



SUNPOWER TECHNOLOGY CORP.  
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# SPS-060 -Dx Series

# SPS-060P-Dx Series

60W, Dual Output  
 P.F.C Function Optional



159 x 95 x 38 mm  
 6.26 x 3.74 x 1.50 inch

### Features:

- \* High reliability and high efficiency
- \* Power ON with LED indicator
- \* Built-in EMI filter, low ripple noise
- \* Over voltage protection
- \* Over load & short circuit protection
- \* V1 Output voltage  $\pm 10\%$  adjustment for D5 · D6
- \* 100% full load burn-in test
- \*  $-20^{\circ}\text{C}$  to  $70^{\circ}\text{C}$  operating temperature
- \* UL, cUL, TUV, CB, CE approved
- \* 3 years warranty

### Specification:

INPUT	Voltage	85V ~ 264VAC universal full range or 120V ~ 375VDC.							
	Frequency	47 ---- 63 Hz							
	Current	<1.8A @100V AC input, full load condition							
	Inrush Current (TYP.)	30A@115V , 60A@230V AC input. Cold start at 25°C ambient							
	Leakage Current	<1.0mA@264V AC input							
OUTPUT	MODEL No.	SPS-060 -D1 SPS-060P-D1		SPS-060 -D2 SPS-060P-D2		SPS-060 -D5 SPS-060P-D5		SPS-060 -D6 SPS-060P-D6	
	Output	V1	V2	V1	V2	V1	V2	V1	V2
	Voltage	5V	12V	5V	24V	12V	5V	24V	5V
	Min Load	1A	0A	1A	0A	0.5A	0A	0.3A	0A
	Max Load	8A	4A	6A	2.2A	5A	3A	2.5A	3A
	Output Tolerance ②	$\pm 3\%$	$\pm 5\%$	$\pm 3\%$	$\pm 5\%$	$\pm 1\%$	$\pm 3\%$	$\pm 1\%$	$\pm 3\%$
	Ripple Noise MAX. ③	70mV	120mV	70mV	240mV	120mV	70mV	240mV	70mV
	Efficiency (TYP.)	78%		79%		79%		80%	
	Output MAX.	60W		60W		60W		60W	
PROTECTION	Over Voltage	5.8~7.0V	--	5.8~7.0V	--	13.8~16.8V	--	27.6~33.6V	--
		Shutdown and latch off, recover after re-start up.							
	Over Load & Short Circuit	When power supply over 105%~ 150% max load or short circuit acted, power supply will go into hiccup mode and recover automatically after the fault is removed.							
ELEC. CHAR.	Rise time	<20mS							
	Hold up time	>60mS@230V, full load condition							
	Setup time	<1 Sec@100 ~ 240V AC							
ENVIRONMENT	Temperature ④	Operating: $-20 \sim +70^{\circ}\text{C}$ ; De-rating: $45 \sim 70^{\circ}\text{C}$ : $2.5\%/^{\circ}\text{C}$ ; Storage: $-40 \sim +85^{\circ}\text{C}$							
	Humidity	Operating: 20% ~ 90% RH (non condensing); Storage: 10% ~ 95% RH (non condensing)							
	Altitude	6562 ft ( $\approx$ 2000 m) operating							
SAFETY	Withstand voltage	I/P-O/P:3KVAC, I/P-PE:1.5KVAC, O/P-PE:0.5KVAC, 1minute							
	Isolation resistance	I/P-O/P, I/P-PE, O/P-PE > 100M $\Omega$ /500VDC at 25°C / 70% RH							
	Safety standard	UL 60950-1 2 <sup>nd</sup> , CSA C22.2 No. 60950-1-07 2 <sup>nd</sup> , TUV EN 60950-1:2006+A11+A1+A12+A2, IEC 60950-1:2005+A1+A2, approved							
EMC	EMI	EN 55032 CLASS B · FCC CFR 47 PART 15 CLASS B · CNS 13438 CLASS B. Compliance to EN61000-3-2 CLASS A, EN61000-3-3, SPS-060P-Dx models are built-in PFC choke to lower 25% THD (Total Harmonic Distortion) performance.							
	EMS	EN 55024 : EN 61000-4-2,3,4,5,6,8,11							
OTHERS	Cooling	Natural cooling.							
	M.T.B.F.	260K hours at 25°C							
	Terminal pitch	9P / 7.62mm with plastic cover, 90 deg terminal optional (with MOQ)							
	Packing	N.W.:0.58Kg / 1pc; 30pcs / 1.2 CUFT / 1 CTN							
NOTE	①	All measurements which not mentioned are based on 230VAC input, <b>output Max</b> at ambient 25°C / 70%RH							
	②	Output tolerance included set up voltage, line regulation and load regulation. The regulation is measured between 20%-80% <b>max load</b> of each output, Total output t must under <b>output Max</b> .							
	③	Ripple & noise are measured at 100~254VAC input with 10~50°C condition and 20MHz of bandwidth by using a 10" ~ 15" twisted pair-wire terminated with a 0.1uF & a 47uF parallel capacitor.							
	④	The operating temperature shall follow the de-rating curve in spec The output load may be requested for decreasing as de-rating curve in spec when low input voltage is under 100VAC..							
	⑤	The power supply is considered a component of end-equipment. The end-equipment must be re-confirmed whether comply with EMC directives.							

