CV25 Series

25W Multi-Stage Output Current Dimming LED Power Supply

Case: 8919KA
105 x 68 x 23 mm

Features

- Output current level selectable by DIP S.W.
- 180~277VAC input only
- Built-in active PFC function
- Protections: Short circuit / Over temperature
- Cooling by free air convection
- Fully isolated plastic case
- Class II power unit, no FG
- Built-in 0~10VDC and PWM signal dimming function
- IP20 design
- No load power consumption <0.5W(Note.7)
- Power supplies synchronization function up to 10 units
- 3 years warranty

Specification

INPUT	**Inrush Current (typ.)**	Cold Start 20A(twidth=260μs measured at 50% Ipeak) at 230VAC					
	Voltage	180V ~ 277VAC 254 ~ 392VDC					
	Frequency	47 ~ 63 Hz					
	Power Factor	PF ≧ 0.94/230VAC, PF ≧ 0.91/277VAC at full load (Please refer to "Power Factor Characteristic" curve)					
	Total Harmonic Distortion	Total harmonic distortion <20% when output loading ≧50% at 230VAC input and output loading ≧75% at 277VAC input					
	Efficiency	86%					
	AC Current (Typ.)	0.17A/230VAC 0.15A/277VAC					
	Leakage Current	<0.5mA / 240VAC					
OUTPUT	**Selectable Current**	**350mA**	**500mA**	**600mA**	**700mA**	**900mA**	**1050mA**
	DC Voltage Range	6 ~ 54V	6 ~ 50V	6 ~ 42V	6 ~ 36V	6 ~ 28V	6 ~ 24V
	Rated Power	18.9W	25.2W				
	Ripple Current	±5.0%					
	No Load Output Voltage	59V			41V		
	Ripple & Noise	400mVp-p					
	Current Accuracy	±5.0%					
	Set Up, Rise Time	500ms, 50ms/230VAC at full load					
	Hold Up Time	30ms/230VAC at full load					
PROTECTIONS	**Short Circuit**	Constant current limiting, recovers automatically after fault condition is removed					
	Over Temperature	Shut down o/p voltage, recovers automatically after temperature goes down					
FUNCTION	**Dimming**	Please see "Dimming Operation"					
	Synchronisation	Please see "Synchronisation Operation"					
ENVIRONMENT	**Working Temperature**	-30 ~ ±60°C (Refer to Derating Curve)					
	Working Humidity	20 ~ 90% RH non-condensing					
	Storage Temperature	-40 ~ +80C, 10 ~ 95% RH					
	Temp. Coefficient	±0.03%/°C (0-50°C)					
	Vibration	10 ~ 500Hz, 2G 10 min./1cycle, period for 60min. each long X, Y, Z axes					
SAFETY & EMC	**Safety Standards**	UL8750, CSA C22.2 NO.250.0-08, ENEC EN61347-1, EN61347-2-13, EN62384 independent approved					
	Withstand Voltage	I/P-O/P:3.75KVAC; I/P-DA±: 1.875VAC; O/P-DA±: 1.875VAC					
	Isolation Resistance	I/P-O/P:>100M Ohms / 500VDC / 25°C / 70% RH					
	EMC Emission	Compliance to EN55015, EN61000-3-2 Class C(≧50% load) ; EN61000-3-3					
	EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61547 light industry level (surge 2KV), criteria A					
OTHERS	**MTBF**	298.6K hrs min. MIL-HDBK-217F (25°C)					
	Packing	0.16kg; 72pcs/12.5Kg/1.04CUFT					

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf parallel capacitor.
3. Please see "DIP switch table"
4. Derating may be needed under low input voltage. Please check the static characteristics for more details.
5. Length of set up time is measured at first cold start. Turning the power supply ON/OFF the power supply may lead to increase of the set up time.
6. Efficiency is measured at 500mA/50V output set by DIP switch.
7. No load power consumption<0.5W is measured at 230VAC, with lighting fixture connected and output current dimmed to 0%.
8. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.

