

**FEATURES**

- RoHS Compliant
- Withstand 5G Vibration Test
- Power ON with LED Indicator
- 100% Full Load Burn-In Tested
- Cooling by Free Air Convection
- Universal AC Input with Active PFC
- High Operating Temperature up to 70°C
- Brown-Out (Low AC Input Voltage) Protected
- High Efficiency, Long Life, and High Reliability
- All Using 105°C Long Life Electrolytic Capacitors
- Green Design, No Load Power Consumption < 0.5W
- Short Circuit, Over Load, and Over Voltage Protected



**DESCRIPTION**

The PSAK100 series of AC/DC switching power supplies provides 100 Watts of continuous output power in an enclosed design. All models have a single output and a universal input range. Some features include efficiency up to 89%, 0.98 typical power factor, active PFC, and < 0.5W no load power consumption. These supplies are Energy Star compliant and have brown-out, over load, over voltage, over temperature, and short circuit protection. All models are 100% full load burn-in tested.

<b>SPECIFICATIONS: PSAK100 Series</b>	
All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted. We reserve the right to change specifications based on technological advances.	
<b>INPUT SPECIFICATIONS</b>	
Input Voltage Range (See Note 3)	90 ~ 264VAC (127~370VDC)
Input Frequency	47 to 63Hz
AC Current (typical)	1.1A @ 115VAC; 0.55A @ 230VAC
Inrush Current (typical)	20A @ 115VAC; 35A @ 230VAC
Leakage Current	< 0.2mA @ 230VAC
Power Factor (typical)	0.98 @ 115VAC and full load; 0.93 @ 230VAC and full load
<b>OUTPUT SPECIFICATIONS</b>	
Output Voltage	See Table
Output Power	See Table
Output Voltage Adjustability	±10%
Voltage Tolerance (See Note 2)	PSAK-100-5: ±2%; PSAK-100-7.5: ±1.5%; PSAK-100-12~48: ±1.0%
Line Regulation	PSAK-100-5 & PSAK-100-7.5: ±1.0%; PSAK-100-12~48: ±0.5%
Load Regulation	PSAK-100-5 & PSAK-100-7.5: ±1.0%; PSAK-100-12~48: ±0.5%
Output Current	See Table
Ripple & Noise (See Note 1)	See Table
Setup, Rise Time	300ms, 50ms at full load
Hold-Up Time (typical)	32ms @ 230VAC and full load
<b>PROTECTION</b>	
Over Voltage Protection	115% ~ 140% rated output voltage Protection Type: Latch-off mode
Over Load Protection	105% ~ 180% rated output power Protection Type: Hiccup mode, recovers automatically after fault condition is removed.
Over Temperature Protection	90°C ±5°C detect on Core of the Transformer Protection Type: Shutdown output voltage, after temperature goes down and re-power on to recover
<b>GENERAL SPECIFICATIONS</b>	
Efficiency	See Table
Withstand Voltage	3KVAC (input to output); 1.5KVAC (input to FG); 0.5KVAC (output to FG) all for one minute
Isolation Resistance	100MQ/500VDC (input to output, input to FG, output to FG)
<b>ENVIRONMENTAL SPECIFICATIONS</b>	
Working Temperature	-20°C to +70°C (refer to derating curve)
Storage Temperature	-40°C to +85°C
Working Humidity	20% to 90% RH (non-condensing)
Storage Humidity	10% to 95% RH
Vibration	10 ~ 500Hz, 5G 0.5Oct/min., Period of 60 min. each along X,Y,Z axis.
Cooling	Free air convection
Temperature Coefficient	±0.03% / °C (0 ~ 50°C)
MTBF	620,300 hours Compliance: MIL-HDBK-217F
<b>PHYSICAL SPECIFICATIONS</b>	
Packing	650g (22.93oz)
Dimensions (L x W x H)	6.18 x 3.86 x 1.65 inches; (157 x 98 x 42 mm)
<b>SAFETY &amp; EMC (See Note 4)</b>	
Safety Standards	Meet UL/cUL 60950-1, TUV EN60950-1
Green Energy	ENERGY STAR® Single Voltage External AC/DC and AC/AC power supplies Eligibility Criteria (Version 1.1)
EMI Conduction & Radiation	EN55022: 1998+A1: 2000+A2: 2003 Class B
Harmonic Current	EN61000-3-2: 2000+A2: 2005 Class A, EN61000-3-3: 1995+A1: 2001
EMS Immunity	EN61204-3: 2000 EN50204 1998+A1: 2001+A2: 2003 light industry level, criteria A

