

## JALS-C-035W DIMMING SERIES



### ■Features

- Constant current design
- Universal AC input (90-305Vac)
- 3 in 1 dimming(0-10V,PWM,Rx resistance)
- Protections: SCP, OVP, OTP,OPP
- High Efficiency (Up to 91%)
- Active Power Factor Correction (0.99 Typical)
- Lightning Protection
- Waterproof (IP67)
- Comply With UL8750 & EN61347 Safety Regulations
- 5 years warranty

### ■Application

- Suitable for LED street lights,tunnel lights,landscape lights.

### General Description

The document detail the electrical, mechanical and environmental specifications for JALS-C-035M series LED driver, these driver are single channel output and can provide 35 W max. continuous output power.

### Models & Key parameters

Model	Output Power (W)	Rated Output Voltage(Vdc)	Output Current (A)	Typ. Efficiency ※1	Power Factor	
					110Vac	230Vac
JALS-C-035M012	35W	12	2.90	86.5%	>0.98	>0.92
JALS-C-035M015	35W	15	2.30	86.5%	>0.98	>0.92
JALS-C-035M020	35W	20	1.75	88.5%	>0.98	>0.92
JALS-C-035M024	35W	24	1.40	88.5%	>0.98	>0.92
JALS-C-035M030	35W	30	1.15	89.0%	>0.98	>0.92
JALS-C-035M036	35W	36★ ※2	1.05	89.0%	>0.98	>0.92
JALS-C-035M042	35W	42★	0.83	90.0%	>0.98	>0.92
JALS-C-035M048	35W	48★	0.70	90.5%	>0.98	>0.92
JALS-C-035M054	35W	54	0.60	91.0%	>0.98	>0.92
NOTE	※1: Typ. Efficiency are measured at full load and 220 Vac input. ※2: ★ means the popular models, we will keep sufficient stock for prompt delivery.					

### Specification

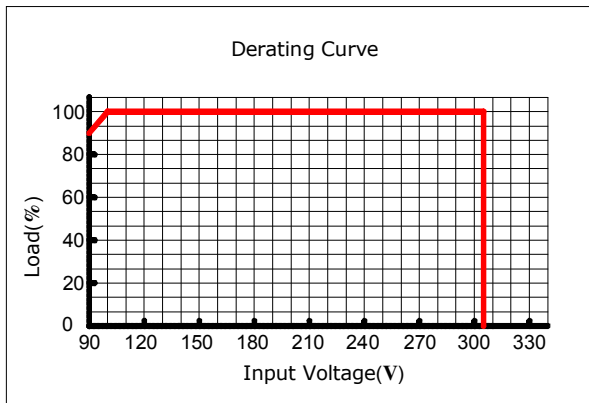
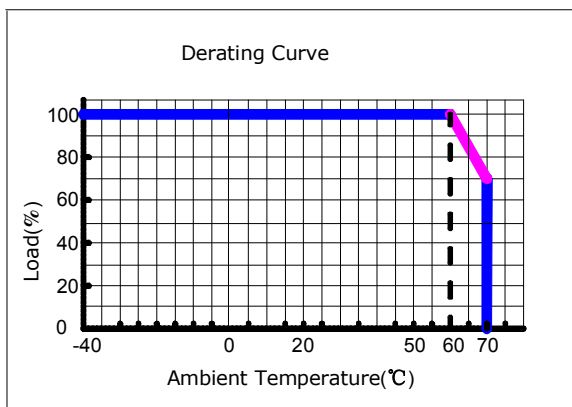
OUTPUT SPECIFICATION											
OUTPUT	Rated Output (Vdc)	12	15	20	24	30	36	42	48	54	
	CONSTANT CURRENT RANGE(V)	3~12	3~15	3~20	3~24	3~30	3~36	3~42	3~48	3~54	
	RATED CURRENT(A)	2.9	2.3	1.75	1.4	1.15	1.05	0.83	0.7	0.6	
	RATED POWER(W)	35	35	35	35	35	35	35	35	35	
	RIPPLE& NOISE(max.)※3	10%Vo									
	VOLTAGE TOLERANCE	5%Vo									
	LINE REGULATION	1%Vo									
	LOAD REGULATION	3%Vo									
	HOLD UP TIME (Typ.)	8.5mS min. @ Full load &110Vac, 10mS min. @ Full load &220Vac									
	INPUT SPECIFICATION										

