100W Single Output Switching Power Supply



Features:

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in active PFC function
- UL1310 Class 2 power unit
- · Cooling by free air convection
- 100% full load burn-in test
- · High reliability
- Suitable for LED lighting and moving sign applications

PLC-100-27

2 years warranty

PLC-100-20 PLC-100-24

SPECIFICATION

MODEL

NOTE











MODEL		PLC-100-12	PLC-100-15	PLC-100-20	PLC-100-24	PLC-100-27	PLC-100-36	PLC-100-48	
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	27V	36V	48V	
	CONSTANT CURRENT REGION Note.4	8.4 ~ 12V	10.5 ~ 15V	14 ~ 20V	16.8 ~ 24V	18.9 ~ 27V	25.2 ~ 36V	33.6 ~ 48V	
	RATED CURRENT Note.6		5A	4.8A	4A	3.55A	2.65A	2A	
	CURRENT RANGE Note.6	0 ~ 5A	0 ~ 5A	0 ~ 4.8A	0 ~ 4A	0 ~ 3.55A	0 ~ 2.65A	0 ~ 2A	
	RATED POWER Note.6	60W	75W	96W	96W	95.85W	95.4W	96W	
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	
	VOLTAGE ADJ. RANGE(ADJ V)	10.2 ~ 12V	12.8 ~ 15V	17 ~ 20V	20.4 ~ 24V	23 ~ 27V	30.6 ~ 36V	40.8 ~ 48V	
	CURRENT ADJ. RANGE(ADJ I)	3.75 ~ 5A	3.75 ~ 5A	3.6 ~ 4.8A	3~4A	2.6 ~ 3.55A	2~2.65A	1.5 ~ 2A	
	VOLTAGE TOLERANCE Note.3	±3.0%	±3.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%	
	LINE REGULATION	±1.0%							
	LOAD REGULATION	±2.0%							
	SETUP, RISE TIME	1200ms, 80ms/230VAC 1200ms, 80ms/115VAC at full load							
	HOLD UP TIME (Typ.)	60ms/230VAC 30ms/115VAC at full load							
INPUT	VOLTAGE RANGE Note.5	90 ~ 264VAC 127 ~ 370VDC							
	FREQUENCY RANGE	47 ~ 63Hz							
	POWER FACTOR (Typ.)	PF>0.95/230VAC	PF>0.95/115	5VAC at full load	PF≧0.9 at 70	~ 100% load		100	
	EFFICIENCY (Typ.)	85%	86%	89%	88.5%	88%	88%	89%	
	AC CURRENT (Typ.)	12V:0.8A/115VAC 0.4A/230VAC 15V:0.9A/115VAC 0.45A/230VAC 20V ~ 48V:1.1A/115VAC 0.55A/230VAC							
	INRUSH CURRENT (Typ.)	COLD START 40A/230VAC							
	LEAKAGE CURRENT	<0.75mA / 240VAC							
PROTECTION	OVER CURRENT (Typ.) Note.4	95 ~ 102%							
		Protection type: Constant current limiting, recovers automatically after fault condition is removed							
	OVED VOLTAGE	13 ~ 16V	16.5 ~ 20V	22 ~ 27V	27 ~ 34V	30 ~ 36V	39 ~ 48V	52 ~ 64V	
	OVER VOLIAGE	Protection type : Shut down and latch off o/p voltage, re-power on to recover							
	OVER TEMPERATURE	90℃ ±10℃ (RTH2)							
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover							
ENVIRONMENT	WORKING TEMP.	-10 ~ +50°C (Refer to output load derating curve)							
	WORKING HUMIDITY	20 ~ 95% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH							
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)							
	VIBRATION	10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes							
SAFETY & EMC	SAFETY STANDARDS Note.7	UL1310 Class 2, EN61347-1, EN61347-2-13 independent, UL60950-1, TUV EN60950-1, UL879 (listed in UL Sign Components Manual (SAM)							
		CAN/CSA C22.2 No. 223-M91(except for 48V) approved							
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:1.88KVAC O/P-FG:0.5KVAC							
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH							
	EMI CONDUCTION & RADIATION	Compliance to E	Compliance to EN55015, EN55022 (CISPR22) Class B						
	HARMONIC CURRENT	Compliance to E	Compliance to EN61000-3-2,-3, Class C (≥70% load) ; EN61000-3-3						
	EMS IMMUNITY		Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61547, EN55024, light industry level, (surge 4KV), criteria A						
OTHERS	MTBF	297.9Khrs min.							
	DIMENSION	200.5*70.5*35mi	m (L*W*H)						

- 0.52Kg; 25pcs/14Kg/0.65CUFT **PACKING** 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
 - Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
- Tolerance: includes set up tolerance, line regulation and load regulation.
- 4 Constant current operation region is within 50% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.
- 5. Derating may be needed under low input voltage. Please check the derating curve for more details.
- 6. This is the maximum possible output current and power. Over load protection may be activated slightly below this level to comply with the requirement



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AMBIENT TEMPERATURE (°C)

■ Mechanical Specification Case No.981A Unit:mm 200.5 6.26 20.63 şç o§ §o 70.5 OUT 2-R2.5 1 00 6.26 35 Fosc: 100KHz **■** Block Diagram **EMI FILTER RECTIFIERS** PFC **POWER** & FILTER & RECTIFIERS SWITCHING CIRCUIT O.L.P. **DETECTION** FG O O.L.P. PWM & PFC CIRCUIT PFC CONTROL CONTROL 0.V.P. ■ Derating Curve **■** Static Characteristics Ta=25°C 100 100 80 70 60 LOAD (%) LOAD (%) 60

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145 155 165 175

INPUT VOLTAGE (V) 60Hz

60 (HORIZONTAL)