Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Switching Power Supply
Type SPD 5W
DIN rail mounting

- **Universal AC input full range**
- **Installation on DIN rail 7.5 or 15mm**
- **Short circuit protection**
- **Overload protection**
- **High efficiency**
- **LED indicator for DC power ON**
- **LED indication for DC low**
- **Internal input filter**
- **CE, TUV approved and cULus Listed**

Product Description

The Switching power supplies SPD series are specially designed to be used in all automation application where the installation is on a DIN rail and compact dimensions and performance are a must.

Ordering Key

SP D 12 05 1 B

- **Model**
- **Mounting (D = Din rail)**
- **Output voltage**
- **Output power**
- **Input Type**
- **Optional features**

Input type: 1= single phase

Approvals

Optional Features

Description	Code
Spring connectors	B

Output Performances

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)	EFF. (avg.)
Single Output Models							
SPD05	90~264 VAC	5 WATTS	+ 5 VDC	1000 mA	67%	83%	69%
SPD12	90~264 VAC	5 WATTS	+12 VDC	420 mA	70%	86%	72%
SPD15	90~264 VAC	5 WATTS	+15 VDC	340 mA	70%	87%	72%
SPD24	90~264 VAC	5 WATTS	+24 VDC	210 mA	70%	87%	72%

Output Data

Line regulation	± 1%
Load regulation	± 2%
Minimum load	0
Turn on time (full resistive load)	1000ms max
Transient recovery time	2ms
Ripple and noise	50mVpp
Output voltage accuracy	± 1%
Temperature coefficient	± 0.03%/°C
Hold up time **Vi= 115VAC**	30ms
Vi= 230VAC	130ms
Voltage fall time (I_0nom)	150ms max

Rated continuous loading	
5V Model	1.0A @ 5VDC/0.85A @ 5.75VDC
12V Model	0.42A @ 12VDC/0.36A @ 13.8VDC
15V Model	0.34A @ 15VDC/0.28A @ 17.25VDC
24V Model	0.21A @ 24VDC/0.17A@28.8VDC
Reverse voltage	
5V Model	VDC 7.5
12V Model	VDC 18
15V Model	VDC 22
24V Model	VDC 35
Capacitor load	7000µF
Voltage rise time at full resistive load	150ms max

Input Data

Rated input voltage	100 - 240VAC
Voltage range	
AC	90 - 265VAC
DC	120 - 370VDC
Rated input current	
(Vi : 115VAC, Io nom) Typ.	115mA
Max.	200mA
Inrush current	
Vi= 115VAC	10A
Vi= 230VAC	18A

Power dissipation	
(Vi : 230VAC, Io nom) 5V Model	2.2W
12V Model	1.9W
15V Model	2.1W
24V Model	1.8W
Frequency range	47- 63Hz
Leakage current	
Input-Output	0.25mA 3.5mA

Controls and Protections

Overload	110 – 135%
Input fuse	T2A/250VAC internal[1)]
Output short circuit	Hiccup mode

Over voltage protection	125 - 145%
Internal surge voltage protection (IEC 61000-4-5)	Varistor

[1)] Fuse not replaceable by user

General Data (@ nominal line, full a, 25°C)

Ambient temperature	-20°C to 71°C
Derating (>61°C to +71°C)	2.5%/°C
Ambient humidity	20 ~ 95%RH
Storage	-25°C to +85°C
Protection degree	IP20
Cooling	Free air convection
Insulation voltage	
Input-Output	3.000VAC/4242VDC min
Input-FG	1.500VAC/2121VDC min
Insulation resistance I/O	100MΩ min (@ 500VDC)

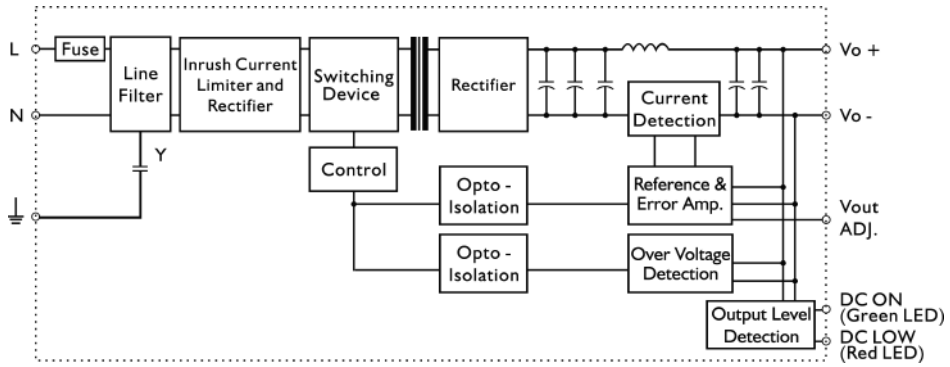
MTBF (Bellcore issue 6 @ 40°C, GB)	
5V Model	802000 Hours
12V Model	805000 Hours
15V Model	808000 Hours
24V Model	812000 Hours
Case material	Plastic: PC, UL94-V0
Pollution degree	2
Altitude	4850m
Dimensions LxWxD mm(inch)	90(3.60)x22.5(0.89)x114(4.49)
Weight	120g

