



DBPY-45W-12V



### Available Models<sup>1</sup>

- DBPY-45W-12V
- DBPY-45W-24V

### Part Number Breakdown

Example: DBPY-45W-12V

Series	Output Power	Output Voltage
<b>DBPY</b> [DiodeDrive, Board Mount, Enclosed, Plastic]	<b>45W</b> [45W]	<b>12V [12 VDC]</b> or <b>24V [24 VDC]</b>

### Overview

The DiodeDrive AC to DC encapsulated power supply has pin connections for PCB mounting with a direct soldered connection, delivering integrated low-voltage power into compact systems without external low-voltage wiring. The circuit board mounting reliably delivers a constant voltage and current output to power smaller system components. Built-in safeguards ensure dependable operation, including short circuit, surge, overvoltage, and overload protections. The low-profile design and efficient power output are ideal for limited-space installations.

### Features

- Low-profile board mount for limited-space installations
- Class II double insulated for improved safety
- Pin connections to solder directly to PCBs for integrated designs
- Protections: short circuits, overload, overvoltage, and 2G vibration

### Product Details

- Black polycarbonate housing
- Input pins: 1mm
- Output pins: 2mm
- Suitable for dry locations
- 100-240 VAC input

### Certifications and Compliances

- UL Recognized - UL 8750, UL 879
- CE compliant



### Applications

- Industrial Automation
- Industrial Equipment
- Industrial Facilities
- OEM Components

### Warranty

- 3-year warranty





# DBPY Series

## Constant Voltage Power Supply Specifications

SPECIFICATIONS	DBPY-45W-12V-B	DBPY-45W-24V-B
<b>OUTPUT</b>		
Output Power	45.6W	
Output Voltage (±2.5%)	12 VDC	24 VDC
Output Current	3.8A	1.9A
Ripple and Noise (max)	120mVp-p	150mVp-p
Line Regulation	±0.5%	
Load Regulation	±1.0%	±0.5%
Setup, Rise Time (full load)	300ms, 35ms @ 115 VAC; 200ms, 35ms @ 230 VAC	
Hold Up Time (TYP, full load)	5ms @ 115 VAC; 50ms @ 230 VAC	
<b>INPUT</b>		
Input Voltage (rated)	100-240 VAC	
Input Voltage (NOM)	90-264 VAC	
Input Frequency	50/60Hz	
No Load Power Consumption	0.15W max.	
Input Current (TYP)	1500mA @ 115 VAC; 900mA @230 VAC	
Inrush Current (cold start)	30A @ 115 VAC; 60A @ 230 VAC	
Leakage Current	< 0.25mA/264 VAC, 50Hz	
Efficiency (TYP)	87.5%	89.5%
Capacitive Load (max)	4400uF	1500uF
<b>ENVIRONMENTAL</b>		
IP Rating	IP20	
Environmental Rating	Non-weatherproof, Suitable for Dry Locations	
Operating Temp., Humidity	-30 to 85°C (-22 to 185°F); 20-90% RH, non-condensing (see 'Derating Curves')	
Storage Temp., Humidity	-40 to 85°C (-40 to 185°F); 10-95% RH, non-condensing	
Temp. Coefficient	± 0.03%/°C (0 to 50°C)	
Vibration	10-500Hz, 2G 10min. /1 cycle, period for 60min. each along X, Y, Z axes	
<b>SAFETY</b>		
Withstand Voltage	I/P-O/P: 4k VAC/1 minute	
Isolation Resistance	I/P-O/P: 100M Ohms/500VDC/25°C 70% RH	
<b>PROTECTIONS</b>		
Short Circuit	Hiccup mode, recovers automatically after fault condition is removed	
Overload	115%-160% Rated Output current   Hiccup mode, recovers automatically after current goes down	
Overvoltage	12.6-16.2V	25.2-32.4V
	Shut off o/p voltage, clamping by zener diode	
<b>MECHANICAL</b>		
Material	Black flame retardant and heat resistant plastic	
Cooling Method	Natural air convection	
Connection Type	PCB Terminal Pins	
MTBF	>800K hours min. 25°C [MIL-HDBK-217F]	