Sunpower Technology LLP Orion House, Calleva Park, Aldermaston, Berkshire RG7 8SN Tel: +44 (0)118 981 1001 • E-mail: sales@sunpower-uk.com

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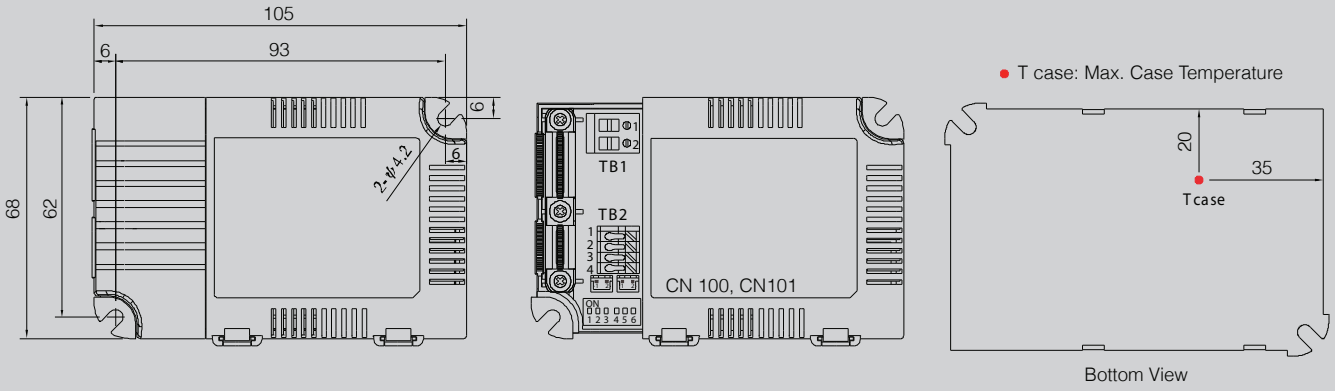
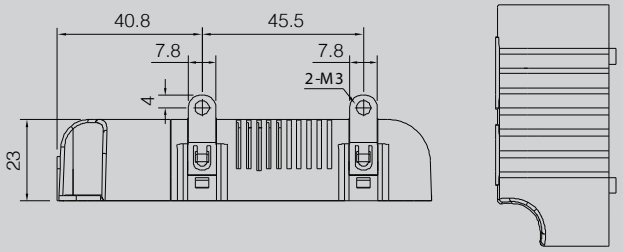
Mechanical Specification





Terminal Pin No. Assignment(TB2)

Pin No.	Assignment	Pin No.	Assignment
1	+Vo	3	DIM-
2	-Vo	4	DIM+

Terminal Pin No. Assignment(TB1)

