

INDUSTRIAL SERIES

Non Isolated DC-DC Converters



DC9~36V to DC 5V / 10A / 50W

- Aluminum shell metal shell natural cooling
- High efficiency & Small Size SIL
- Output over-current
Over-voltage under-voltage
Short-circuit protection
- Low output ripple and noise
- Pass the cispr 25 & en55025

This power supply suitable for, automobile, ship, electric cars, new energy products, LED electronic signs, GPRS, car audio, and other energy-saving appliances stable power supply use.

PARAMETERS

MODEL	DC-50-5			Voltage Range	DC9-36V
OUTPUT	DC Output	5V±0.2	INPUT	Frequency Range	BW=20MHz
	Rated Current	10A		Efficiency	97%
	Current Range Note 1	0~10A		DC Current	<2.9A
	Ripple and noise	<100mVpp max		Inrush Current(Typical)	100A@DC Cold start
	Voltage set point accuracy	±3.0%/o max		Leakage Current : Input-Output	<0.2mA Input-PG:<0.3mA
	Over-current protection	>120%Io,hiccup	PROTECTION	Over Power	
	Line Regulation	0.2%/o max		Over Current	
	Load Regulation	0.2%/o max		Over Voltage	
	Short-circuit protection	Hiccup		Shorted Cricuit	0
	Hold up time	>8mS	ENV IRONMENT	Operating amb.Tem.& Hum	
	Transient response	100mA max		Storage Temp.& Hum	
	Overshoot and Undershoot	<±5.0%			
SAFETY & EMC Note 3	Safety Standards	CE			
	Withstand Voltage	DC40V			
	Isolation Resistance				
	EMI Conduction & Radiation				
	Harmonic Current				
Environmental	EMS Immuntiy				
	MTBF	>2 million hrs			
	Temperature coefficient	< 0.02%/℃			
	Storage temperature range	(-55℃ to 125℃)			
NOTE	Operating board temperature range	(-25℃ to 65℃)			

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Technical drawing of the DC-DC converter showing three views: front, side, and top views with dimensions.

Front View:

- Overall width: 172
- Overall height: 33.5
- Input terminals (left): $\varnothing 3.9$, R5, 19
- Input label: INPUT DC9-36V, RED+, BLACK-
- Output terminals (right): 47, 24, 1.5
- Output label: DC5V OUTPUT, RED+, BLACK-
- Mounting hole diameter: 300 $\pm$ 50
- Internal width: 160

Side View:

- Overall width: 16
- Overall height: 15
- Mounting hole diameter: 1.5

Top View:

- Overall length: 185
- Overall width: 12
- Mounting hole diameter: 7
- Internal length: 170

The diagram illustrates the power supply architecture. It starts with an input labeled 'IN' with positive (+V) and negative (-V) terminals. The power flows through a series of functional blocks: an EMI FILTER, an ACTIVE INRUSH CURRENT LIMITING stage, a first set of RECTIFIERS, a PCWEAR SWITCHING stage, and a final RECTIFIERS & FILTER stage. The output, labeled 'OUT', provides the regulated positive (+V) and negative (-V) supply rails.

A line graph showing the output current percentage as a function of the temperature T_a in degrees Celsius. The x-axis, labeled $T_a(^{\circ})$, ranges from -10 to 80 with major grid lines every 10 units. The y-axis, labeled Output Current(%), ranges from 0 to 100 with major grid lines every 10 units. The graph consists of a horizontal blue line at 100% for T_a values from -10 to 50, and a downward-sloping blue line from (50, 100) to (80, 0).

$T_a(^{\circ})$	Output Current(%)
-10	100
0	100
10	100
20	100
30	100
40	100
50	100
60	75
70	50
80	0