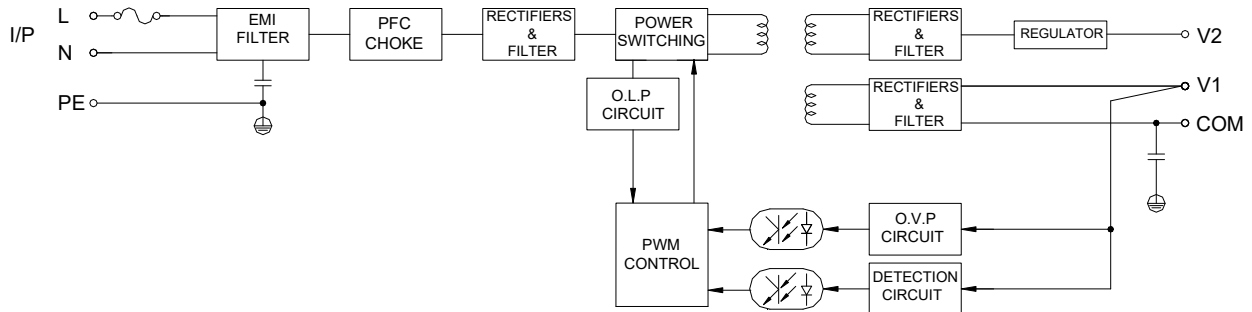


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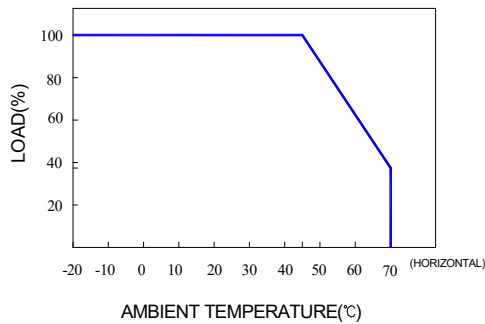
# SPS-060P-Dx Series

### Block Diagram : UD7

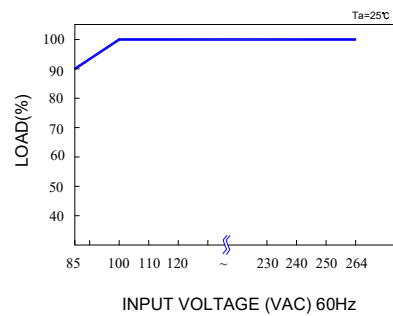


### SPS-060 -Dx series without PFC choke

### De-rating Curve :

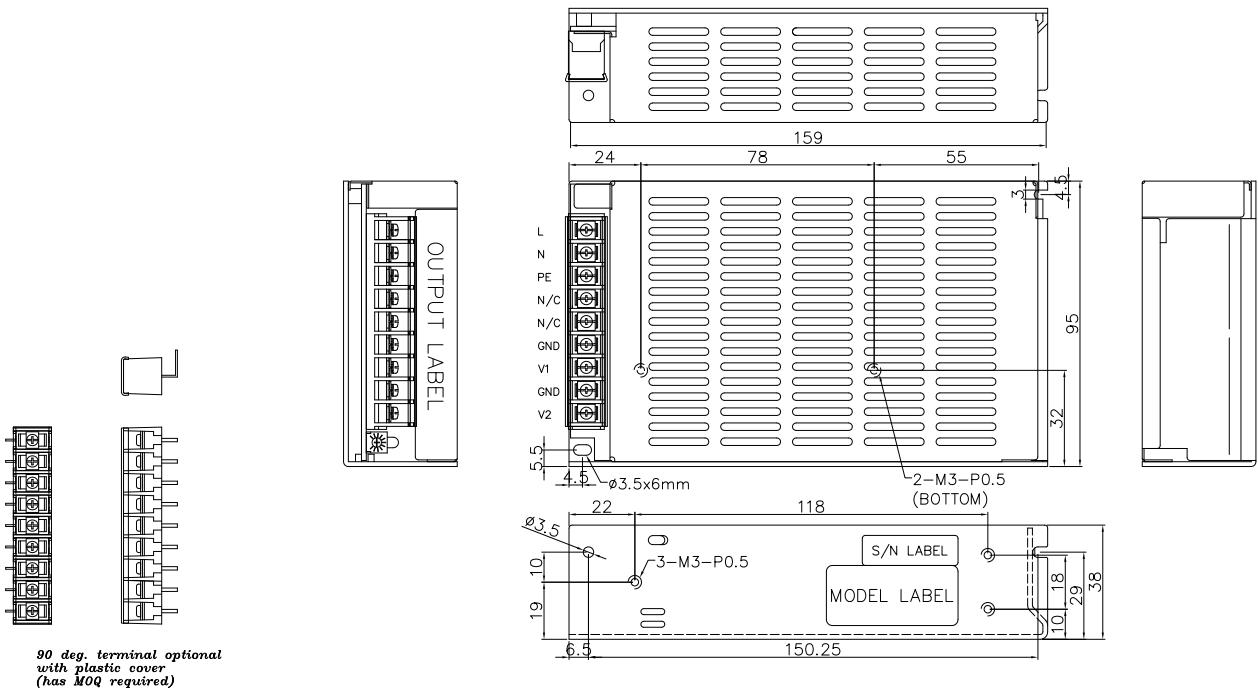


### Output De-rating Vs Input Voltage :



### Dimension:

(Unit: mm)



90 deg. terminal optional with plastic cover (has MOQ required)

### NOTES:

TERMINAL BLOCK: 9P, PITCH 7.62mm WITH PLASTIC COVER.

MODEL No.	1	2	3	4	5	6	7	8	9
SPS-060 -Dx	L	N	PE	NC	NC	GND	V1	GND	V2
SPS-060P-Dx	L	N	PE	NC	NC	GND	V1	GND	V2