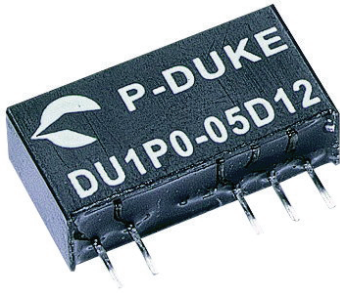


# DUP SERIES

DC / DC Single & Dual Output: 1 Watt



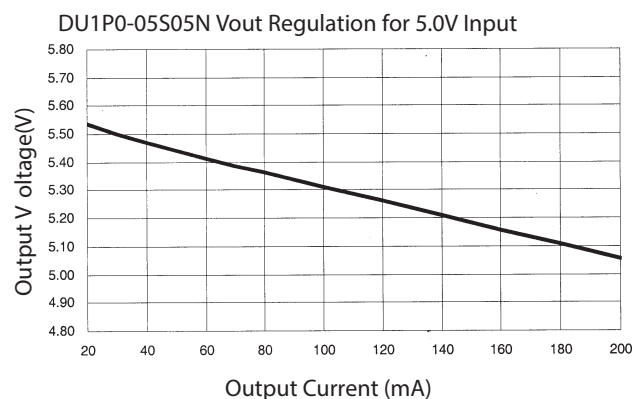
## Features

- 1.0 watt output power, PCB mounting
- Input options: 5V, 12V, 15V & 24vdc
- Industry standard footprint
- 1000V isolation standard models
- 3000V isolation option ( -N models )
- Single-in-line ( SIP ) package
- High efficiency
- Safety Approvals EN60950, UL60950
- High MTBF >1m hrs
- High operating temperature
- Non-Conductive case

## Specifications:

<b>Input Voltage</b>	<b>5VDC</b> ( 4.5 V~ 5.5 ) <b>12VDC</b> ( 10.8 ~ 13.2 ) <b>15VDC</b> ( 13.5 ~ 16.5 ) <b>24VDC</b> ( 21.6 ~ 26.4 )
<b>Input Filter</b>	Capacitor
<b>Efficiency</b>	Model dependent 73 ~ 83%
<b>Output Power</b>	1 watt
<b>Voltage Accuracy</b>	±5% ( full load and nominal input )
<b>Minimum Load</b>	10% to meet regulation
<b>Line Regulation</b>	1.3% per 1% Vin ( 10 ~ 100% load )
<b>Load Regulation</b>	5V output ±10% ( 20% to 100% load ) Other outputs ±8% ( 20% to 100% load )
<b>Ripple &amp; Noise</b>	See table ( 20MHz bandwidth )
<b>Temperature Coefficient</b>	±0.1% per °C max
<b>Short circuit Protection</b>	Short Term
<b>Isolation Voltage</b>	Input – Output: 1000VDC ( Standard models ) Input – Output: 3000VDC ( -N models )

<b>Isolation Capacitance</b>	30pF max.
<b>Switching Frequency</b>	60KHz
<b>Safety</b>	IEC60950, EN60950, UL60950
<b>Case Material</b>	Non-conductive black plastic
<b>Potting Material</b>	Epoxy UL94-V0
<b>Operating Temperature</b>	-25°C to + 71°C at rated load -25°C to + 85°C ( with derating )
<b>Thermal Shock</b>	MIL-STD-810F
<b>Vibration</b>	10-55Hz, 10G, 30 min along X, Y and Z
<b>Humidity</b>	5% to 95% RH
<b>MTBF</b>	1.471 x 10 <sup>7</sup> hrs
<b>Dimensions</b>	19.6 x 6.0 x 10.2mm
<b>Weight</b>	2.0g



