

# Specification for Approval

Product Name: 36W DALI-2 LED Driver

Product Model: X6S-036D048

Rev: A.1

CUSTOMER AUTHORIZED SIGNATURE		
Tested By	Checked By	Approved By
(Company seal)Return one copy to MOSO with approved signature and company seal.		

Address:XiLiSongbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China

Tel: 0755-27657000

FAX: 755-27657908

E-mail:info@mosopower.com

Web Site:http://www.mosopower.com

Prepared By	Checked By	Approved By

# Product Specification

Product Name: 36W DALI-2 LED Driver

Product Model: X6S-036D048

Rev: A.1

Address: XiLiSongbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China

Tel: 0755-27657000

FAX: 755-27657908

E-mail: info@mosopower.com

Web Site: http://www.mosopower.com

Prepared By	Checked By	Approved By





### Product Features:

- Input voltage range: 100~264Vac;
- Constant current design;
- Isolated dimming: DALI-2 dimming;
- $Pf > 0.95$ ;  $THD < 10\%$ ;
- Flicker free; Total Output Current Ripple 5%;
- Standby power:  $< 0.5W @ 230Vac$ ;
- Surge protection: 2KV line-line;
- Class II;
- Protections: Output OVP, SCP, OTP;
- IP65 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty.

### Application:

- Suitable for LED Commercial lighting, Station lighting, Industrial lighting etc.

### DESCRIPTION

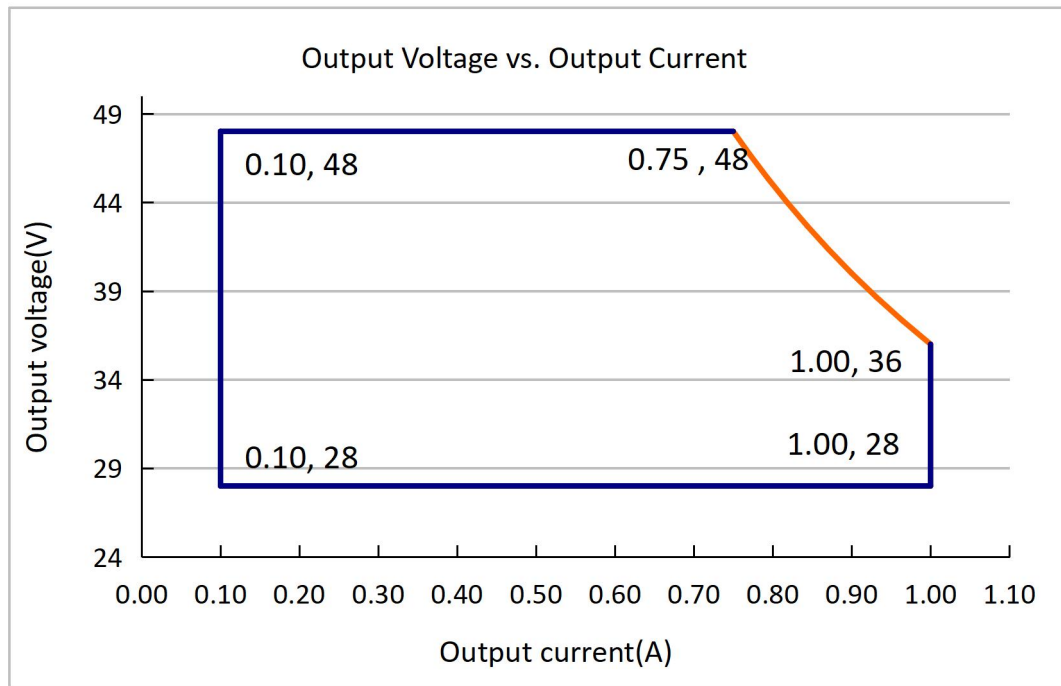
The X6S-36W is a constant current, DALI-2 Dimming LED driver that operates from 100-264Vac input with excellent power factor and low THD. The high efficiency of these drivers and compact enable them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against output over voltage, over temperature and short circuit.

