

Features

- Universal 80-305V AC or 100-430V DC input voltage
- Operating Temperature Range: -40°C~+85°C
- Approved to RoHS
- Safety Standards to UL/EN/IEC 62368-1
- Efficiency up to 92%
- EMC Class A & B
- Single output 12~54V DC
- Available with suffix C, Q & QQ



Image for Illustration Purpose
Models may vary

Ideal Power's 36LM150-23BxxR2 150W Enclosed AC/DC Switching Power Supply Series are certified to RoHS & EN 62368-1/IEC 62368-1/UL 62368-1 Standards and comply with the relevant Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request.

Models

Model Number	Output Power W	Output Voltage and Current (Vo/Io) Nominal (Vo1/Io1)	Output Voltage Adjustable Range (V)	Efficiency at 230V AC (%) Typ	Capacitive Load (µF) Max (Vo1/Vo2)
36LM150-23B12R2	150	12V/12.5A	10.2-13.8	86	10000
36LM150-23B15R2	150	15V/10A	13.5-18	87	6000
36LM150-23B24R2	156	24V/6.5A	21.6-28.8	88	2400
36LM150-23B36R2	154.8	36V/4.3A	32.4-39.6	88	1200
36LM150-23B48R2	158.4	48V/3.3A	43.2-52.8	89	600
36LM150-23B54R2	150.15	55V/2.73A	49.5-60.5	90	600

Note: *Use suffix "C" for terminal with protective cover, "Q" for bottom conformal coating and "QQ" for both sides conformal coating

Input Specifications





	Conditions	Min	Typ	Max	Unit
Input voltage range	AC input	80	--	305	V AC
	DC input	100	--	430	V DC
Input voltage frequency		47	--	63	Hz
Input current	115V AC	--	--	4	A
	230V AC	--	--	2	
Inrush current	115V AC	Cold Start	--	30	--
	230V AC		--	60	--
Leakage current	240V AC			<0.5mA	
Hot Plug				Unavailable	

Output Specifications

Parameter	Conditions	Min	Typ	Max	Unit
Output voltage accuracy	Full load range	--	--	±1.0	%
Line regulation	Rated load	--	--	±0.5	
Load regulation	230V AC	--	--	±0.5	
Ripple and Noise*	20MHz bandwidth			150	mV
	(Peak to peak value)	12V/15V		200	
Temperature coefficient		--	±0.03	--	%/°C
Minimum load		0	--	--	%
Stand by power consumption		--	0.3	0.5	W
Hold-up time	115V AC	--	8	--	ms
	230V AC	--	40	--	
Short circuit protection	Recovery time<5s after the short circuit disappears.	Hiccup, continuous, self-recovery			
Over current protection		120%-200% Io, self-recovery			
Over voltage protection	12V	≤16.2VDC (Output voltage turn off or hiccup)			
	15V	≤21.75VDC (Output voltage turn off or hiccup)			
	24V	≤33.6VDC (Output voltage turn off or hiccup)			
	36V	≤48.6VDC (Output voltage turn off or hiccup)			
	48V	≤60VDC (Output voltage turn off or hiccup)			
	55V	≤63VDC (Output voltage turn off or hiccup)			
Over temperature protection		Output voltages turn off, self-recovery			

Note: *The "Tip and barrel method" is used for ripple and noise test, output parallel 47µF electrolytic capacitor and 0.1µF ceramic capacitor, please refer to Enclosed Switching Power Supply Application Notes for specific information.

General Specifications

Parameter	Conditions	Min	Typ	Max	Unit
Isolation test	Input - 	4000	--	--	V AC
	Input - Output	2000	--	--	
	Output - 	1250	--	--	
Insulation resistance	Input - 		--	--	MΩ
	Input - Output	100	--	--	
	Output - 		--	--	
Operating temperature		-40	--	+85	°C
Storage temperature		-40	--	+85	
Operating humidity	Non-condensing	--	--	95	%RH
Storage humidity	Non-condensing	--	--	95	
Power Derating	-40°Cto -25°C	3.33	--	--	%°C
	+50°Cto +70°C	2.5	--	--	
	+70°Cto +85°C	1.33	--	--	
	85VAC-120VAC	0.57	--	--	%VAC
	80VAC-85VAC	2.00	--	--	
Switching frequency		--	90	--	kHz
Safety standard	Design refers to UL/EN/IEC/BS EN62368-1, EN/IEC60335-1, EN61558-1, EN62477, GB4943.1				
Safety class	Class I				
MTBF	MIL-HDBK-217F@25°C≥ 300,000 h				

Mechanical Specifications

Case material	Metal (AL5052, SGCC)
Dimensions	99.00 x 97.00 x 30.00 mm
Weight	270g (Typ.)
Cooling method	Free air convection

Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
Immunity	ESD	IEC/EN 61000-4-2	Contact $\pm 6\text{KV}$ /Air $\pm 8\text{K}$	Perf. Criteria A
	RS	IEC/EN 61000-4-3	10V/m	Perf. Criteria A
	EFT	IEC/EN 61000-4-4	$\pm 4\text{KV}$	Perf. Criteria A
	Surge	IEC/EN 61000-4-5	line to line $\pm 2\text{KV}$ /line to ground $\pm 4\text{KV}$	Perf. Criteria A
	CS	IEC/EN61000-4-6	10Vr.m. s	Perf. Criteria A
	PFMF	IEC/EN61000-4-8	30A/m	Perf. Criteria A
	Voltage dips, short interruptions, and voltage variations immunity	IEC/EN61000-4-11	100% dip 1 period, 30% dip 25 periods 100% interruptions 250 periods	Perf. Criteria B

Remark:

When the power supply is used in the European Union or in applications that mandatory to meet the requirements of EN61000-3-2, users need to handle the harmonic current requirements, details please refer to Mornsun FAE. Applications like:

The terminal equipment is used in the European Union.

