

DPST30 SERIES | 30- WATT

Encapsulated DC-DC Converter.

MODEL: DPST30 | CATEGORY: DC-DC | RATED POWER: 30 W | FORM: MODULE

PRODUCT OVERVIEW



Key Product Features

- Power Module for PCB Mountable
- Smaller size (2"x 1") with High Efficiency
- 2:1 Input range
- Regulated Output
- Low Ripple & Noise
- Screw Terminal For Optional
- Operating Temperature -40°C...+85°C (with derating)
- Remote ON/OFF Control
- Standard 2"x 1" Package and Pinout

ELECTRICAL CHARACTERISTICS

24V Input Models

Model No. (Single Output)	DPST30-24-2.5S	DPST30-24-3.3S	DPST30-24-5S	DPST30-24-12S	DPST30-24-15S	DPST30-24-24S
Max. Output Wattage	15W	19.8W	30W	30W	30W	30W
Input Voltage (VDC)	24V (18-36V)	24V (18-36V)	24V (18-36V)	24V (18-36V)	24V (18-36V)	24V (18-36V)
Output Voltage (VDC)	2.5V / 6000mA	3.3V / 6000mA	5V / 6000mA	12V / 2500mA	15V / 2000mA	24V / 1250mA
Efficiency	84%	87%	90%	88%	88%	88%
Capacitor Load (max)	6800uF	6800uF	4700uF	680uF	680uF	120uF

48V Input Models

Model No. (Single Output)	DPST30-48-2.5S	DPST30-48-3.3S	DPST30-48-5S	DPST30-48-12S	DPST30-48-15S	DPST30-48-24S
Max. Output Wattage	15W	19.8W	30W	30W	30W	30W
Input Voltage (VDC)	48V (36-75V)	48V (36-75V)	48V (36-75V)	48V (36-75V)	48V (36-75V)	48V (36-75V)
Output Voltage (VDC)	2.5V / 6000mA	3.3V / 6000mA	5V / 6000mA	12V / 2500mA	15V / 2000mA	24V / 1250mA
Efficiency	85%	88%	90%	88%	88%	88%
Capacitor Load (max)	6800uF	6800uF	4700uF	680uF	680uF	120uF

Dual Output Models

Model No. (Dual Output)	DPST30-24-5D	DPST30-24-12D	DPST30-24-15D	DPST30-48-5D	DPST30-48-12D	DPST30-48-15D
Max. Output Wattage	24W	30W	30W	25W	30W	30W
Input Voltage (VDC)	24V (18-36V)	24V (18-36V)	24V (18-36V)	48V (36-75V)	48V (36-75V)	48V (36-75V)
Output Voltage (VDC)	±5V / ±2400mA	±12V / ±1250mA	±15V / ±1000mA	±5V / ±2500mA	±12V / ±1250mA	±15V / ±1000mA
Efficiency	85%	88%	88%	85%	88%	88%
Capacitor Load (max)	±820uF	±150uF	±120uF	±820uF	±150uF	±120uF

Output Characteristics (Single Output)

Parameter	Value
Trim Voltage Range	±10%
Voltage Accuracy	±2%
Line Regulation (LL-HL) (typ.)	±0.5%
Load Regulation (10-100%) (typ.)	±1%
Ripple (2.5S~5S)	50mV max (Vp-p)
Ripple (others)	<0.2% Vout + 40mV max (Vp-p)
Noise (2.5S~5S)	100mV max (Vp-p)
Noise (others)	<0.5% Vout + 50mV max (Vp-p)
Switching Frequency	400KHz

Protection

Protection Type	Specification
Over Power Protection	Work over 120% of rating and recovers automatically
Over Voltage Protection	Zener diode clamp
Short Circuit Protection	Current limit (automatic recovery)

Isolation

Parameter	Specification
Voltage	1600VDC
Resistance	10 ⁸ ohms
Capacitance	1000pF

Electrical model matrix updated from provided DPST30 single-output and dual-output data for 24V and 48V input families.

ENVIRONMENTAL AND MECHANICAL

Environment

Parameter	Specification
Operating Temperature	-40°C to +85°C (with derating)
Storage Temperature	-55°C to +105°C
Case Temperature	+105°C max
Temperature Coefficient	±0.02% per °C
Humidity	95% RH
MTBF	>550,000h @ 25°C (MIL-HDBK-217F)

Mechanical Specs

Parameter	Specification
Dimensions	2.0 × 1.0 × 0.433 in (50.8 × 25.4 × 11.0 mm); Tolerance ±0.5mm
Case Material	Five-side shielded Aluminum with Non-Conductive base, Black Anodize
Weight	33g
Cooling Method	Free air convection

PIN ASSIGNMENT

Outline Pin Assignment

PIN#	Single	Dual	24Vout
1	CTRL	CTRL	CTRL
2	-DC IN	-DC IN	-DC IN
3	+DC IN	+DC IN	+DC IN
4	TRIM	-DC OUT	NC
5	-DC OUT	COMMON	-DC OUT
6	+DC OUT	+DC OUT	+DC OUT

Outline Pin Assignment (Screw Terminal A2/A5)

PIN#	Single	Dual	24Vout
1	CTRL	CTRL	CTRL
2	-DC IN	-DC IN	-DC IN
3	+DC IN	+DC IN	+DC IN
4	TRIM	-DC OUT	NO CONNECT
5	-DC OUT	COM	-DC OUT
6	NO CONNECT	NO CONNECT	NO CONNECT
7	+DC OUT	+DC OUT	+DC OUT
8	NO CONNECT	NO CONNECT	NO CONNECT

ORDERING AND SUPPORT

Model Family
DPST30 Series

Documentation
DPST30-Datasheet.pdf

Company
Digital Power Corporation

For released customer documents, include revision ID, effective date, and engineering approval owner in this section.