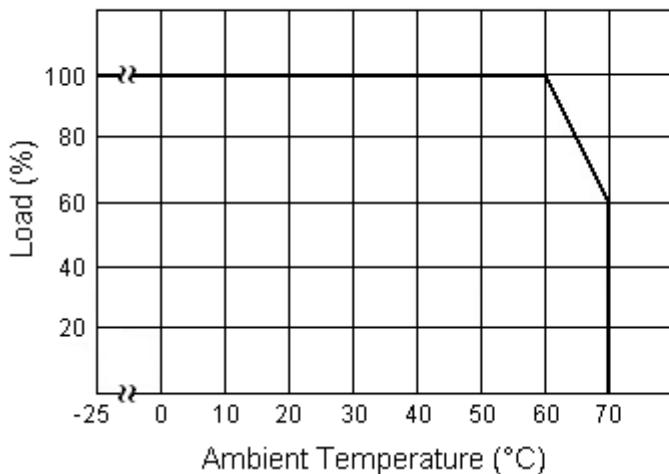
MODEL SELECTION TABLE						
Model Number	Input Voltage	Output Voltage	Output Current	Ripple & Noise <sup>(1)</sup>	Output Power	Efficiency
PSAK-100-5	90 ~ 264VAC (127 ~370VDC)	5 VDC	20A	90mVp-p	100W	83%
PSAK-100-7.5		7.5 VDC	13.5A	90mVp-p	101.2W	85%
PSAK-100-12		12 VDC	8.5A	90mVp-p	102W	85%
PSAK-100-13.5		13.5 VDC	7.5A	90mVp-p	101.2W	86%
PSAK-100-15		15 VDC	6.7A	90mVp-p	100.5W	88%
PSAK-100-24		24 VDC	4.2A	120mVp-p	100.8W	89%
PSAK-100-27		27 VDC	3.8A	120mVp-p	102.6W	89%
PSAK-100-48		48 VDC	2.1A	200mVp-p	100.8W	89%

**NOTES**

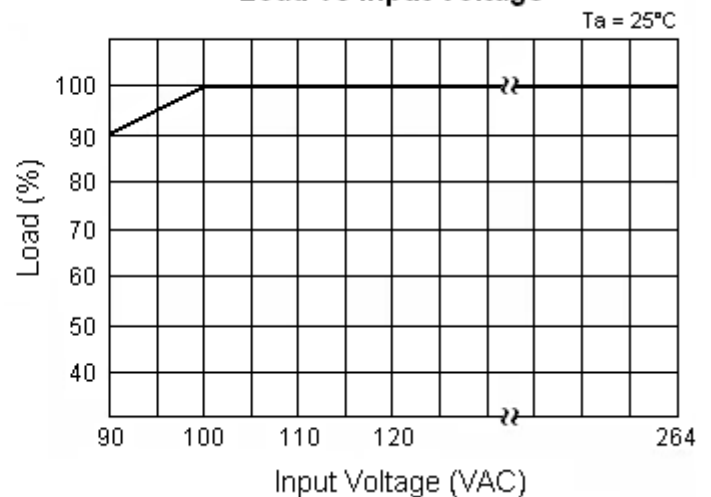
1. Ripple & noise is measured at 20MHz bandwidth by using a 12" twisted pair-wire terminated with a 0.1µF capacitor and a 47µF capacitor in parallel.
2. Tolerances include set up tolerance, line regulation, and load regulation.
3. Derating may be needed under low input voltages. Please check the derating curve for more details.
4. The power supply is considered a component, which will be installed into final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

**DERATING CURVES**

**Load vs Temperature**



**Load vs Input Voltage**



**MECHANICAL DRAWING**

Unit: inches [mm]