### MODELS

Model Number	Input voltage range(Vac)	Max Output Power(W)	Output Voltage Range (Vdc)	Output Current (A)	Typical Efficiency	Typical THD	Typical PF
X6S-036D048	100-264	36	28-48	0.10-1.00	87%	10%	0.95

**Remark:** All parameters not specially mentioned are measured at 230Vac input, full load and 25°C of ambient temperature.

### OPERATING AREA I-V



### INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	100Vac	230Vac	264Vac	
Input Frequency	47Hz	50/60 Hz	63Hz	
Leakage Current	-	-	0.7mA	240Vac/60Hz
Input AC Current	-	-	0.42A	120-240Vac & full load
Inrush Current	-	-	0.02A <sup>2</sup> S	230Vac input, Ta25°C (cold start)
Standby Power			0.5W	230Vac, Dim-to-off
Power Factor	0.97	0.99	-	120Vac, 60Hz, full load
Power Factor	0.94	0.95		230Vac, 50Hz, full load
THD	-	5%	10%	120-240Vac, 50-60Hz, 80%-100% load

**OUTPUT SPECIFICATIONS**

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Range	28V		48V	
No Load Output Voltage(V)	-	-	65V	
Output Current Range	0.10A	-	1.00A	Adjustable with DALI programmer
Output Current Tolerance	-5%	-	5%	
Total Output Current Ripple(pk-pk)	-	5%	10%	20MHz BW, full load& LED load,
Startup Overshoot Current	-	-	10%	120~240Vac &100% Load, load is LED
Line Regulation	-3%	-	3%	25°C±10°C ambient temperature, input voltage changes from 100Vac to264Vac.
Load Regulation	-3%	-	3%	25°C±10°C ambient temperature, 230Vac, load changes from 60% to 100%.
Turn-on Delay Time	-	-	1.00s	120Vac,100% load
Turn-on Delay Time	-	-	1.00s	230Vac,100% load

**GENERAL SPECIFICATIONS**

Parameter	Min.	Typ.	Max.	Notes
Efficiency @120Vac	84%	86%	-	Measured at full load and 25°C ambient temperature
Efficiency @230Vac	84%	86%	-	
Dielectric Strength Input-Output	-	3750Vac	-	Max 5mA/60S
Dielectric Strength Input-Dimming	-	3750Vac	-	Max 5mA/60S
Insulation Resistance	10MΩ	-	-	Input-Output,500Vdc/60S/25°C/70%RH
MTBF	-	200000Hrs	-	25°C±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)
Lifetime	-	50000Hrs	-	230Vac&100%load, 75°C Tc, refer to lifetime curve for details
Ambient Temperature Ta	-40°C	-	+50°C	
Operating Case Temperature for Safety Tc_s	-40°C	-	+75°C	
Operating Case Temperature for Warranty Tc_w	-40°C	-	+75°C	5 years warranty case temperature Humidity: 10% to 95% RH
Storage Temperature Ta	-40°C	-	+75°C	Humidity: 5% to 100% RH
Dimensions (L*W*H)mm	L114*W59*H32			
Net Weight	300±50g/PCS			
Package	L424mm*W354mm*H146mm; 12PCS/Ctn, Gross Weight: 5Kg			

**DALI-2 DIMMING**

Parameter	Min.	Typ.	Max.	Notes
High Voltage Level	9.5V	16V	22.5V	
Lower Voltage Level	-6.5V	0V	6.5V	
Dimming Output Range	5%Imax	-	100%Imax	Imax=1.0A
Sink Current	-	-	2.0mA	

**SAFTY STANDARDS**

Safety Category	Country / Territory	Standards	Approved
CCC	China	GB19510.1, GB19510.14	
CE	Europe	EN61347-1, EN61347-2-13	√
CE	Europe	EN62493	√
ENEC	Europe	EN62384	
CB	CB Countries	IEC61347-1, IEC61347-2-13	√
BIS	India	IS 15885(PART 2/SEC 13)	
UL	USA	UL 8750	
CUL	Canada	CSA C22.2 No.250.13	
KC	South Korea	K61347-1, K61347-2-13	
PSE	Japan	J61347-1, J61347-2-13	
SAA	Australia	AS/NZS IEC 61347.2.13	
SAA	Australia	AS/NZS 61347.1	

