

SLD30-23BxxR4



Product Feature

- ◆ Universal Input: 85-305VAC/100-430VDC
- ◆ Package Type: DIP
- ◆ Operating Temperature Range: -40°C - +85°C
- ◆ Isolation Voltage: 4000VAC
- ◆ Full Load Efficiency: 89%
- ◆ Overvoltage level III (compliant with EN61558-1)
- ◆ Input undervoltage protection
- ◆ Output short circuit protection and over current protection
- ◆ According to safety standards: EN61558,EN62368



Selection Guide

Certification	Part No.	Input Voltage (VAC)	Output Power (W)	Output Voltage (VDC)	Output Current Max.(mA)	Full Load Efficiency%(230VAC,Typ)	Capacitive Load (μF)Max.
UL/CB/CE	SLD30-23B03R4	85-305	19.8	3.3	6000	85	6600
	SLD30-23B05R4	85-305	30	5	6000	86	6600
	SLD30-23B09R4	85-305	30.6	9	3400	88	4400
	SLD30-23B12R4	85-305	30	12	2500	89	4400
	SLD30-23B15R4	85-305	30	15	2000	89	3300
	SLD30-23B18R4	85-305	30	18	1670	87	3300
	SLD30-23B24R4	85-305	31.2	24	1300	88	1000
	SLD30-23B48R4	85-305	30.2	48	630	89	470
Note: 1. All the above data were tested within the parameter range of typical application circuits. 2. The product images are for reference only. Please refer to the actual product for details.							

Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage	AC Input		85	--	305	VAC
	DC Input	3.3/5/9/12/15/18/24V	100	--	430	VDC
		48V	120	--	430	VDC
Input Current	115VAC		--	--	1.0	A
	230VAC		--	--	0.5	
Surge Current	115VAC		--	25	--	A
	230VAC		--	50	--	
Input Frequency			47	--	63	Hz
Fuse			3.15A/300V,Slow-blow			
Leakage Current	230VAC/50Hz		0.1mA RMS MAX.			
Hot Plug			Unavailable			

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Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	3.3V		--	±3	--	%
	5/9/12/15/24/48V		--	±2	--	
Linear Regulation Rate	Vin=Min. to Max. @Full Load		--	±0.5	--	%
Load Regulation Rate	0%-100% load	3.3V	--	±2.0	--	%
		5V	--	±1.5	--	
		9/12/15/18/24/48V	--	±1.0	--	
Ripple Noise	20MHz bandwidth,5%-100% load		--	100	150	mV
Temperature Drift Coefficient			--	±0.02	--	%/°C
Stand-By Power Consumption	230VAC		--	0.3	0.55	W
Min. Load			0	--	--	%
Over Current Protection			110	--	--	%Io
Short-Circuit Protection			Continuous,Self-Recovery			
Hold-Up Time	230VAC		--	50	--	ms
Note:The ripple and noise test method is based on the reliability method,and the output is a parallel 10uF electrolytic capacitor and a 1uF ceramic capacitor.						

General Specifications

Item	Operating Conditions			Min.	Typ.	Max.	Unit
Insulation Voltage	Input-output,test time 1 minute,leakage current less than 5mA			4000	--	--	VAC
Insulation Resistance	Input-output,insulated voltage 500VDC			100	--	--	MΩ
Power Derating	-40℃ - -25℃	Input voltage<115VAC	5V	2.67	--	--	%/℃
	-40℃ - -25℃	Input voltage<115VAC	3.3/9/12/15/18/24/48V	1.33	--	--	
	+50℃ - +70℃			2.5	--	--	
	+70℃ - +85℃			0.67	--	--	
	85VAC - 100VAC			1.67	--	--	%VAC
	277VAC - 305VAC			0.72	--	--	
Operating Temperature				-40	--	+85	℃
Storage Temperature				-40	--	+85	℃
Storage Humidity				--	--	95	%RH
Soldering Profile	Wave-soldering			260 ± 5℃; time: 5 - 10s			
	Manual-welding			360 ± 10℃; time: 3 - 5s			
Safety Standard	IEC/EN/BS EN62368-1,EN61558-1,EN60335-1;UL62368-1						
Safety Class				CLASS II			
MTBF	MIL-HDBK-217F@25℃			>500,000h			

