150W U-Bracket Single Output with PFC Function USP-150 series



Features :

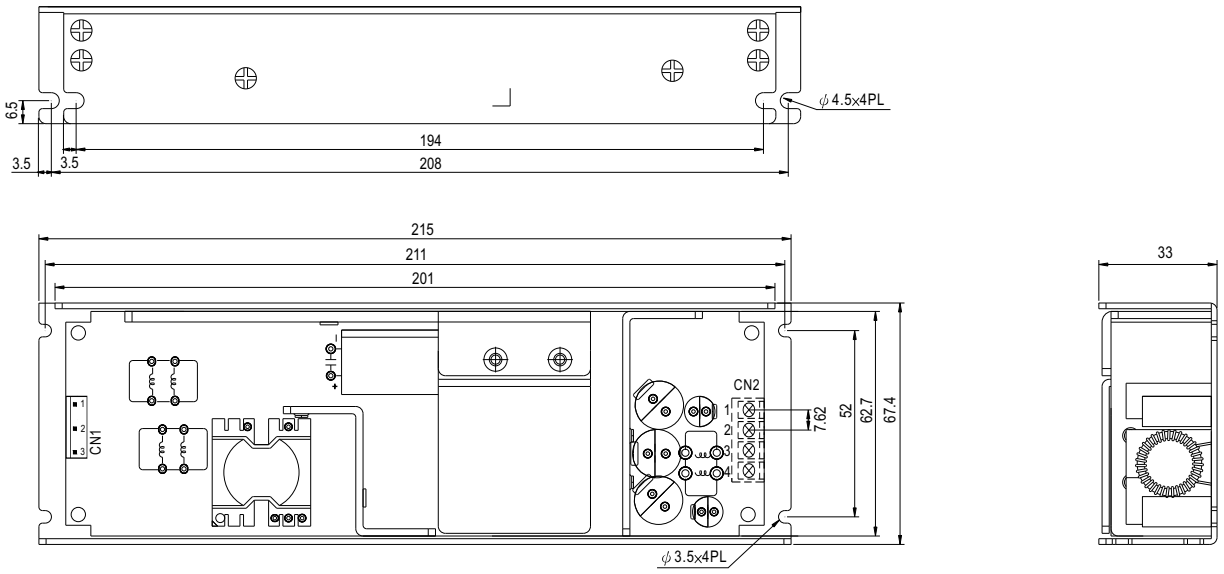
- Universal AC input / Full range(up to 295VAC)
- Built in active PFC compliance to EN61000-3-2 class C
- Constant Voltage design
- High efficiency up to 93%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- U-bracket low profile:33mm
- ZVS technology to reduce power dissipation
- 3 years warranty

SPECIFICATION

MODEL		USP-150-12	USP-150-15	USP-150-24	USP-150-36	USP-150-48
OUTPUT	DC VOLTAGE	12V	15V	24V	36V	48V
	RATED CURRENT	12.5A	10A	6.3A	4.2A	3.2A
	CURRENT RANGE	0 ~ 12.5A	0 ~ 10A	0 ~ 6.3A	0 ~ 4.2A	0 ~ 3.2A
	RATED POWER	150W	150W	151.2W	151.2W	153.6W
	RIPPLE & NOISE (max.) Note.2	100mVp-p	150mVp-p	150mVp-p	250mVp-p	250mVp-p
	VOLTAGE ADJ. RANGE	11.0~13.2V	13.5~16.5V	21.6~26.4V	32.4~39.6V	43.2~52.8V
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	2000ms, 100ms/230VAC 3000ms, 100ms/115VAC at full load				
	HOLD UP TIME (Typ.)	16ms/230VAC 16ms/115VAC at full load				
INPUT	VOLTAGE RANGE Note.4	90 ~ 295VAC 127 ~ 417VDC				
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR (Typ.)	PF≧0.96/230VAC PF≧0.98/115VAC at full load				
	EFFICIENCY (Typ.)	91.5%	91.5%	93%	93%	93%
	AC CURRENT (Typ.)	2A/115VAC 1A/230VAC				
	INRUSH CURRENT (Typ.)	Cold start 65A/230VAC				
	LEAKAGE CURRENT	<2mA / 240VAC				
PROTECTION	OVERLOAD	145~185% rated output power				
		Protection type : Hiccup mode, recovers automatically after fault condition is removed				
	SHORT CIRCUIT	Protection type : Hiccup mode, recovers automatically after fault condition is removed				
	OVER VOLTAGE	13.6 ~ 16.3V	17 ~ 21V	26.7 ~ 32.4V	41.4 ~ 48.6V	53 ~ 64.8V
		Protection type : Shut down o/p voltage with auto-recovery or re-power on to recovery				
	OVER TEMPERATURE	100℃±5℃(RTH2)				
		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down				
ENVIRONMENT	WORKING TEMP	-30 ~ +65℃ (Refer to output load derating curve)				
	WORKING HUMIDITY	20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH				
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃)				
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes				
SAFETY & EMC (Note 5)	SAFETY STANDARDS	IEC60950-1,UL60950-1,EN60950-1 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℃/ 70%RH				
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B				
	HARMONIC CURRENT	Compliance to EN61000-3-2,EN61000-3-3				
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level (surge 4KV), criteria A				
OTHERS	MTBF	216.3K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION	215*67.4*33mm (L*W*H)				
	PACKING	0.48kg; 24PCS/12.5kg/0.61CUFT				
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Derating may be needed under low input voltages. Please check the static characteristics for more details. 5. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.					

