

Product Feature

- ◆ Universal Input: 85-305VAC/100-430VDC
- ◆ Package Type: DIP
- ◆ Operating temperature range: -40°C - +85°C
- ◆ Isolation voltage: 4000VAC
- ◆ The product bare machine can meet EMI: CLASS B
- ◆ OVC III (meet EN61558-1)
- ◆ High efficiency up to: 82% (Type)
- ◆ The mechanism has input undervoltage protection
- ◆ Output short circuit protection and over current protection



Selection Guide

Certification	Part No.	Input Voltage (VAC)	Out Power (W)	Out Voltage (VDC)	Out Current (mA)MAX	Full Load Efficiency % (Typ.)	Capacitive Load(μF) Max.
UL/EN/IEC	SLD05-23B03R5	85-305	5	3.3	1515	72	4000
	SLD05-23B05R5	85-305	5	5	1000	76	3000
	SLD05-23B09R5	85-305	5	9	555	79	1200
	SLD05-23B12R5	85-305	5	12	416	79	1200
	SLD05-23B15R5	85-305	5	15	333	79	680
	SLD05-23B18R5	85-305	5	18	280	80	220
	SLD05-23B24R5	85-305	5	24	208	82	220

Note:

- 1.All the above data were tested within the parameter range of typical application circuits;
- 2.Adding "A2S" o the product model suffix indicates an extension for wired packaging, while adding "A4S" to the suffix indicates an extension for rail-mounted packaging.
- 3.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	100	--	430	VDC
Input Current	115VAC	--	--	0.13	A
	230VAC	--	--	0.07	
Input Frequency		47	--	63	Hz
Fuse		1A,Slow-blow, Required			
Leakage Current	230VAC/50Hz	0.3mA RMS Max.			
Hot Plug		Unavailable			

Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	5% - 100% Load	3.3V Output	--	±3	--	%
	5% - 100% Load	Other	--	±2	--	
Linear Regulation	Nominal load		--	±0.5	--	%
Load Regulation	5% - 100% Load		--	±1.0	--	%
Ripple & Noise	20MHz bandwidth, 10% - 100% load		--	60	120	mV
Temperature Coefficient			--	±0.02	--	%/°C
Stand-By Power Consumption	230VAC		--	0.10	0.5	W
Min. Load			0	--	--	%
Over Current Protection			110	--	--	%Io
Short-Circuit Protection			Continuous, Self-Recovery			
Hold-Up Time	230VAC		--	50	--	ms
Note: The test method for ripple and noise adopts the proximity test method, with a 10uF electrolytic capacitor and a 1uF ceramic capacitor connected in parallel at the output.						

General Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Isolation 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°C - -25°C		3.0	--	--	% / °C
	+50°C - +70°C	3.3V/5V	2.25	--	--	
	+55°C - +70°C	Other	3.0	--	--	
	+70°C - +85°C	3.3V/5V	1.0	--	--	
	+70°C - +85°C	Other	0.33	--	--	
	85VAC - 100VAC		1	--	--	% / VAC
	277VAC - 305VAC		0.535	--	--	
Operating Temperature			-40	--	+85	°C
Storage Temperature			-40	--	+105	°C
Storage Humidity	Non-condensing		--	--	95	%RH
Soldering Profile	Wave-soldering		260 ± 5°C; time: 5 - 10s			
	Manual-welding		360 ± 10°C; 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°C		>2,600,000h			

Mechanical Specification

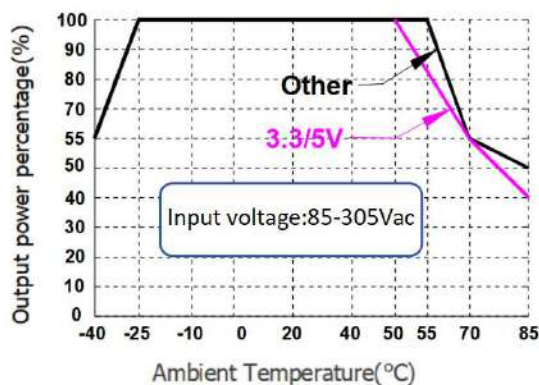
Case Material	Black plastic, flame-retardant and heat-resistant (UL94V-0)
Package Dimensions	25.40 x 25.40 x 17.60mm
Weight	23g (Typ.)
Cooling Method	Free air convection