# DUP SERIES

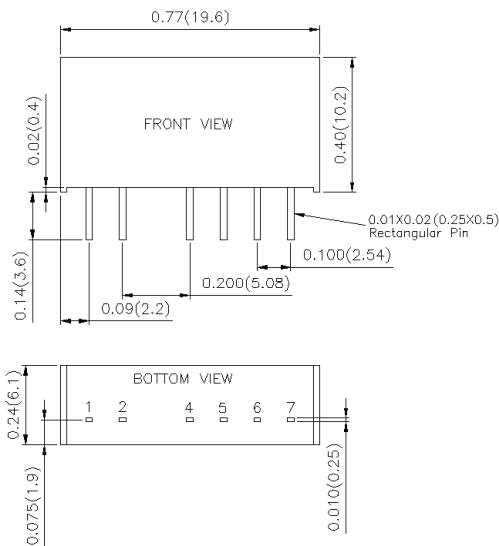
DC / DC Single & Dual Output: 1 Watt

Model Number	Input Range	Output Voltage	Output Current		Output (3) Ripple & Noise	Input Current No load(2)	Eff (3) (%)	Capacitor Load max(4)
			Min. load	Full load				
DU1P0-05S05	4.5 ~ 5.5 V	5 V	20mA	200mA	100mVp-p	42mA	77	330μF
DU1P0-05S12	4.5 ~ 5.5 V	12 V	8.3mA	83mA	100mVp-p	32mA	82	330μF
DU1P0-05S15	4.5 ~ 5.5 V	15 V	6.7mA	67mA	100mVp-p	35mA	81	330μF
DU1P0-05D05	4.5 ~ 5.5 V	± 5 V	± 10mA	± 100mA	100mVp-p	40mA	78	±150μF
DU1P0-05D12	4.5 ~ 5.5 V	± 12 V	± 4.2mA	± 42mA	100mVp-p	35mA	82	±150μF
DU1P0-05D15	4.5 ~ 5.5 V	± 15 V	± 3.3mA	± 33mA	100mVp-p	40mA	81	±150μF
DU1P0-12S05	10.8 ~ 13.2 V	5 V	20mA	200mA	100mVp-p	17mA	77	330μF
DU1P0-12S12	10.8 ~ 13.2 V	12 V	8.3mA	83mA	100mVp-p	17mA	82	330μF
DU1P0-12S15	10.8 ~ 13.2 V	15 V	6.7mA	67mA	100mVp-p	18mA	79	330μF
DU1P0-12D05	10.8 ~ 13.2 V	± 5 V	± 10mA	± 100mA	100mVp-p	18mA	77	±150μF
DU1P0-12D12	10.8 ~ 13.2 V	± 12 V	± 4.2mA	± 42mA	100mVp-p	18mA	81	±150μF
DU1P0-12D15	10.8 ~ 13.2 V	± 15 V	± 3.3mA	± 33mA	100mVp-p	18mA	82	±150μF
DU1P0-15S05	13.5 ~ 16.5 V	5 V	20mA	200mA	100mVp-p	20mA	73	330μF
DU1P0-15S12	13.5 ~ 16.5 V	12 V	8.3mA	83mA	100mVp-p	18mA	79	330μF
DU1P0-15S15	13.5 ~ 16.5 V	15 V	6.7mA	67mA	100mVp-p	18mA	80	330μF
DU1P0-15D05	13.5 ~ 16.5 V	± 5 V	± 10mA	± 100mA	100mVp-p	18mA	75	±150μF
DU1P0-15D12	13.5 ~ 16.5 V	± 12 V	± 4.2mA	± 42mA	100mVp-p	16mA	80	±150μF
DU1P0-15D15	13.5 ~ 16.5 V	± 15 V	± 3.3mA	± 33mA	100mVp-p	16mA	80	±150μF
DU1P0-24S05	21.6 ~ 26.4 V	5 V	20mA	200mA	100mVp-p	12mA	72	330μF
DU1P0-24S12	21.6 ~ 26.4 V	12 V	8.3mA	83mA	100mVp-p	12mA	78	330μF
DU1P0-24S15	21.6 ~ 26.4 V	15 V	6.7mA	67mA	100mVp-p	10mA	78	330μF
DU1P0-24D05	21.6 ~ 26.4 V	± 5 V	± 10mA	± 100mA	100mVp-p	12mA	75	±150μF
DU1P0-24D12	21.6 ~ 26.4 V	± 12 V	± 4.2mA	± 42mA	100mVp-p	10mA	78	±150μF
DU1P0-24D15	21.6 ~ 26.4 V	± 15 V	± 3.3mA	± 33mA	100mVp-p	10mA	79	±150μF

**Note**

- BELLCORE TR-NWT-000332. Case 1: 50% Stress, Temperature at 40°C. MIL-HDBK-217F Notice2 @Ta=25 °C, Full load(Ground, Benign, controlled environment).
- Typical value at nominal input voltage and no load.
- Typical value at nominal input voltage and full load.
- Test by minimum Vin and constant resistive load.
- The output requires a minimum 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.
- CAUTION:** This power module is not internally fused. An input line fuse must always be used.

**Mechanical Drawing:**



- All dimensions in inch (mm)  
Tolerance: X.XX±0.02 (X.X±0.5)  
X.XXX±0.01 (X.XX±0.25)
- Pin pitch tolerance ±0.01(0.25)
- Pin dimension tolerance ±0.004 (0.1)

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

"N" Models ( 3KV )		
PIN	SINGLE	DUAL
1	+ INPUT	+ INPUT
2	- INPUT	- INPUT
5	- OUTPUT	- OUTPUT
6	NC	COMMON
7	+ OUTPUT	+ OUTPUT