Norms and Standards

Vibration resistance	meet IEC 60068-2-6 (Mounting by rail: 10-500Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis)
Shock resistance	meet IEC 60068-2-27 (15G, 11ms, 3 Axis, 6 faces, 3 times for each face)
UL / cUL	UL508 listed, UL60950-1, UL1310 Class 2 Power (only 5V, 12V w/o Class 2) Recognized, ISA 12.12.01 (Class 1, Division 2, Groups A, B, C and D)
TUV	EN 60950-1, CB scheme
CCC	GB4943, GB9254, GB17625.1

CE	EN 61000-6-3, EN 55022 Class B, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 55024, EN 61000-4-2 Level 4, EN 61000-4-3 Level 3, EN 61000-4-4 Level 4, EN 61000-4-5 L-Level 3, L/N-FG Level 4, EN 61000-4-6 Level 3, EN 61000-4-8 Level 4, EN 61000-4-11, ENV 50204 Level 2, EN 61204-3

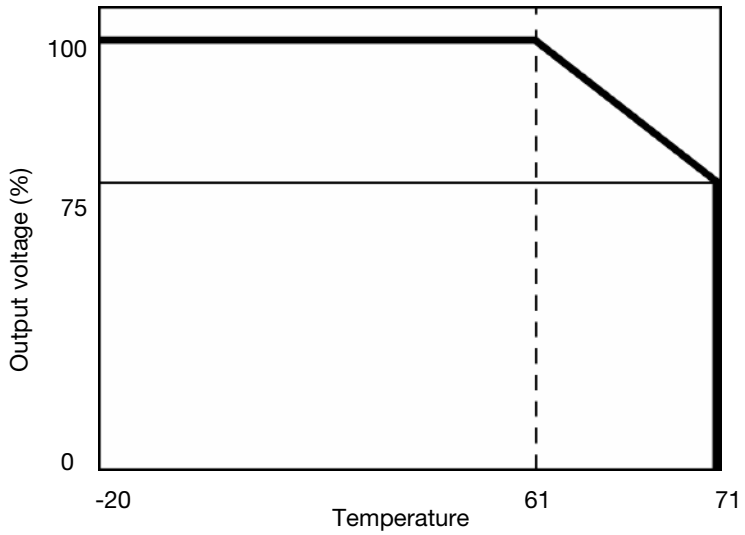
Block Diagrams



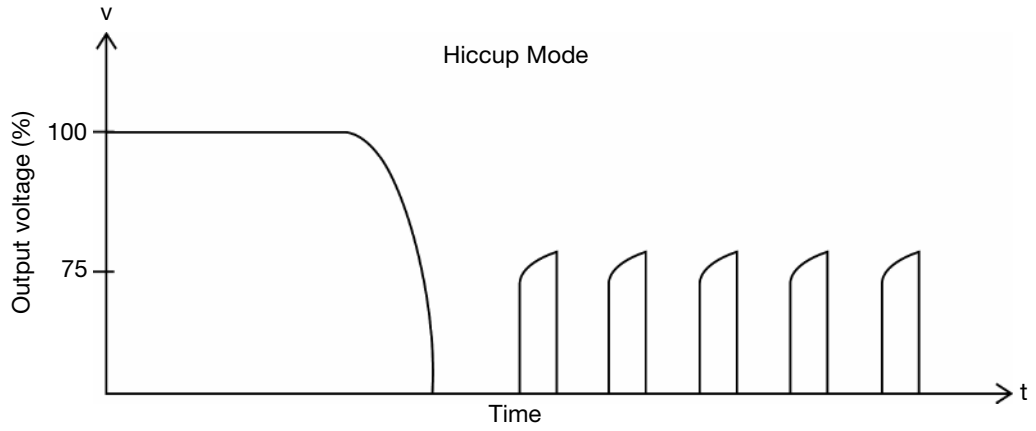
Pin Assignement and Front Controls

Pin No.	Designation	Description
1	V+	Positive output terminal
2	V-	Negative output terminal
3	⏚	Ground this terminal to minimize high-frequency emission
4	N	Input terminals (neutral conductor, no polarity at DC input)
5	L	Input terminals (phase conductor, no polarity at DC input)
	ON	Operation indicator LED
	LO	DC LOW indicator LED
	Vout ADJ.	Trimmer-potentiometer for Vout adjustment