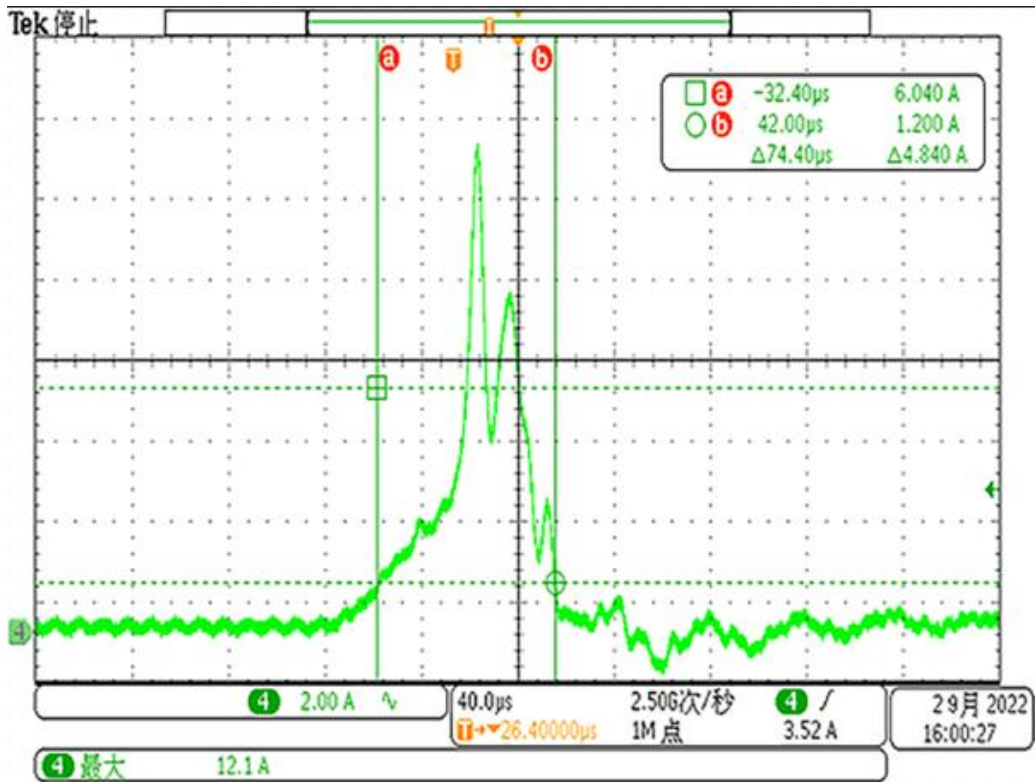
**EMC COMPLIANCE**

EMC Category	Country / Territory	Standards	Approved
CCC	China	GB/T 17743, GB 17625.1	√
CE	Europe	EN 55015	√
CE	Europe	EN 61000-3-2, EN 61000-3-3	√
CE	Europe	EN61000-4-2,3,4,5,6,11	√
CE	Europe	EN 61547	√
KC	South Korea	K61547/ K00015	
PSE	Japan	J55015	
FCC	USA	FCC part 15	