EMC Specifications

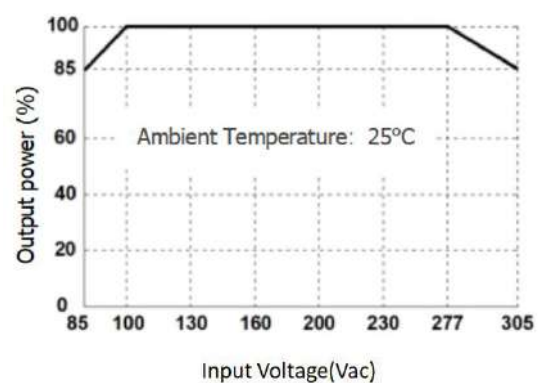
EMI	CE	CISPR32/EN55032 CLASS B	
	RE	CISPR32/EN55032 CLASS B	
EMS	RS	IEC/EN61000-4-3 10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4 ±4KV (EMC Solutions - Recommended Circuits Figure 2)	perf. Criteria B
	Surge	IEC/EN61000-4-5 line to line ±1KV	perf. Criteria B
		IEC/EN61000-4-5 line to line ±2KV (EMC Solutions - Recommended Circuits Figure 2)	perf. Criteria B
	CS	IEC/EN61000-4-6 10Vr.m.s	perf. Criteria A
	ESD	IEC/EN61000-4-2 Contact ±6KV/Air ±8KV	perf. Criteria B

Typical Characteristic Curves

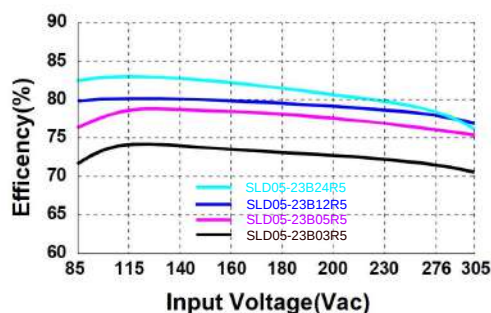
Temperature Derating Curve



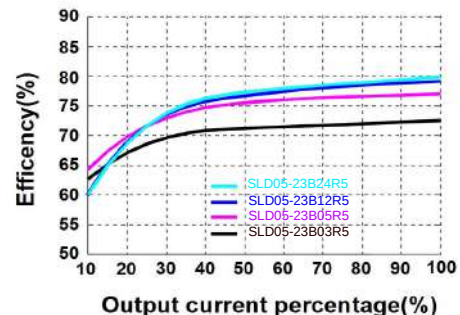
Input Voltage Derating Curve



Efficiency VS Input Voltage (Full load)



Efficiency VS Out Load (Vin=230VAC)

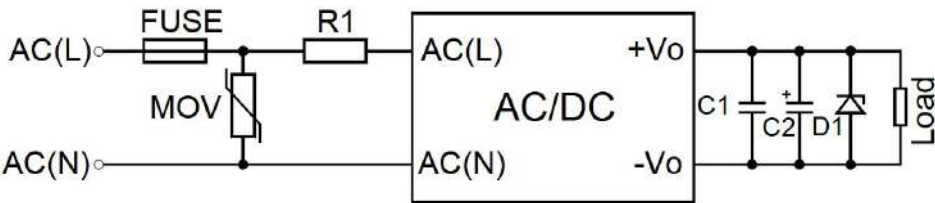


Note:

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)