Mechanical Specifications

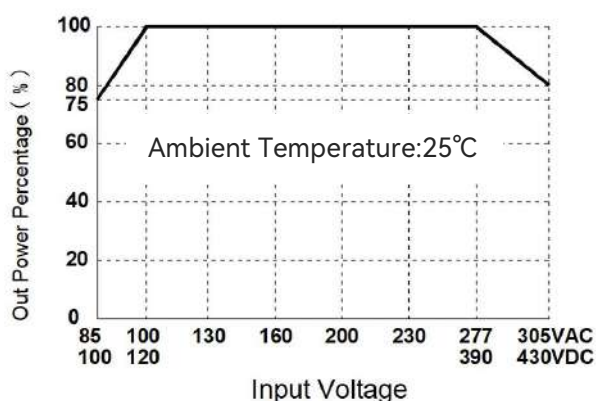
Case Material	Black plastic; flame-retardant and heat-resistant (UL94V-0)
Package Dimensions	69.50 x 39.00 x 24.00mm
Weight	102g (Typ.)
Cooling Method	Free air convection

EMC Specifications

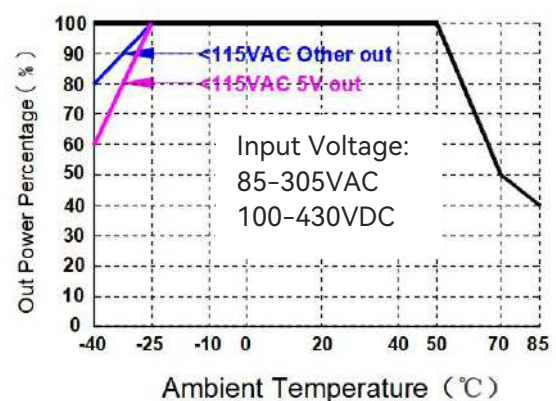
EMI	CE	CISPR32/EN55032 CLASS B EN55014-1	
	RE	CISPR32/EN55032 CLASS B EN55014-1	
EMS	RS	IEC/EN61000-4-3 10V/m	perf. Criteria A
		IEC/EN55014-2	perf. Criteria A
	EFT	IEC/EN61000-4-4 ±2KV	perf. Criteria B
		IEC/EN61000-4-4 ±4KV (See Fig. (2-1,2-2) for recommended circuit)	perf. Criteria A
		IEC/EN55014-2	perf. Criteria B
	Surge	IEC/EN61000-4-5 line to line ±2KV	perf. Criteria B
		IEC/EN61000-4-5 line to line ±2KV/line to PE ±4KV/ (See Fig.(2-1,2-2) for recommended circuit)	perf. Criteria A
		IEC/EN55014-2	perf. Criteria A
	CS	IEC/EN61000-4-6 10Vr.m.s	perf. Criteria A
		IEC/EN55014-2	perf. Criteria A
	ESD	IEC/EN61000-4-2 Contact ±8KV / Air ±15KV	perf. Criteria A

Typical Characteristic Curves

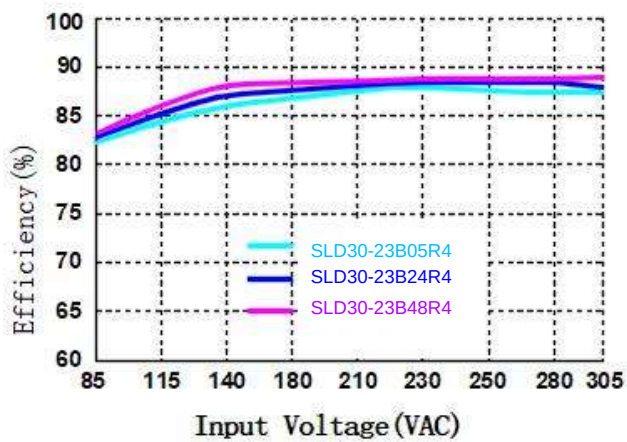
Input Voltage Derating Curve



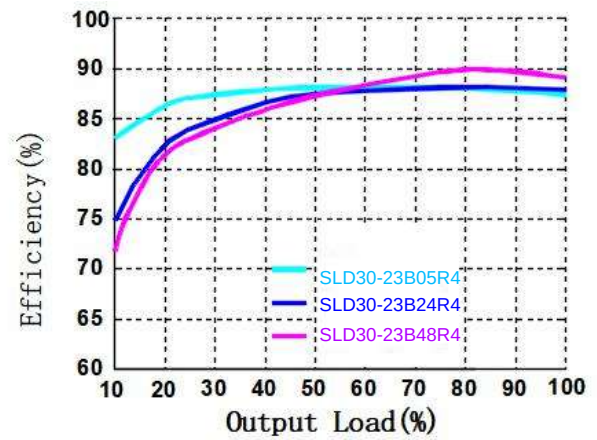
Temperature Derating Curve



Efficiency VS Input Voltage Curve (Full load)