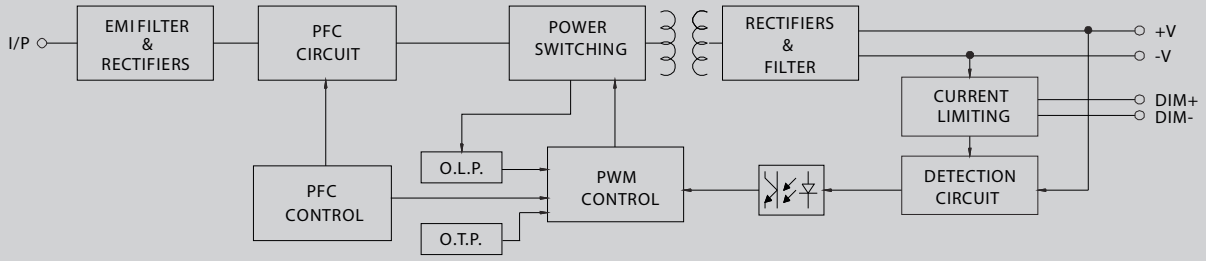
Pin No.	Assignment
1	AC/L
2	AC/N

SYN. Connector(CN100/CN101): JST B2B-PH-KL or equivalent

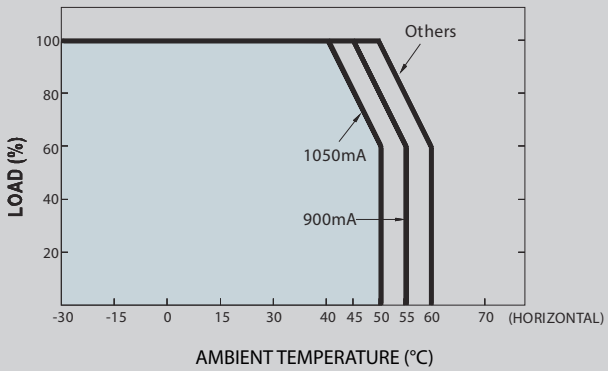
Pin No.	Assignment	Mating Housing	Terminal
1	–	JST PHR-2 or equivalent	JST SPH-002T-PO.5S or equivalent
2	+		

Note: Please use wires with 0.5~2.5mm (13~20AWG) of cross-section for TB1 and wires with 0.5~1.5mm (16~20AWG) of cross section for TB2.

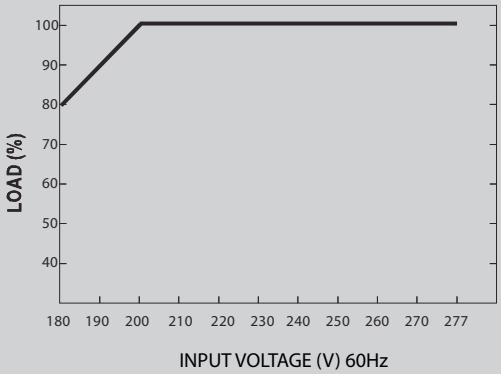
Block Diagram



Derating Curve



Static Characteristics



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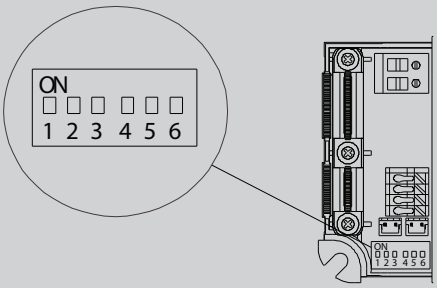
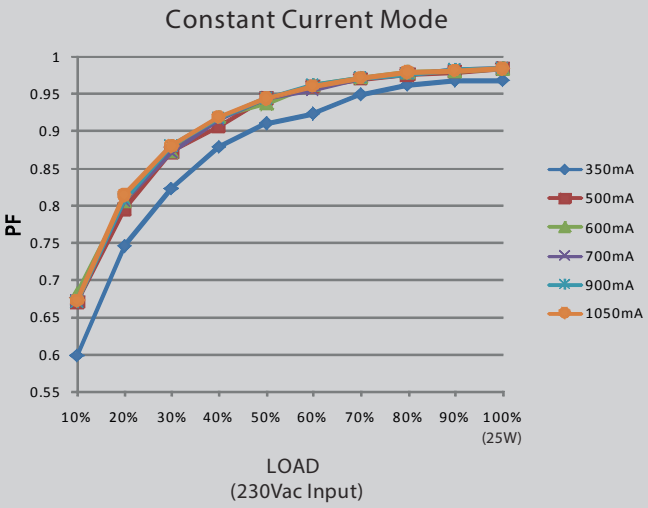
DIP Switch Table

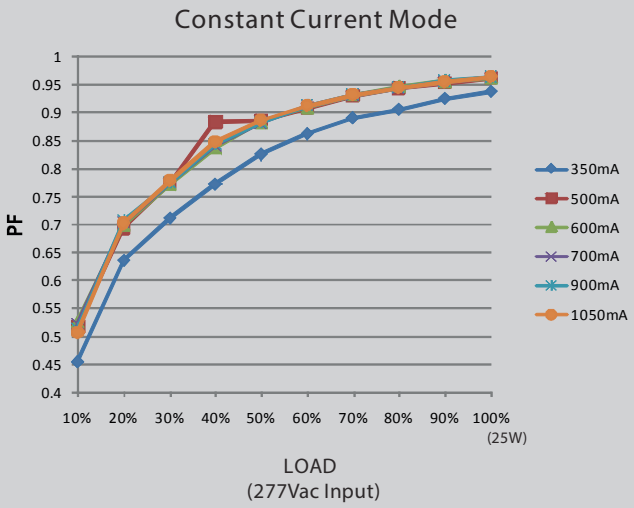
CV25 is a multiple-stage output current supply, selection of output current through DIP switch as table below.