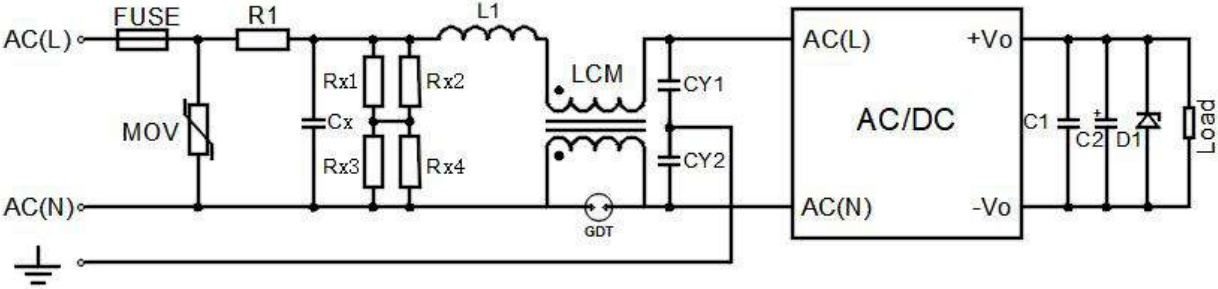


Reference Table for Selection of Peripheral Devices

Out Voltage	FUSE	MOV	R1	C1	C2	D1
3.3V/5VDC	1A/300VAC Slow-blow, Required	10D561K	12Ω/3W (Wire-wound resistor,Required)	1uF/16V	150uF/16V	See Note 2
9/12VDC				1uF/25V	120uF/25V	
15/24VDC				1uF/50V	100uF/35V	
Note: 1. FUSE and Mov Can be selected based on actual needs. 2. 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 Circuits

EMC Solutions - Recommended Circuits (Figure 2)



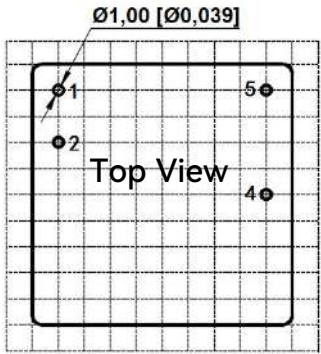
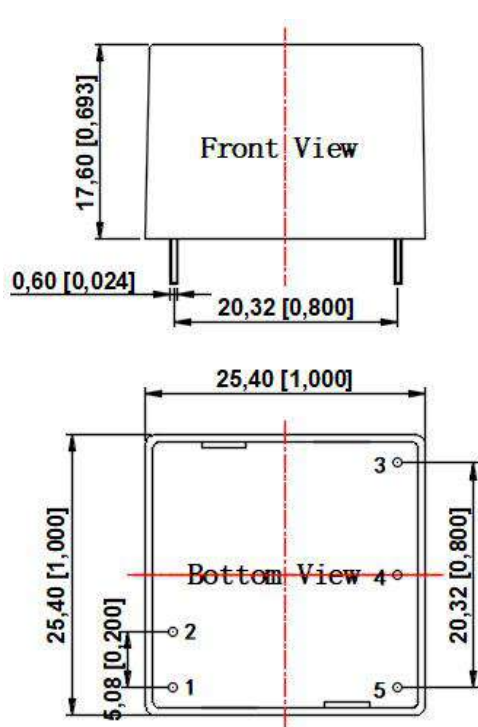
Recommended parameter values for EMC solution circuits

Model	Recommended value
FUSE	2A/300VAC, Slow-blow, Required
MOV	14D561K
R1	33Ω/3W (Wire-wound resistor, Required)
Cx	0.33uF/305VAC
L1	1.2mH/0.3A
CY1, CY2	1nF/400VAC
GDT	300V/1KA
LCM	20mH Common mode Choke
Rx1, Rx2, Rx3, Rx4	2MΩ/1206