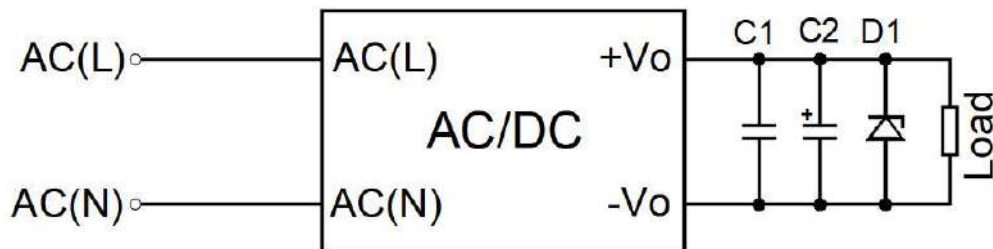
Efficiency VS Output Load Curve (Vin=230VAC)



Note: 1. For input voltages of 85-100VAC/277-305VAC, voltage derating should be carried out on the basis of temperature derating.
2. This product is suitable for use in a natural wind-cooled environment.

Typical Circuit Design and Application

Application circuit (Figure 1)



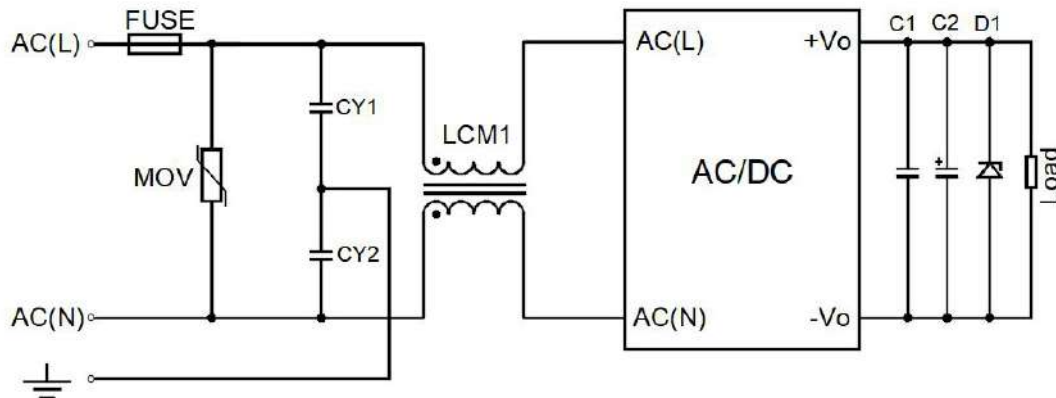
Reference Table for Selection of Peripheral Devices

Out Voltage	C1	C2	D1
3.3/5VDC	1uF/16V	220uF/16V	See Note1
9/12VDC		100uF/25V	
15/24VDC	1uF/35V	100uF/35V	
48VDC	1uF/100V	10uF/63V	

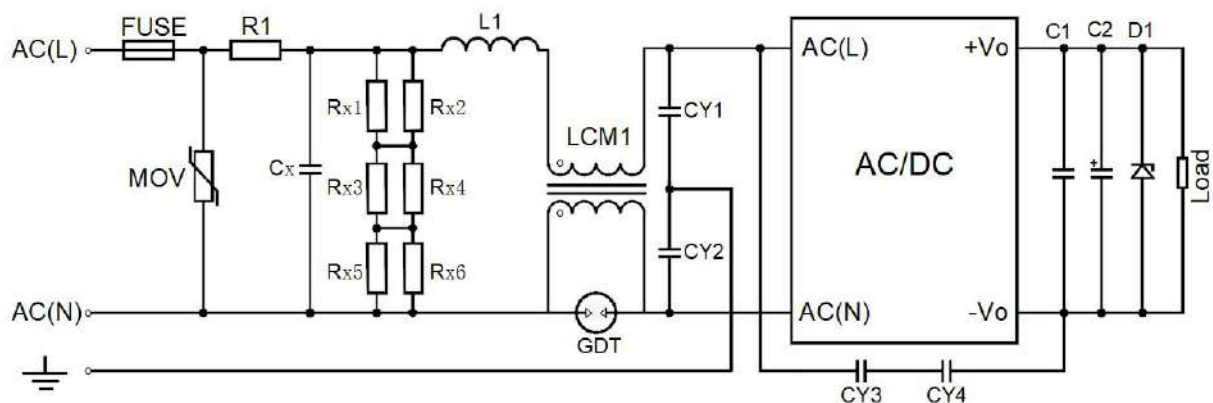
Note:
1. D1 is a TVS transistor that can protect the downstream circuit in case of module abnormalities. It is recommended to choose a model that is 1.2 times the output voltage.