Io \ DIP S.W.	1	2	3	4	5	6
350mA	----	----	----	----	----	----
500mA	ON	----	----	----	----	----
600mA	ON	ON	----	----	----	----
700mA(Factory Setting)	ON	ON	ON	----	----	ON
900mA	ON	ON	ON	ON	----	ON
1050mA	ON	ON	ON	ON	ON	ON

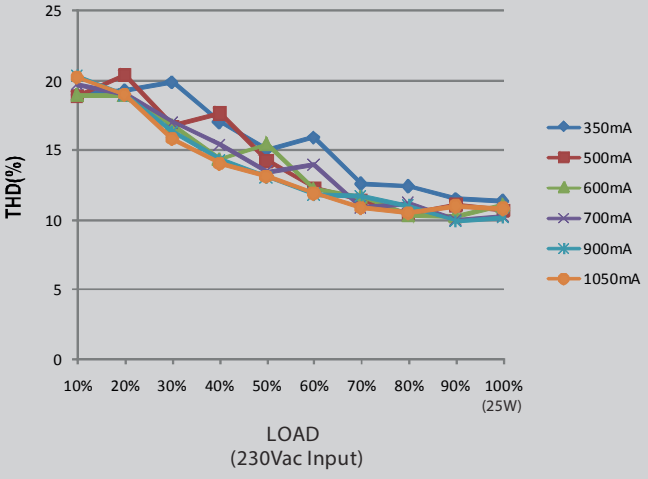


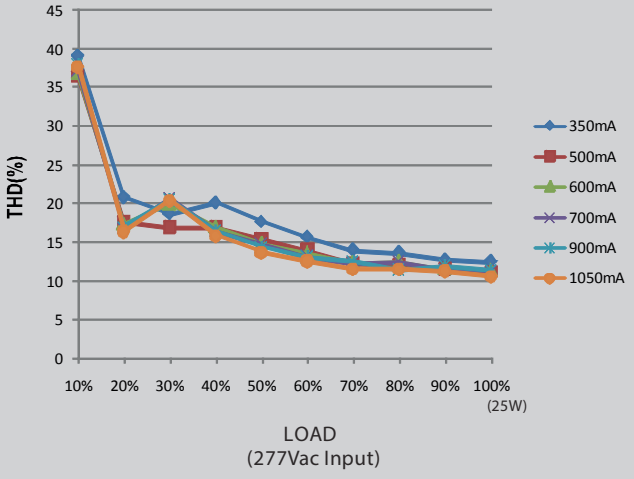
Power Factor Characteristic





Total Harmonic Distortion Characteristic





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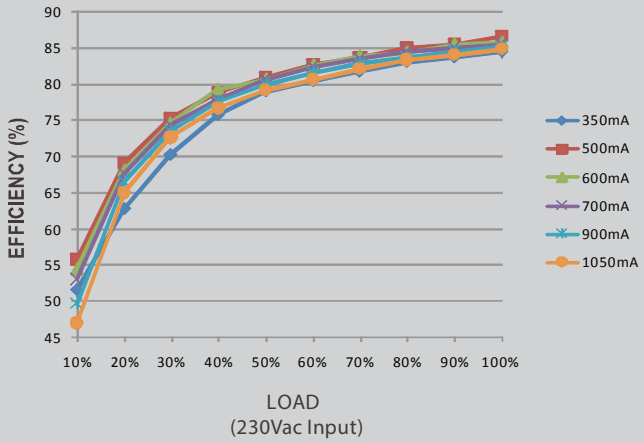
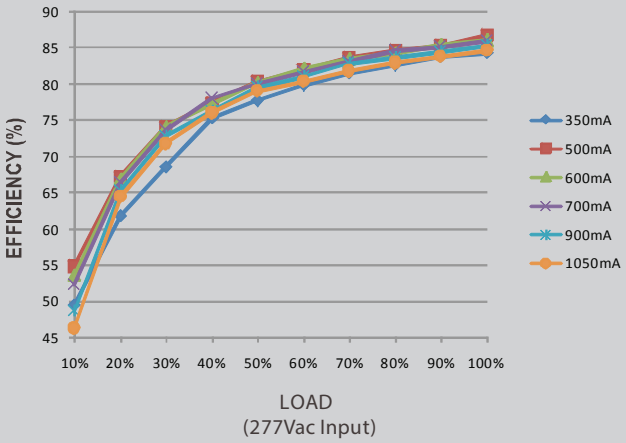
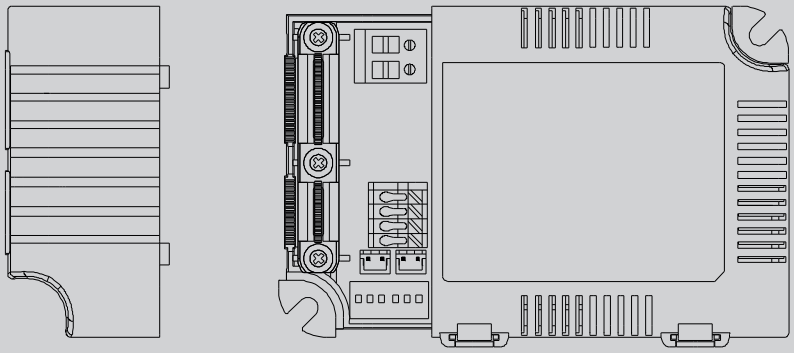
Efficiency vs Load

CV25 possess superior working efficiency that up to 86% can be reached in field applications.





Dimming Operation



Built-in 2 in 1 dimming function, output constant current level can be adjusted through output terminal by 0 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-.

Please DO NOT connect "DIM-" to "-Vo".