Dimensions and Recommended Layout

Dimensions

PCB Printing Layout



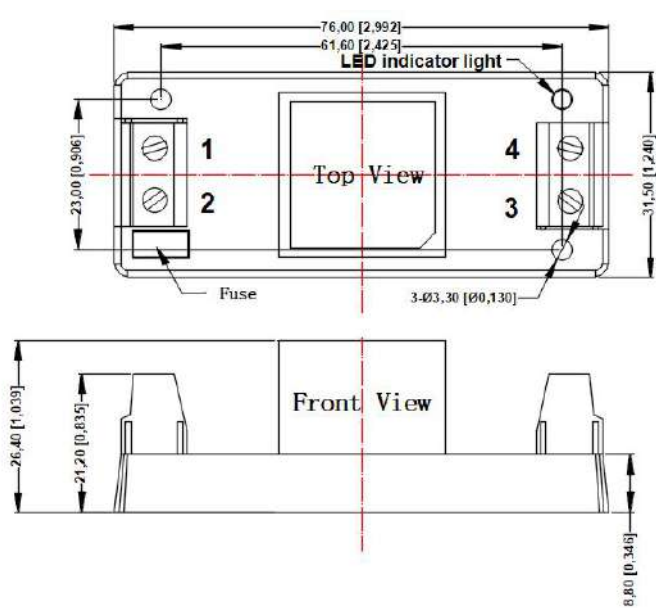
Grid size: 2.54*2.54mm

Note:
Unit: mm[inch]
Pin section tolerances:±0.10[±0.004]
General tolerances:±0.50[±0.020]

Pin FunctionTable	
Pin	Function
1	AC(N)
2	AC(L)
3	No Pin
4	-Vo
5	+Vo

A2S Dimensions

Pin FunctionTable

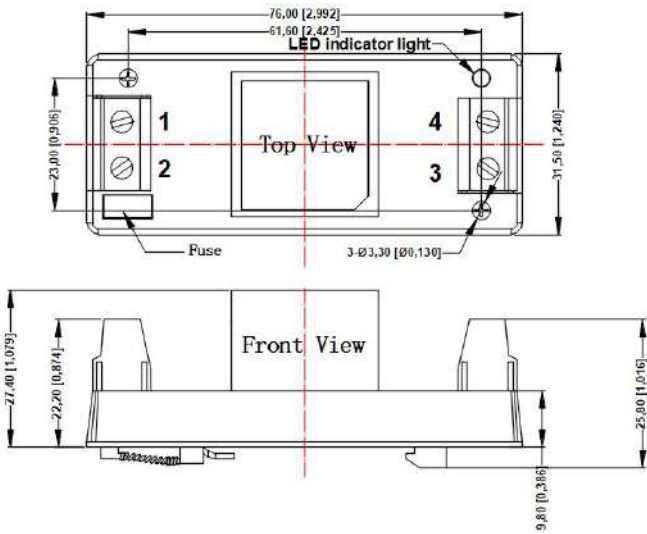


Terminal	Function
1	AC(N)
2	AC(L)
3	-Vo
4	+Vo

Note:
Size unit: mm[inch]
Wire diameter: 24-12AWG
Tightening torque: Max 0.4 N · m
Unmarked tolerance: ±1.00[±0.039]

SLD05-23BxxR5

A4S Dimensions



Pin FunctionTable

Terminal	Function
1	AC(N)
2	AC(L)
3	-Vo
4	+Vo

Note:

Size unit: mm[inch]
Wire diameter: 24-12AWG
Tightening torque: Max 0.4 N · m
Mounting rail: TS35, rail needs to connect safety ground
Unmarked tolerance: $\pm 1.00[\pm 0.039]$

Packaging instructions

Packaging Information

Model series	Product quantity (pcs/ tray)	Inner carton quantity(pcs/carton)	Outer carton quantity (pcs/carton)
SLD05-23BxxR5	64	192	384
SLD05-23BxxA2S	28	56	112
SLD05-23BxxR5A4S	28	56	112

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 $T_a=25\text{ }^{\circ}\text{C}$, humidity<75% 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.