■ Mechanical Specification

Case No. 988 Unit:mm



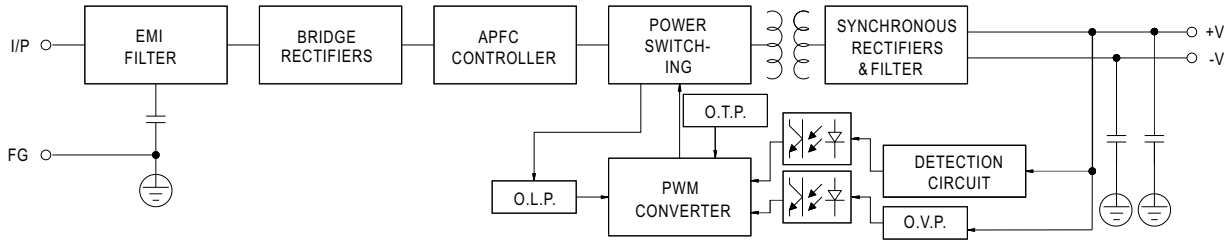
AC Input Connector (CN1) :SVH-21T-P1.1 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	FG⏚	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	AC/L		
3	AC/N		

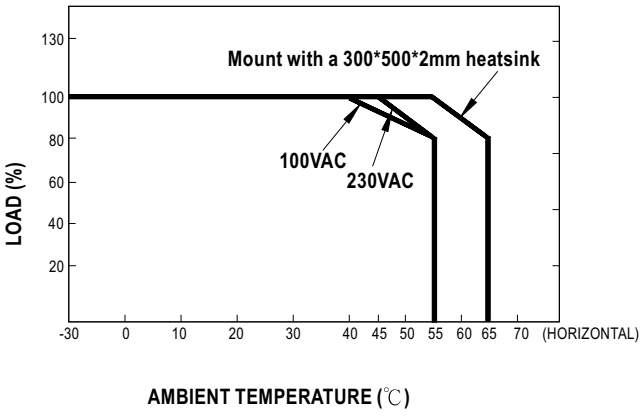
DC Terminal pin NO. Assignment (CN2)

Pin No.	Assignment	Terminal
1,2	V-	DECA T21-BM10-04
3,4	V+	

■ Block Diagram

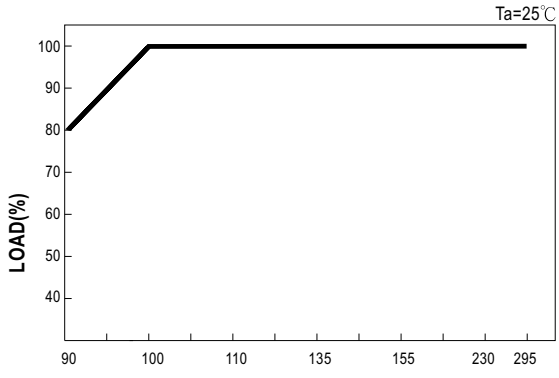


■ Derating Curve



AMBIENT TEMPERATURE (℃)

■ Static Characteristics



INPUT VOLTAGE (V) 60Hz