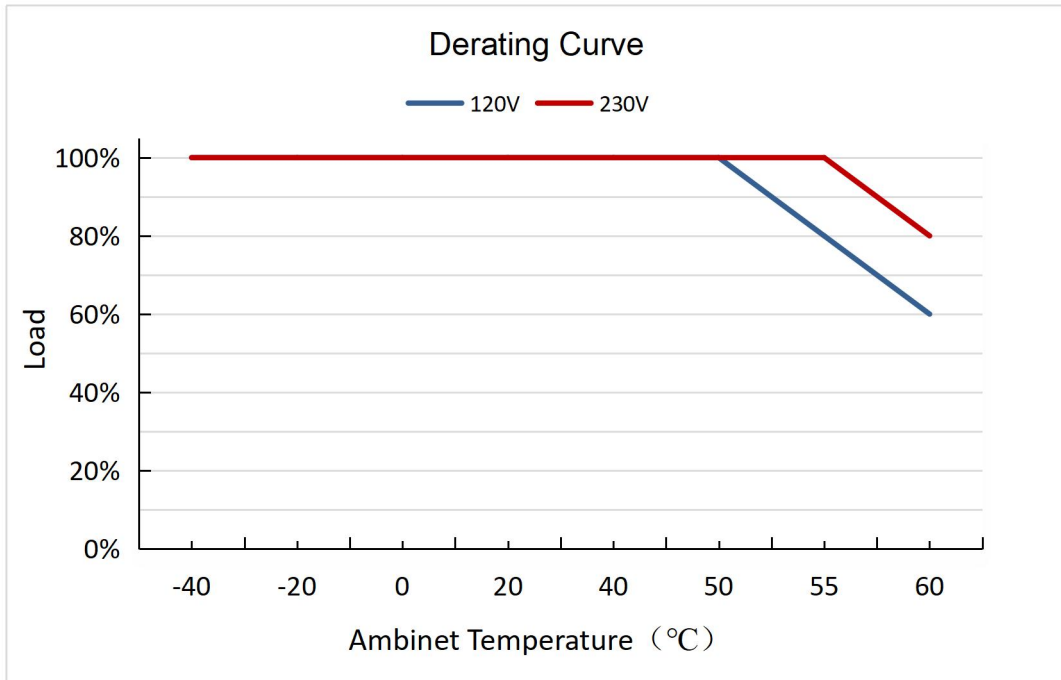
**NOTE:**

This LED driver meets the EMI specifications above, but as a component of a luminaire, end customer need to identify the EMI performance of a luminaire including LED driver, other devices connected to the driver and on the luminaire itself.