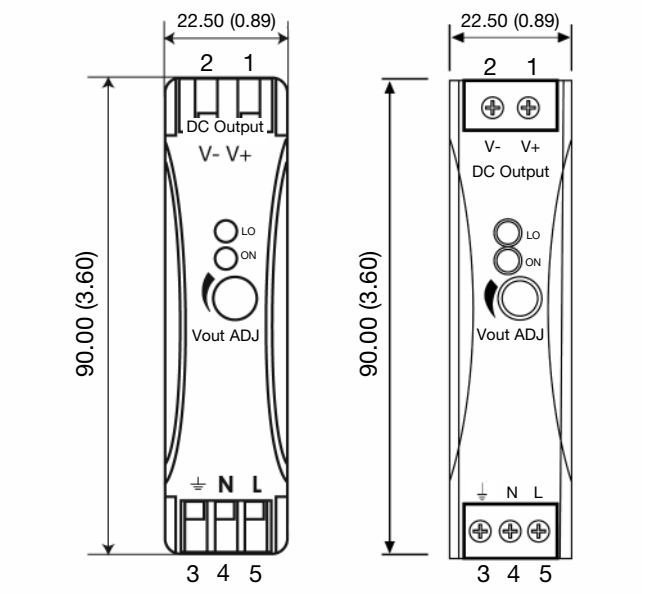
Derating Diagram

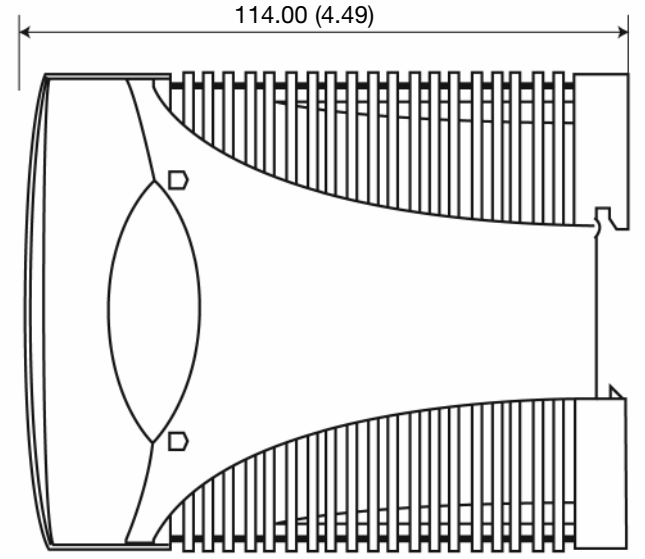


Typ. Current Limited Curve

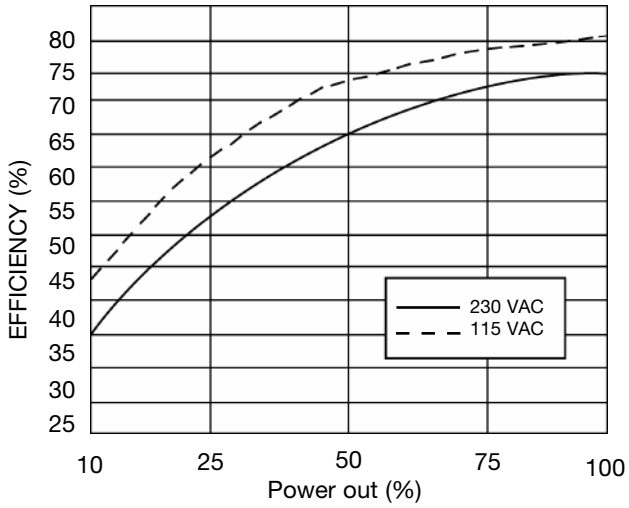


Mechanical Drawings mm (inches)





Typ. Efficiency Curve



Installation

Ventilation and cooling	Normal convection All sides 25mm free space for cooling is recommended
Connector size range	
Spring terminal	AWG24-14 (0.2~2mm²) flexible/solid cable, 10mm stripping at cable and recommends use copper conductors only, 60/75°C
Screw terminal	AWG26-12 (0.2~2.5mm²) flexible/solid cable, connector can withstand torque at max 0,56Nm (5 lbs-in). 4~5 mm stripping at cable and recommends use copper conductors only, 60/75°C
Max. torque for terminal	
Input terminals	0.56Nm (5.0lb-in)
Output terminals	0.56Nm (5.0lb-in)
General tolerances mm(in.)	
0.00 (0.00) ÷ 30.00 (1.18)	±0.30 (0.01)
30.00 (1.18) ÷ 120.00 (4.72)	±0.50 (0.02)