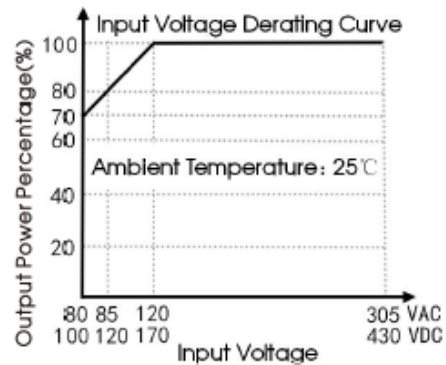
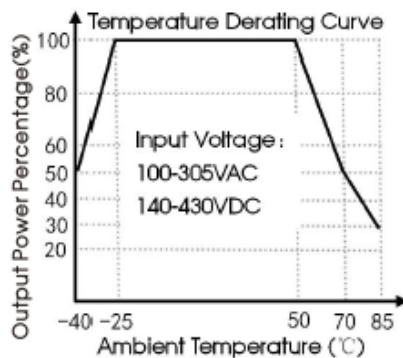
The terminal equipment is connected to public mains supply with 220VAC or greater rated nominal voltage that mandatory to meet the requirements of EN61000-3-2.

The power supply is installed in terminal equipment with average or continuous input power greater than 75W.

The power supply belongs to a part of lighting system.

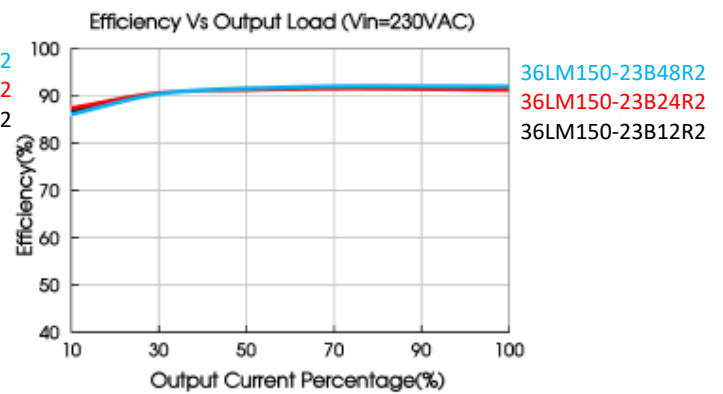
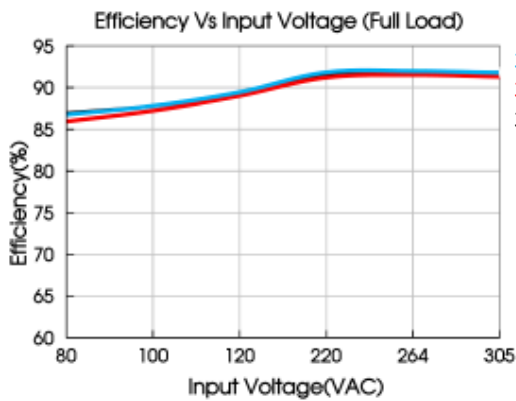
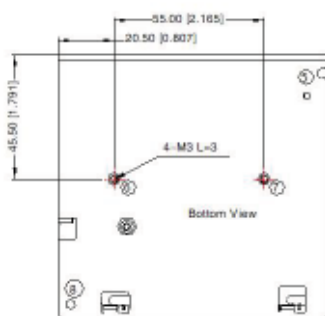
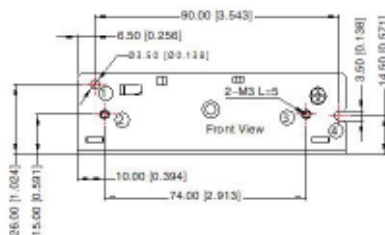
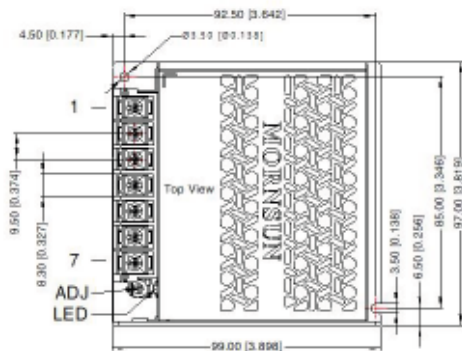
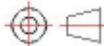
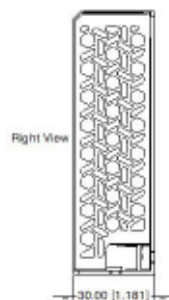
Unless otherwise specified, all specifications are tested under the input of 230VAC, rated load, and 25°C ambient temperatures.

