

Power Supplies

SPH Series

DC Input

Single Output, General-Purpose

FEATURES

- Extremely light weight, on board switching power supply utilizing a small plastic package.
- Remote ON-OFF and remote sensing.

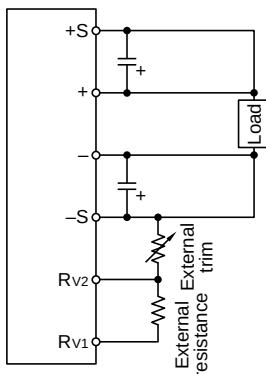
SPECIFICATIONS

50W TYPE

Part No.		SPH05-10R	SPH12-4R2	SPH15-3R4	SPH24-2R1
Output voltage, current		5V • 10A	12V • 4.2A	15V • 3.4A	24V • 2.1A
Maximum output power*1	W	50	50.4	51	50.4
Input requirements					
Input voltage E _{dc}	V	40 to 56[Rating:48]			
Input current	A	1.5typ./1.8max.[48/40V]			
Efficiency	%	80typ.	81typ.	85typ.	85typ.
Output characteristics					
Output voltage	V	5	12	15	24
Voltage variable range*2	V	4.5 to 5.5	10.8 to 13.2	13.5 to 16.5	21.6 to 26.4
Maximum output current	A	10	4.2	3.4	2.1
Output voltage setting deviation	%	±5max.[Without external resistance and external trim]			
Overvoltage threshold	V	5.5 to 6.9	13.7 to 15.7	17 to 19	27 to 30.5
Overcurrent threshold	A	10.3 to 13.5	4.3 to 5.7	3.5 to 4.5	2.2 to 2.9
Voltage stability	Input variation	%	1typ.(2max.)[Within the input voltage range]		
	Load variation	%	1typ.(2max.)[10 to 100% load]		
	Temperature variation	%	1typ.(2max.)[0 to +60°C]		
	Drift	%	0.1typ.(2max.)[After input voltage ON for 30min to 8h]		
	Dynamic load	%/ms	±4max./1max.[50 to 100% sudden load change]		
Ripple E _{p-p}	mV	150max.	200max.	200max.	200max.
Noise E _{p-p}	mV	250max.	300max.	300max.	400max.
Accessory equipment					
Overvoltage protection		Voltage shielding type, recovers upon reset.			
Overcurrent protection		Fixed current threshold type, automatic recovery.			
Remote ON-OFF		Yes			
Remote sensing		Yes			
Construction					
External dimensions H×W×L	mm	12.7×58×115			
Weight	g	150max.			
Mounting method		Mount via terminal to containing surface(soldering and bolting).			
Case material		Nonflammable resin(UL Grade 94V-0)			
Heat sink		Sold separately(Part No.: 3JR0AB179)			

*1 Radiant heating and forced air cooling should be considered. Sufficient space should be provided so that the base plate(aluminum surface) temperature is below 85°C when the surrounding environment is less than 60°C.

*2 Terminals should be wired as indicated below.



- When +S is not connected to the +terminal, and when -S is not connected to the -terminal, output voltage rises due to the sense amp open circuit. Output can then halt due to the overvoltage protection function. Also R_{v1} and R_{v2} should be left open if output voltage is not adjusted.

Recommended external resistance values

Output voltage rating	5V	12V	15V	24V
External trim	10kΩ	10kΩ	10kΩ	10kΩ
External resistance	1kΩ	5.6kΩ	10kΩ	27kΩ



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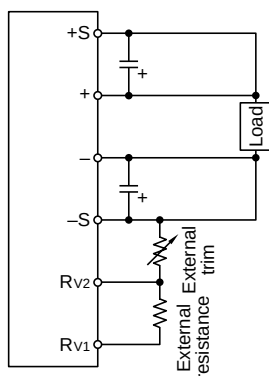
SPECIFICATIONS

100W TYPE

Part No.		SPH05-20R	SPH12-8R3	SPH15-6R6	SPH24-4R2
Output voltage, current		5V • 20A	12V • 8.3A	15V • 6.6A	24V • 4.2A
Maximum output power*1	W	100	99.6	99	100.8
Input requirements					
Input voltage E _{dc}	V	40 to 56[Rating:48]			
Input current	A	2.7typ./3.5max.[48/40V]			
Efficiency	%	80typ.	84typ.	86typ.	87typ.
Output characteristics					
Output voltage	V	5	12	15	24
Voltage variable range*2	V	4.5 to 5.5	10.8 to 13.2	13.5 to 16.5	21.6 to 26.4
Maximum output current	A	20	8.3	6.6	4.2
Output voltage setting deviation	%	±5max.[Without external resistance and external trim]			
Overvoltage threshold	V	5.5 to 6.9	13.7 to 15.7	17 to 19	27 to 30.5
Overcurrent threshold	A	20.6 to 27	8.5 to 11.2	6.8 to 8.9	4.3 to 5.7
Voltage stability	Input variation	%	1typ.(2max.)[Within the input voltage range]		
	Load variation	%	1typ.(2max.)[10 to 100% load]		
	Temperature variation	%	1typ.(2max.)[0 to +60°C]		
	Drift	%	0.1typ.(2max.)[After input voltage ON for 30min to 8h]		
	Dynamic load	%/ms	±4max./1max.[50 to 100% sudden load change, however, 5V output is assumed when the 680μF electrolytic capacitor is connected to the loaded terminal.]		
Ripple E _{p-p}	mV	150max.	200max.	200max.	200max.
Noise E _{p-p}	mV	250max.	300max.	300max.	400max.
Accessory equipment					
Overvoltage protection		Voltage shielding type, recovers upon reset.			
Overcurrent protection		Fixed current threshold type, automatic recovery.			
Remote ON-OFF		Yes			
Remote sensing		Yes			
Construction					
External dimensions H×W×L	mm	12.7×58×115			
Weight	g	150max.			
Mounting method		Mount via terminal to containing surface(soldering and bolting).			
Case material		Nonflammable resin(UL Grade 94V-0)			
Heat sink		Sold separately(Part No.: 3JR0AB179)			

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Recommended external resistance values

Output voltage rating	5V	12V	15V	24V
External trim	10kΩ	10kΩ	10kΩ	10kΩ
External resistance	1kΩ	5.6kΩ	10kΩ	27kΩ

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