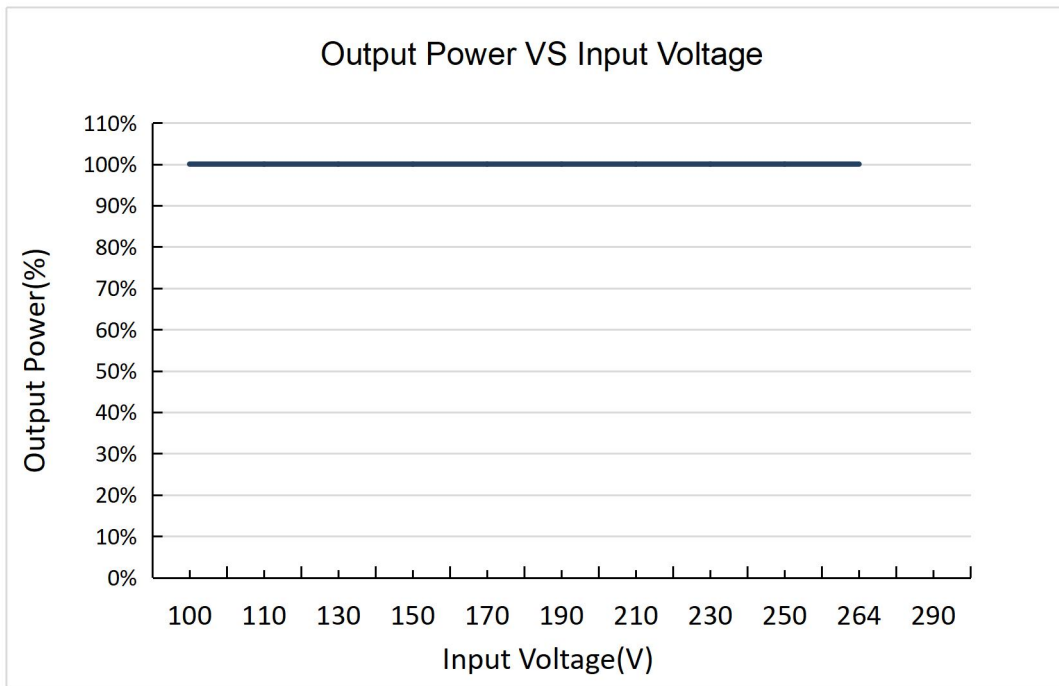
### INRUSH CURRENT WAVEFORM



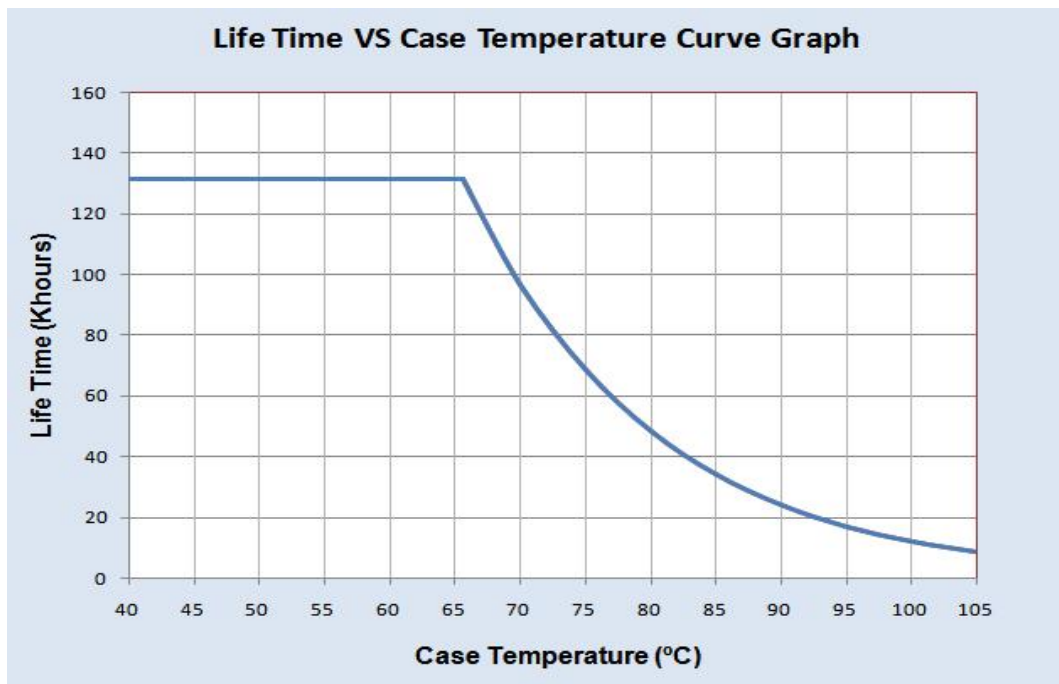
### DERATING CURVE



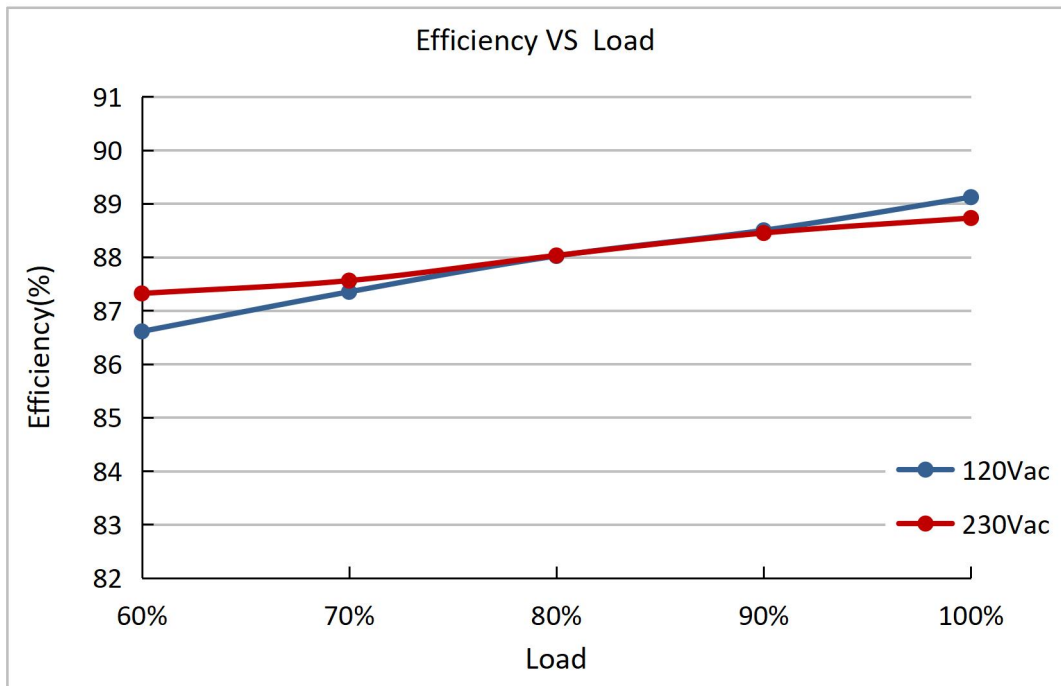
### OUTPUT POWER VS INPUT VOLTAGE



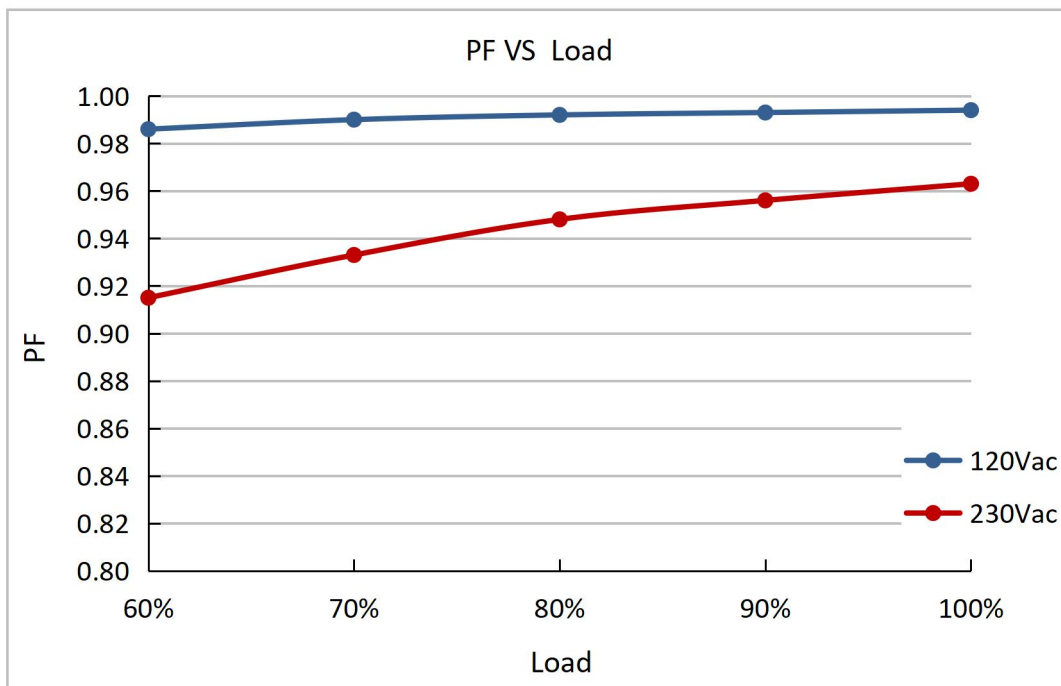
### LIFETIME VS CASE TEMPERATURE



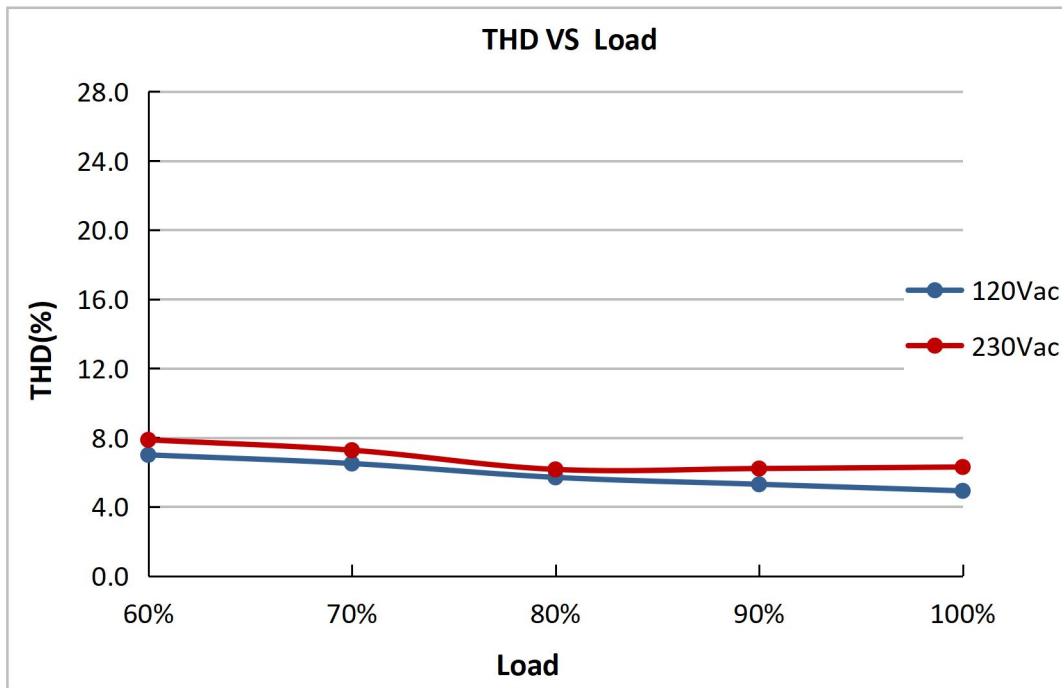
### EFFICIENCY VS LOAD



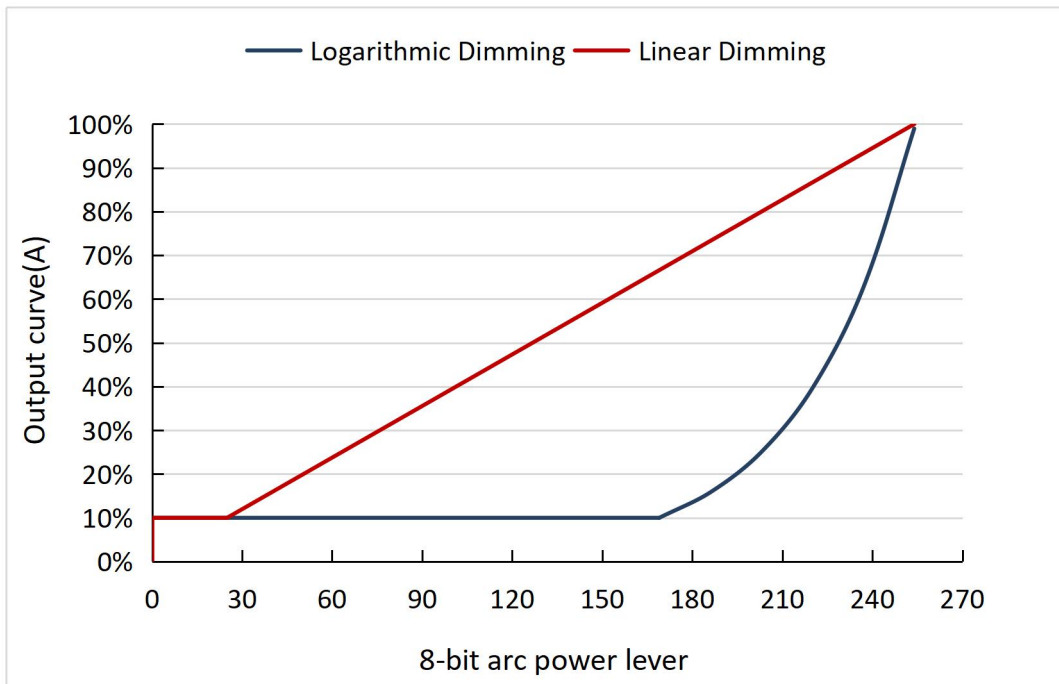