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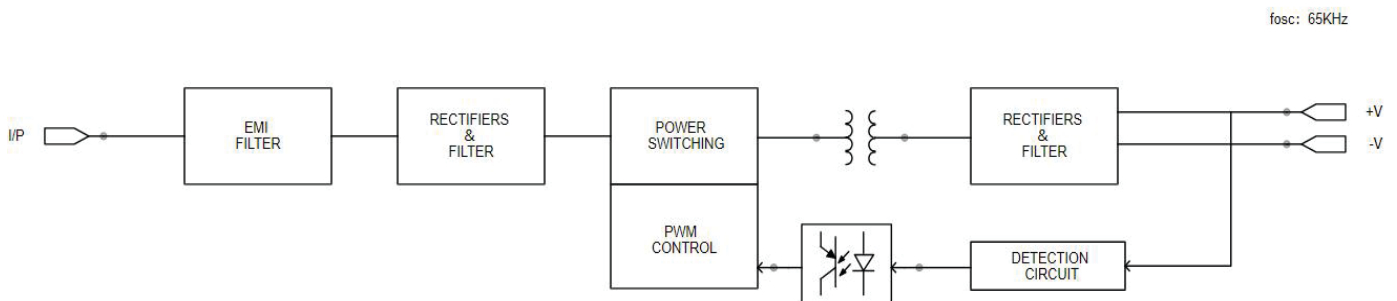
Rev V1.3 Date: 06/24/2025  
Specifications are subject to change without notice.

EMC			
EMC EMISSION	Parameter	Standard	Test Level/Note
	Conducted	BS EN/EN55032 (CISPR32)	CLASS B
	Radiated	BS EN/EN55032 (CISPR32)	CLASS B
	Harmonic Current (Note 7)	BS EN/EN61000-3-2	CLASS A
	Voltage Flicker	BS EN/EN61000-3-3	-
EMC IMMUNITY	BS EN/EN55035, BS EN/EN61000-6-2		
	Parameter	Standard	Test Level/Note
	ESD	BS EN/EN61000-4-2	Level 3, 8KV air; Level 2, 4KV contact, criteria A
	Radiated Susceptibility	BS EN/EN61000-4-3	Level 3, criteria A
	EFT/Burest	BS EN/EN61000-4-4	Level 3, criteria A
	Surge	BS EN/EN61000-4-5	Level 4, 2KV/L-N, criteria A
	Conducted	BS EN/EN61000-4-6	Level 3, criteria A
	Magnetic Field	BS EN/EN61000-4-8	Level 4, criteria A
	Voltage Dips and interruptions	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods

### SPECIFICATION NOTES:

1. All parameters NOT specially mentioned are measured at 230 VAC input, rated load, and 25°C of ambient temperature.
2. Ripple and noise are measured at 20MHz using a 12" twisted wire-pair terminated with a 0.1µF and 47µF parallel capacitor.
3. Tolerance: includes set up tolerance, line regulation, and load regulation.
4. Application Altitude: 2000m
5. Full load can be operated at -30°C to 50°C. Load should be reduced at 50°C to 85°C. Refer to "Output Derating Curves."
6. Ambient temperature derating of 3.5°C /1000m with fanless models for operating altitudes higher than 2000m (6500ft).
7. The power supply is considered as an independent unit. Systems with the power supply as a component require re-confirming that the system complies with the EMC directives.
8. Soldering Temperature | Wave soldering: 265°C, 5s (max.); Manual soldering: 390°, 3s (max.)

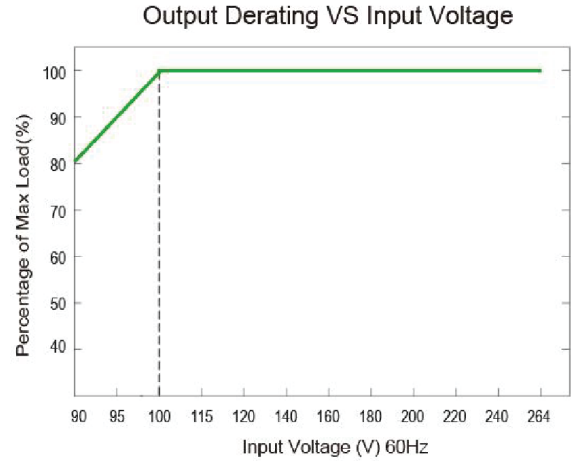
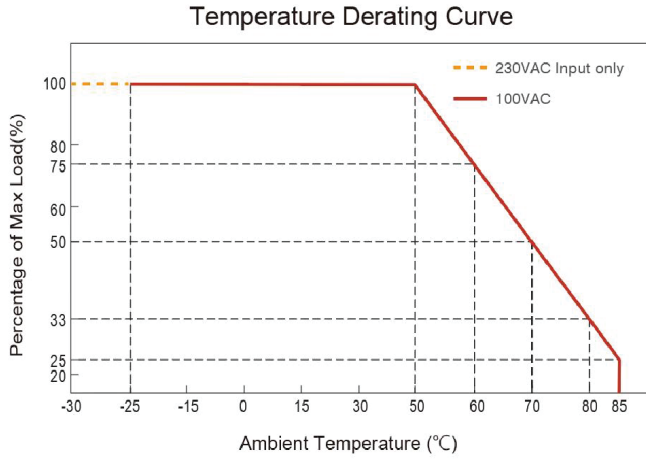
### Functional Diagram



# DBPY Series

## Constant Voltage Power Supply Specifications

### Derating Curves



### Dimensional Drawings