0 ~ 10V dimming function for output current adjustment (Typical)

Dimming value	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Output current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	100%~108%

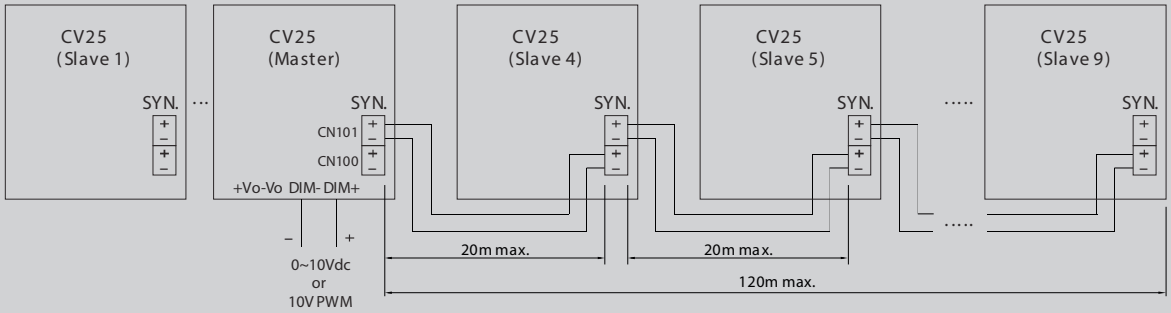
10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz

Duty value	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Output current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	100%~108%

Synchronisation Operation

10 drivers(max.) synchronization (1 master + 9 slaves).
Maximum cable length between each units : 20 meters.
Maximum cable length from the master unit to each end of the last slave units : 120 meters.
The lights driven by CV25 units(Slaves) can be dimmed synchronously through a CV25 unit(the master) directly controlled via 0~10Vdc or 10V PWM dimming function.

The wiring is shown as below.



CN100, CN101 : used to synchronously control the CV25 units in parallel.