LM350-10Bxx, LM350-10Bxx-C, LM350-10Bxx-Q Series



UL62368-1

IEC62368-1

GB4943.1

IEC62368-1

EN60950-1



### **FEATURES**

- Selectable AC input range: 90 132VAC/180 264VAC
- DC input range: 240 370VDC
- Ultra low standby power consumption < 0.75W @230VAC</li>
- Operating ambient temperature range: 30°C to +70°C
- LED indicator for power on
- Output short circuit, over-current, over-voltage, over-temperature protection
- Built-in DC fan
- Operating up to 5000m altitude

LM350-10Bxx series is one of Mornsun's enclosed AC-DC switching power supply. It features selectable AC input and at the same time accepts DC input voltage, cost-effective, low no load power consumption, high efficiency and high reliability. These power supply offer excellent EMC performance and meet IEC/EN61000-4, CISPR32/EN55032, IEC/UL/EN62368, EN60335, GB4943 standards and they are widely used in areas of industrial, LED, street light control, electricity, security, telecommunications, smart home etc.

Selection Guide										
Certification	Part No.*	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range (V)	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (µF)				
	LM350-10B05	300	5V/60A	4.5-5.5	83.5	10000				
	LM350-10B12	348	12V/29A	10.2-13.8	85	4000				
UL/EN	LM350-10B15	348	15V/23.2A	13.5-18	86	3300				
IEC/CQC	LM350-10B24	350.4	24V/14.6A	21.6-28.8	87	1500				
	LM350-10B36	349.2	36V/9.7A	32.4-39.6	88	1500				
	LM350-10B48	350.4	48V/7.3A	43.2-52.8	88.5	470				
Note: *Use suffix `	`C" for terminal with p	protective cover, su	Note: *Use suffix "C" for terminal with protective cover, suffix "Q" for conformal coating.							

Input Specification	s					
Item	Operating Cond	Operating Conditions			Max.	Unit
	AC input	Low voltage (switch in position of 115)	90		132	VAC
Input Voltage Range	AC Inpui	High voltage (switch in position of 230)	180		264	
	DC input	Switch in position of 230	240		370	VDC
Input Voltage Frequency			47		63	Hz
Input Current	115VAC		6.8	8		
inpui Culieni	230VAC			3.4	4	
Inrush Current	115VAC	Cold start		60		Α
iniush Cuireni	230VAC	Cold start	-	60		
Leakage Current	240VAC			-	0.75	mA
Hot Plug				Unav	ailable	

Output Specifications								
Item	Operating Conditions	S	Min.	Тур.	Max.	Unit		
	Full load range	5V	-	±3	-	%		
Output Voltage Accuracy		12V		±1.5				
		15V/24V/36V/48V		±1				
Line Regulation Rated load				±0.5				
Load Regulation	0% - 100% load	5V		±2				

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		12V		±l			
		15V/24V/36V/48V		±0.5			
Outrant Discuss O. Nicker	20MHz bandwidth	5V/12V/15V/24V		150		.,	
Output Ripple & Noise*	(peak-to-peak value)	36V/48V		200		mV	
Temperature Coefficient		<u>'</u>	_	±0.02		%/℃	
Minimum Load			0			%	
Stand-by Power Consumption	230VAC, 25℃			_	0.75	W	
11 11 1 <b>T</b>	115VAC	-	12		ms		
Hold-up Time	230VAC		16				
Short Circuit Protection	Recovery time <8s after	Hicc	Hiccup, continuous, self-recover				
Over-current Protection		11	110% - 180% lo, self-recover				
	5V	5.75V	5.75V-6.75V (Hiccup, self-recover)				
	12V			13.8V-16.2V (Hiccup, self-recover)			
Outside the Destantion	15V	18\	18V-21V (Hiccup, self-recover)				
Over-voltage Protection	24V			28.8V-33.6V (Hiccup, self-recover)			
	36V			41.4V-46.8V (Hiccup, self-recover)			
	48V	55.2V	55.2V-59.5V (Hiccup, self-recover)				
Over-temperature Protection			Hiccup, self-recover				

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

Item		Operating Conditions		Min.	Тур.	Max.	Unit
	Inni d	operating containers		1111111			VAC
Isolation Test	Input - 🕀	Electric strength test for 1min., leakag	2000		-		
		Electric strength test for milit., leakag	3000				
	Output - 🕀			500			
Insulation	Input - 😩	A+ 500) /D-C	100		-	-	
Resistance	Input - output	At 500VDC		100	-	-	<b>M</b> Ω
	Output - 🕀						
Operating Ter	·			-30		+70	
Storage Temp	erature	-40		-	+85	℃	
Fan On/Off Control		Fan On, temperature for Rth3	50	-	-		
Tan on on control		Fan Off, temperature for Rth3			40		
Operating Humidity		Non-condensing		20		90	%RH
Storage Humi	dity	Notificationing				95	JOINT
Switching Free	quency				65		kHz
		Operating temperature derating	+50℃ to +70℃	2			%/℃
			90VAC - 100VAC	2			%/VAC
Power Deratir	ng	land the same density as	100VAC -132VAC	0		_	
		Input voltage derating	180VAC - 264VAC	0	_		
			240VDC - 370VDC	0			
Safety Standard				IEC/EN/UL62368-1, GB4943.1 Safe Approval & EN60950-1, EN62368- (Report) Design refer to IEC/EN/UL62368-1 GB4943.1, EN60950-1, EN60335-1		8-1 <sup>°</sup> -1 <i>,</i>	
Safety Class				CLASS I			
MTBF		MIL-HDBK-217F@25℃		>300,000	h		