Characteristic Curve



Note: ① With an AC input between 80-120VAC and a DC input between 100-170VDC. In addition to the voltage drop, temperature derating is also required. If it is used in a low temperature environment, please consult Mornsun FAE.

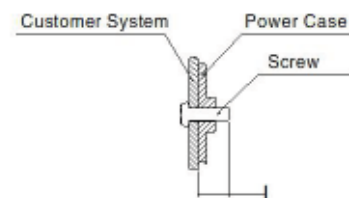
② This product is suitable for applications using natural air cooling:

Characteristic Curve (continued)

Dimensions and Recommended Layout
36LM150-23BxxR2, 36LM150-23BxxR2-Q, 36LM150-23BxxR2-QQ Series

 THIRD ANGLE PROJECTION 


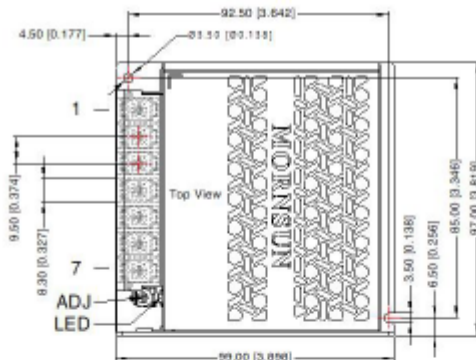

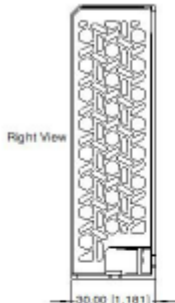
Pin-Out	
Pin	Function
1	AC(L)
2	AC(N)
3	⊕
4	-Vo
5	-Vo
6	+Vo
7	+Vo

①-⑧ any position must be connected to the earth (⊕)

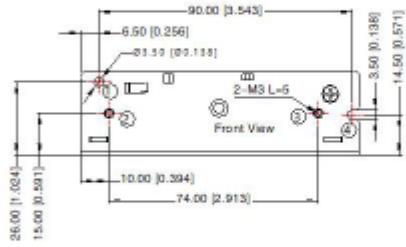
Position	Screw Spec.	L(max)	Torque(max)
②-③	M3	5mm	0.4N · m
⑥-⑦	M3	3mm	0.4N · m



Note:
 Unit: mm[inch]
 ADJ: Output adjustable resistor
 Wire range: Input: 20-10AWG(16-10AWG for pin3)
 Output: 12V, 15V: 14-10AWG
 24V, 36V: 18-10AWG
 48V, 54V: 20-10AWG
 Connector tightening torque: M3.5, 0.8N · m max.
 General tolerances: ± 1.00[± 0.039]

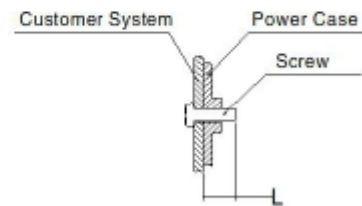
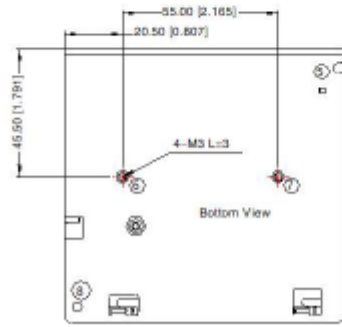
Dimensions and Recommended Layout
36LM150-23BxxR2-C, 36LM150-23BxxR2-CQ, 36LM150-23BxxR2-CQQ Series

 THIRD ANGLE PROJECTION 


Pin-Out	
Pin	Function
1	AC(L)
2	AC(N)
3	⊕
4	-Vo
5	-Vo
6	+Vo
7	+Vo



① - ⑧ any position must be connected to the earth (⊕)

Position	Screw Spec.	L(max)	Torque(max)
② - ③	M3	5mm	0.4N · m
⑥ - ⑦	M3	3mm	0.4N · m


Note:

Unit: mm[inch]

ADJ: Output adjustable resistor

Wire range: Input: 20-10AWG(16-10AWG for pin3)

Output: 12V, 15V: 14-10AWG

24V, 36V: 18-10AWG

48V, 54V: 20-10AWG

Connector tightening torque: M3.5, 0.8N · m max.

General tolerances: ± 1.00[± 0.039]

Notes:

- For additional information on Product Packaging please refer to www.idealpower.co.uk.
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C, humidity<75% with nominal input voltage and rated output load.
- The room temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m.
- All index testing methods in this datasheet are based on our Company's corporate standard.
- To improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability.
- We can provide product customization service, please contact our technicians directly for specific information.
- Products are related to laws and regulations: see "Features" and "EMC".
- The out case needs to be connected to earth (⊕) of system when the terminal equipment in operating.
- Our products shall be classified according to ISO14001 and related environmental laws and regulations and shall be handled by qualified units.