**JALS-C-035W DIMMING SERIES**

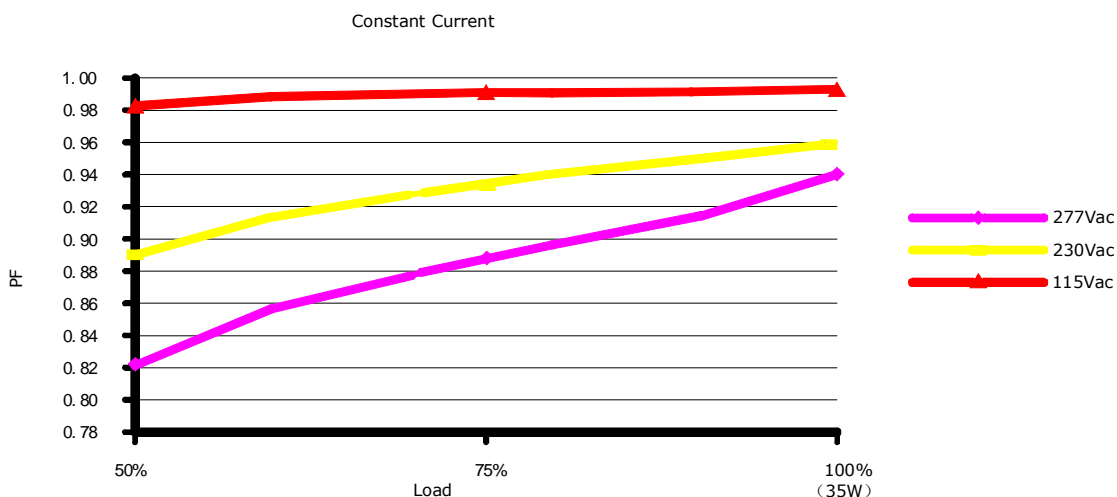
INPUT	VOLTAGE RANGE	90-305Vac								
	FREQUENCY RANGE	47-63Hz								
	EFFICIENCY (Typ.)	86.5%	86.5%	88.5%	88.5%	89.0%	89.0%	90.0%	90.5%	91.0%
	AC CURRENT (Typ.)	1.0Amax. @ 100-277Vac input & Full load.								
	INRUSH CURRENT	65Amax. @ 230Vac input,25°C.								
	LEAKAGE CURRENT	0.6mA max. at input 277Vac								
<b>PROTECTION</b>										
PROTECT ION	Input OVP	315Vac (Latch mode. The power supply shall return to normal operation only after the power is turn-on again.)								
	Output OVP ※4	(1.2-1.4)V <sub>o</sub>								
	SCP	No damage shall occur when any output operating in a short circuit condition. The power supply shall be self-recovery when the fault condition is removed.								
<b>ENVIRONMENT REQUIREMENTS</b>										
ENVIRON MENT REQUIRE MENTS	Operating Temperature	-35°C to +70°C								
	Operating Relative Humidity	10%RH to 100%RH								
	Storage Temperature	-40°C to +85°C								
	Storage Relative Humidity	5% to 100%RH non-condensing @ Sea level shall be low 10,000 feet.								
	Vibration	10 to 300Hz sweep at a constant acceleration of 1.0G(Breadth: 3.5mm) for 1Hour for each of the perpendicular axes X, Y, Z.								
	Waterproof grade	P67								
<b>SAFETY&amp;EMC</b>										
SAFETY& EMC	SAFETY STANDARDS	UL8750, UL1310,IEC61347,GB19510.								
	WITHSTAND VOLTAGE	L/N-GND:4KV, L-N:2KV								
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25 / 70% RH								
	EMC IMMUNITY	Compliance to EN 61000-3-2, 3EN 61000-4-2, 3,4,5,6,8,11, EN 61547								
<b>SAFETY APPROVAL</b>										
CERTIFIED	UL,CB,CE,CQC									
<b>RELIABILITY REQUIREMENTS</b>										
RELIABIL ITY REQUIRE MENTS	Burn-in	The power supply shall undergo a minimum of 4 Hours burn-in test at 40°C±5°C under full load condition								
	Life Time	≥50,000 hours at 60°C measured at 110Vac input,and 80% load.								
	MTBF	≥ 340,000 hours at 25°C, measured at 110Vac input,and 80% load. (MIL-HDBK-217F)								
NOTE	※3: Latch mode. The power supply shall return to normal operation only after the power is turn-on again. Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic- capacitor and a 10uF electrolysis capacitor. And the test under the condition of rated input and rated output) ※4: Latch mode. The power supply shall return to normal operation only after the power is turn-on again.									