### POWER FACTOR VS LOAD



### TOTAL HARMONIC DISTORTION



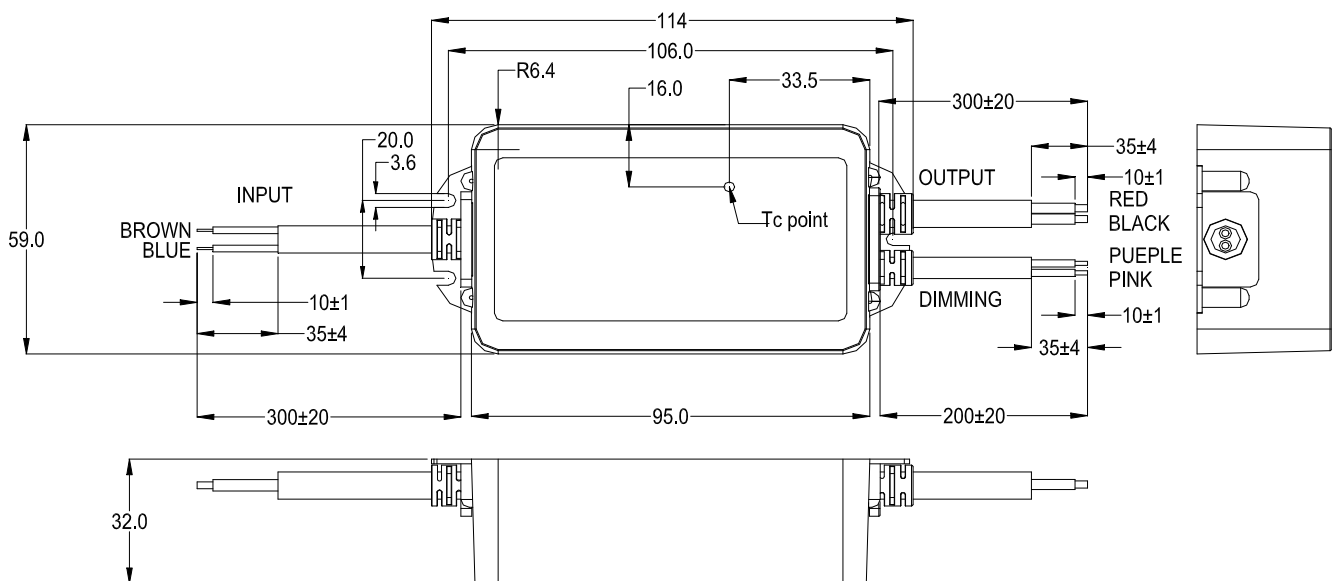
### DALI-2 DIMMING



### PROTECTIONS

Parameter	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed, exclude auxiliary power supply.
Short Circuit Protection	Hiccup mode and auto recovery. No damage will occur when any output is short circuited. The output shall return to normal when the fault condition is removed.
Over Voltage Protection	Run into protection model when output voltage exceeds limit, and return to normal when the fault.

### MECHANICAL OUTLINE



Wire	Specification	Note
Input	CCC+VDE 2x1.0mm <sup>2</sup> ; L=300±20mm peel length 35mm, Tin-dip length 10mm	CCC/CE
Output	UL 2x1.0mm <sup>2</sup> ; L=300±20mm peel length 35mm, Tin-dip length 10mm	UL
Dimming	UL2733 22AWG*2C ; L=200±20mm, peel length 35mm, Tin-dip length 10mm	UL

LABEL:

<b>MOSO<sup>®</sup></b> X6S-036D048 LED DRIVER Constant Current Type		  	OUTPUT		
			RED	LED +	BLACK
INPUT	100-240V~ 50/60Hz, 0.42A Max.PF>0.95	 <b>SELV</b>	 	PURPLE	DA
L BROWN	28-48V== 0.10-1.00A U <sub>out</sub> : 65V== Max.Power:36W				PINK
N BLUE					
MADE IN CHINA For LED module only		t <sub>c</sub> : 75°C t <sub>a</sub> : 50°C	SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD No.1061, Songbai Road, Xili Town, Nanshan District, Shenzhen, CHINA		