EMC Solutions - Recommended Circuitst

EMC Solutions - Recommended Circuitst (Figure 2)



EMC Recommended Circuit (2-1)



EMC Recommended Circuit (2-2)

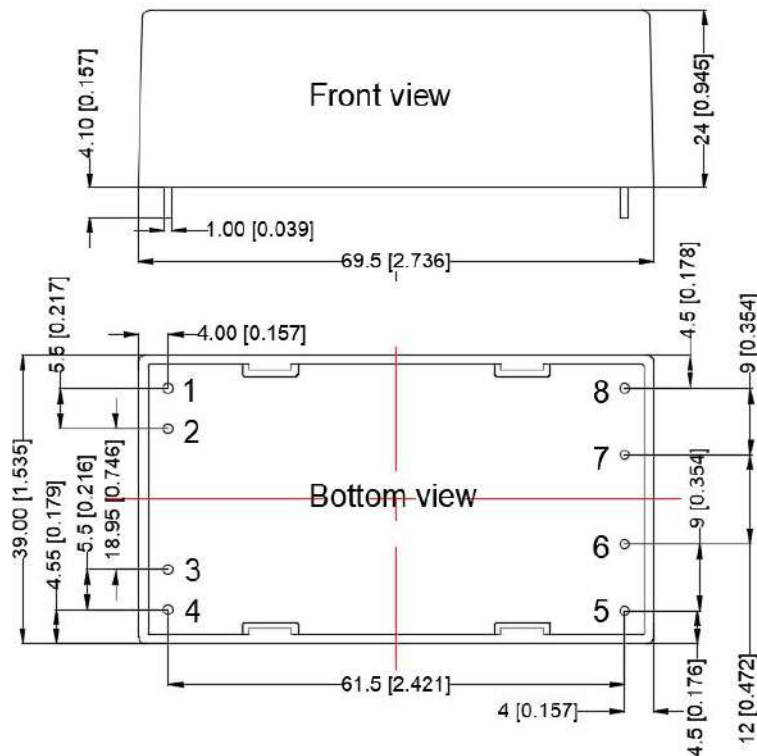
(When the output of the product needs to be connected to PE or connected to PE through Y capacitor, Recommended)

Recommended parameter values for EMC solution circuits

Model	Recommended value
FUSE	3.15A/300VAC, Slow-blow, Required
MOV	14D561K
R1	6.8Ω/5W wire-wound resistor, required
Cx	0.33μF/305VAC
L1	1.2mH/0.5A
CY1, CY2	2.2nF/400VAC
CY3, CY4	1.0nF/400VAC
GDT	300V/1KA
LCM	20mH, Common mode inductance
Rx1, Rx2, Rx3, Rx4, Rx5, Rx6	1.5MΩ/1206
C1, C2, D1	Refer to typical circuit design and application

Dimensions and Recommended Layout

Dimensions



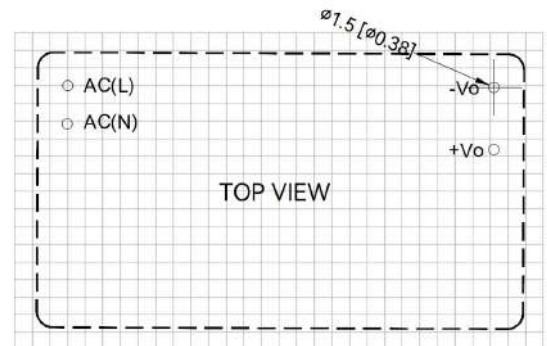
Note:

Unit: mm[inch]

Pin section tolerances: $\pm 0.10 [\pm 0.004]$

General tolerances: $\pm 0.80 [\pm 0.031]$

PCB Printing Layout



Grid size: 2.54*2.54mm

Pin FunctionTable

Pin	Function
3	AC(N)
4	AC(L)
5	-Vo
6	+Vo
1/2/7/8	No pin

Packaging instructions

Packaging Information

Pearl Cotton (pcs/ Cotton)	Inner box (pcs/ box)	Full box Quantity (pcs)
24	72	144

Note:

- ✧ The input voltage should not exceed the specified range value, otherwise it may cause permanent and irreparable damage;
- ✧ It is recommended to use at a load of over 5%. If the load is below 5%, the ripple index of the product may exceed the specifications, but it does not affect the reliability of the product;
- ✧ The maximum capacitive load is tested within the input voltage range and under full load conditions;
- ✧ Unless otherwise specified, all indicators in this manual are measured at $T_a = 25^\circ\text{C}$, humidity $< 75\% \text{ RH}$, nominal input voltage, and output rated load;
- ✧ All indicator testing methods in this manual are based on our company's corporate standards;
- ✧ Our company can provide product customization, and specific requirements can be directly contacted by our technical personnel;
- ✧ Product specifications are subject to change without prior notice.