**JALS-C-035W DIMMING SERIES**

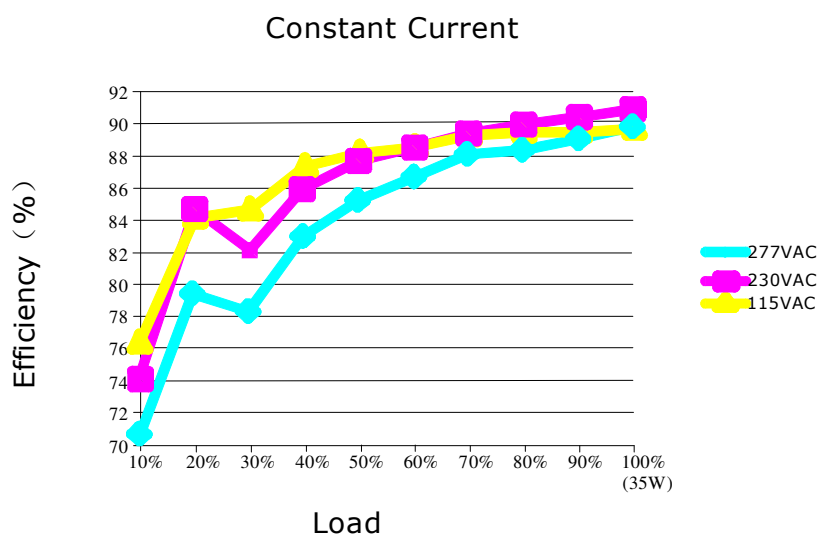
■ Derating Curve



■ Power Factor Characteristic

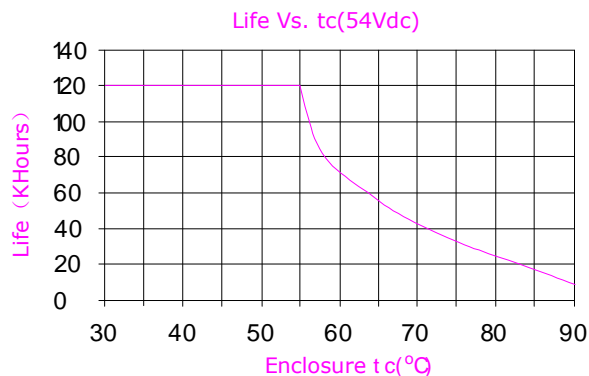
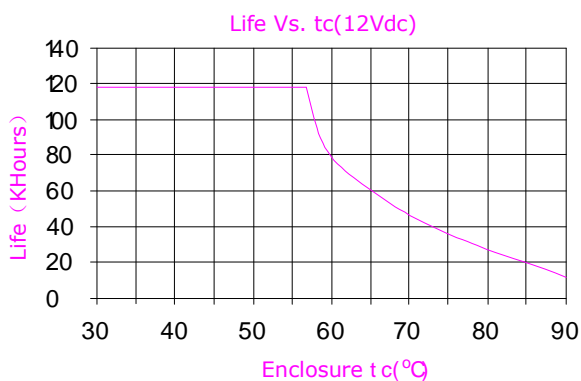


