VDC	± 100mA	61mA	72	3.0uF
DU1P0-24D12	21.6 – 26.4 VDC	± 12 VDC	± 42mA	57mA	78	3.0uF
DU1P0-24D15	21.6 – 26.4 VDC	± 15 VDC	± 33mA	55mA	79	3.0uF

**Note**

- The DU1P0 series required a minimum 10% loading on the output to maintain specified regulation. Operation under no-load condition will not damage these devices, however they may not meet all listed specification
- BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment).
- Maximum value at nominal input voltage and full load of standard type.
- Typical value at nominal input voltage and full load.
- Test by minimum Vin and constant resistor load.



- All dimensions in Inches (mm)
- Pin pitch tolerance  $\pm 0.014$  (0.35)



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

"N" Models		
PIN	SINGLE	DUAL
1	+ INPUT	+ INPUT
2	- INPUT	- INPUT
5	- OUTPUT	- OUTPUT
6	NC	COMMON
7	+ OUTPUT	+ OUTPUT