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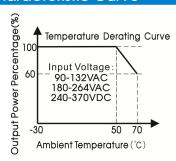
Mechanical Specifications						
Case Material	Metal (AL1100, SGCC)					
Dimensions	215.00 x 115.00 x 30.00mm					
Weight	700g (Typ.)					
Cooling Method	Free air convection					

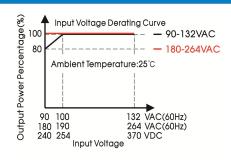
Electromagnetic Compatibility (EMC)							
Emissions	CE	CISPR32/EN55032 CLASS A					
EMISSIONS	RE	CISPR32/EN55032 CLASS A					
	ESD	IEC/EN 61000-4-2 Contact ±6KV/Air ±8KV	perf. Criteria A				
	RS	IEC/EN 61000-4-3 10V/m	perf. Criteria A				
Inomo unith (	EFT	IEC/EN 61000-4-4 ±2KV	perf. Criteria A				
Immunity	Surge	IEC/EN 61000-4-5 line to line ±2KV/line to ground ±4KV	perf. Criteria A				
	CS	IEC/EN61000-4-6 10 Vr.m.s	perf. Criteria A				
	DIP	IEC/EN61000-4-11 0%,70%	perf. Criteria B				

Remark: 1. One magnetic beed should be coupled with the output load line during CE/RE testing;

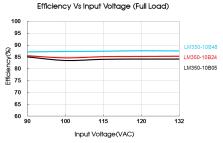
- 2. When the power supply is used in the European Union or in applications that mandatory to meet the requirements of EN61000-3-2, users need to handle the harmonic current requirements, details please refer to Mornsun FAE. Applications like:
- (1) The terminal equipment is used in the European Union;
- (2) 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;
- (3) The power supply is installed in terminal equipment with average or continuous input power greater than 75W;
- (4) The power supply belongs to a part of lighting system.

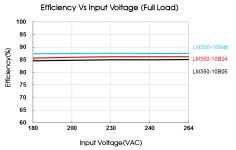
### Product Characteristic Curve

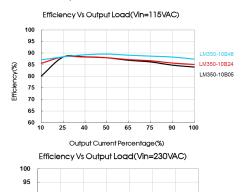


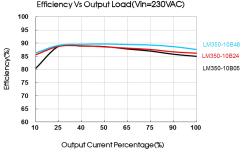


Note: This product is suitable for applications using natural air cooling; for applications in closed environment please consult Mornsun FAE.









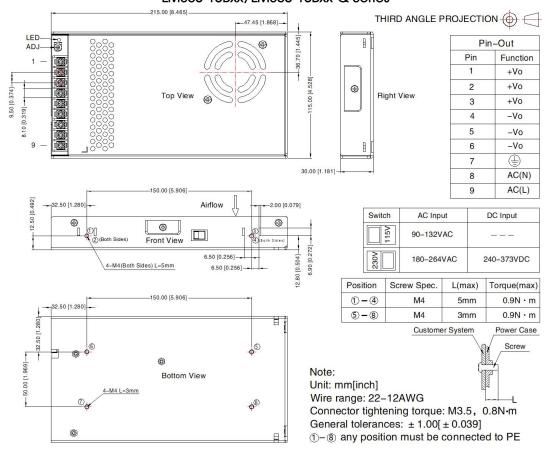
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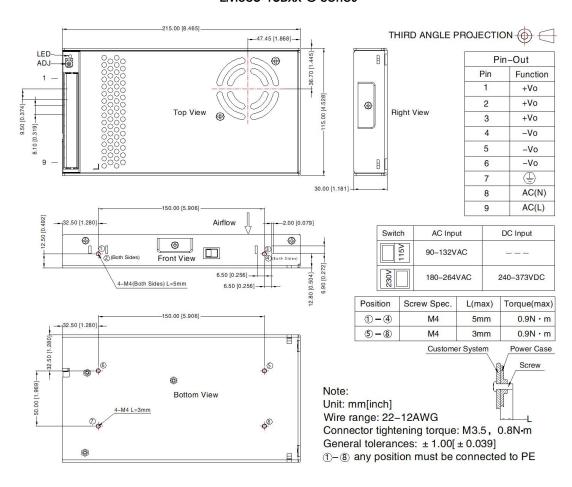
### **Dimensions and Recommended Layout**

#### LM350-10Bxx, LM350-10Bxx-Q Series



LM350-10Bxx, LM350-10Bxx-C, LM350-10Bxx-Q Series

#### LM350-10Bxx-C Series



#### Note:

- For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220115;
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C, humidity<75% RH with nominal input voltage and rated output load;
- The ambient temperature derating of  $5^{\circ}$ /1000m is needed for operating altitude greater than 2000m; 3.
- 4. All index testing methods in this datasheet are based on our company corporate standards;
- In order 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"; 7.
- The out case needs to be connected to the earth ( $\stackrel{\frown}{=}$ ) 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 aualified units:
- 10. The power supply is considered a component which will be installed into a final equipment. All EMC tests should be confirmed with the final equipment. Please consult our FAE for EMC test operation instructions.

### Mornsun Guangzhou Science & Technology Co., Ltd.

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