■ Efficiency curve(for 36V only)

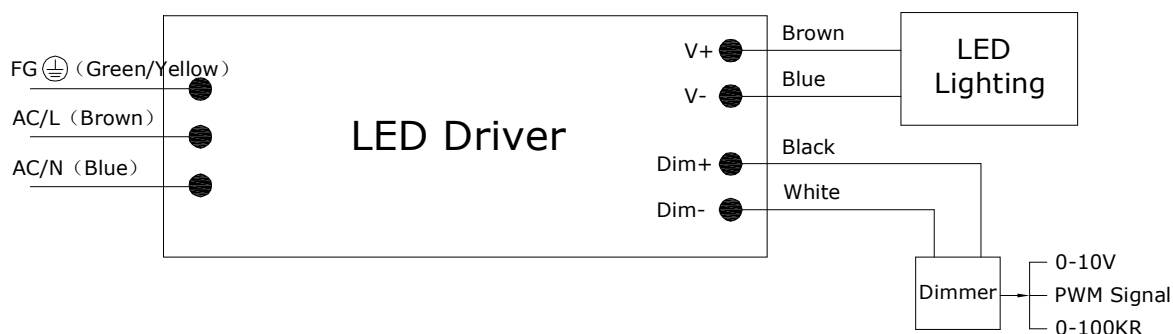


## JALS-C-035W DIMMING SERIES

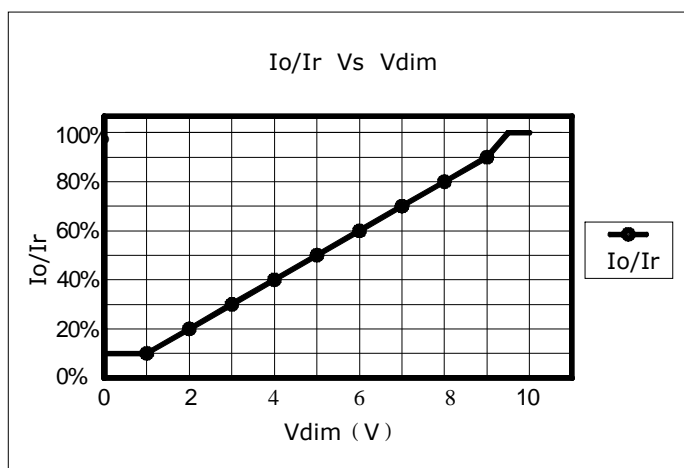
### Life vs tc curve



### Dimming Control



#### A) 0-10V Dimming Voltage/Current Proportion Curve



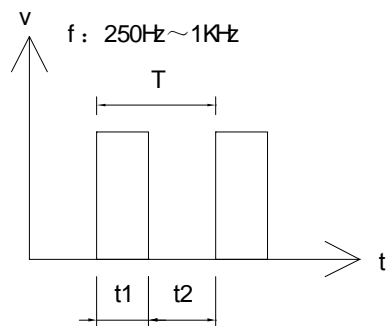
NOTE:  $I_o$  is actual output current and  $I_r$  is rated current without dimming control.

0-10V signal level	1	2	3	4	5	6	7	8	9	10
$I_o$ (A)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

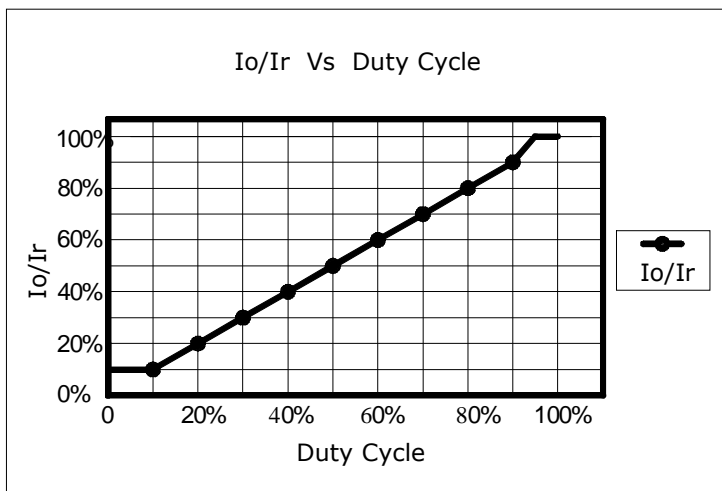
**JALS-C-035W DIMMING SERIES**

B) PWM Dimming Voltage/Current Proportion Curve

PWM Dimming Control



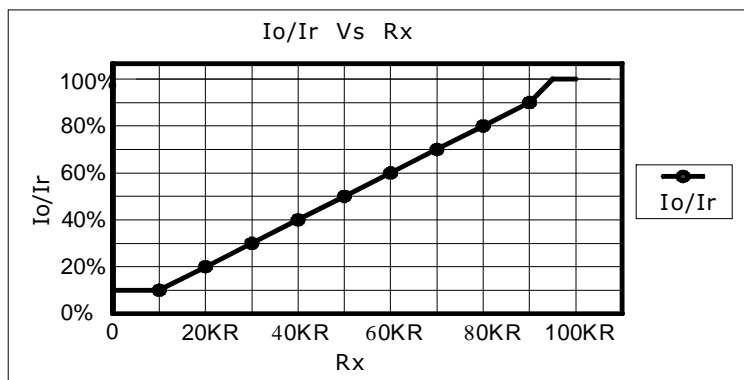
$$\text{Duty} = \frac{t1}{t1+t2} \quad (10\% \sim 100\%)$$



Dimming Port Condition:

Type	Condition
PWM Dimming	Frequency, f: 250Hz~1KHz
	High-Level, Ho: 5-10V, 5-10V can be responded, means "ON"
	Low-Level, Lo: 0V, 0~2.5V can be response, means "OFF"
	Sink current, Io : <5 mA
	Signal Open, Po: 100% Brightness
	Dimming range, Pr: 10%~100%

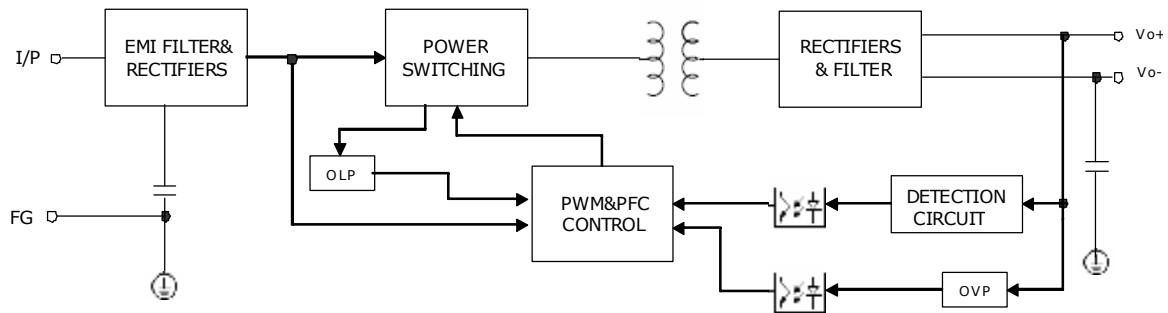
C) Resistance Dimming /Current Proportion Curve



**NOTE:** Please DO NOT connect "V-" to "Dim-", otherwise the LED drive can not work normally.

**JALS-C-035W DIMMING SERIES**

■ Block Diagram



■ Mechanical Specification

