

AMERICAN BRIGHT **OPTOELECTRONICS CORP.**

Specification for LED Driver Series

AB-D2030-V12-TR

AB-D2030-V24-TR

Features:

- Suitable for leading-edge and trailing-edge triac dimmer
- American standard input voltage 120Vac
- High PF, IP20, Suitable for dry environment
- Short circuit / Overload / Over circuit protection
- Compliance with worldwide safety regulations for lighting
- 5 Years Warranty



Description:

AB-D2030-Vxx-TR series is an indoor triac dimming CV LED driver. Its input voltage is 120Vac, and it works in the temperature range of -20°C - +45°C natural cooling enclosure. This product has high cost performance. To improve the safety of the product, open circuit, short circuit, and overload protection functions are added to the circuit. This series of products are designed for LED lighting and applied to indoor lighting. It is suitable for almost all indoor applications where LED lamps can be installed. Comply with the world lighting equipment safety specifications and ensure the safety of users and lighting system during installation.

Model

Model	Rated Output Voltage	Rated Output Current	Maximum Output Power	Power Factor (Typ.)	Efficiency (Typ.)	Dimming Range	Input Power
AB-D2030-V12-TR	12V±5%	0.5-2.5A	30W	> 0.9	≥ 83%	20%-90%	< 38W
AB-D2030-V24-TR	24V±5%	0.25-1.25A	30W	> 0.9	≥ 83%	20%-90%	< 38W

Remark: All parameters NOT specially mentioned are measured at 120VAC input, full load, and 25 °C of ambient temperature.



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Input

Parameter	Minimum Value	Typical Value	Maximum Value	Note
Rated Input Voltage		120Vac		
Input Voltage	108Vac		132Vac	
Input Frequency		60Hz		
Maximum Input Current			0.39A	120Vac/60Hz, Full Load
Input Inrush Current			75A	120Vac/60Hz, Cold Start
Leakage Current			0.7mA	120Vac/60Hz, Full Load
Stand-By Power Consumption		0.20W	0.5W	120Vac/60Hz, No Load

Output

Parameter	AB-D2030-V12-TR	AB-D2030-V24-TR	Note
Output Voltage	12VDC	24VDC	
Rated Output Current	2.5A	1.25A	
Output Current	0.5-2.5A	0.25-1.25A	
Rated Output Power	30W	30W	
Rated Output Efficiency	≥ 83%	≥ 83%	120Vac
Output Voltage Precision	±5%		
Output Voltage Ripple (PK-PK)	< 20%		Full Load (Test under 20M bandwidth)
Line Regulation	±3%		
Load Regulation	±5%		

Naming System:

AB-D2030-V12-TR

20: IP20

30: 30 Watts

V12: 12 Volts

TR: TRIAC Series Dimming

AB-D2030-V24-TR

20: IP20

30: 30 Watts

V24: 24 Volts

TR: TRIAC Series Dimming

Characteristic Curve

Fig.1 Output Load-Temperature Curve:

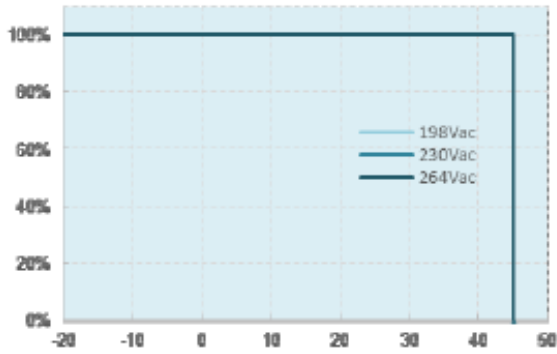


Fig.2 Static Characteristic Curve:

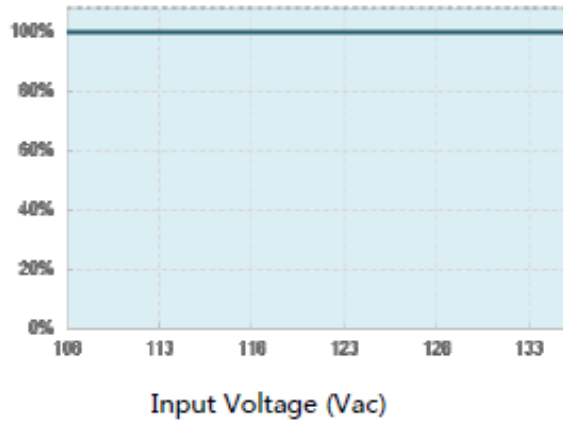


Fig.3 I-V Curve:

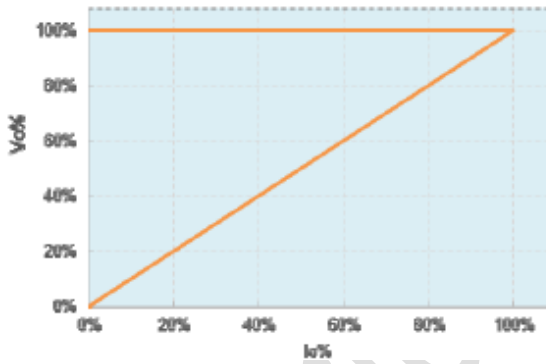


Fig.4 Efficiency-Load Curve:

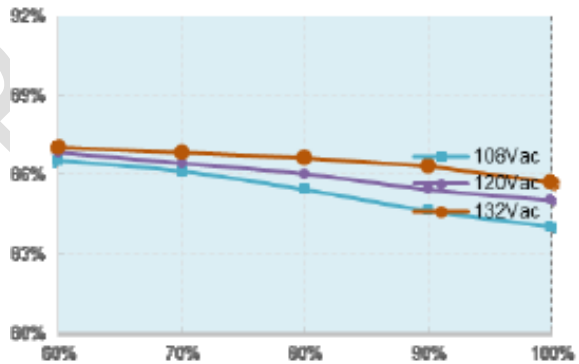


Fig.5 Power Factor Characteristic Curve (PF):

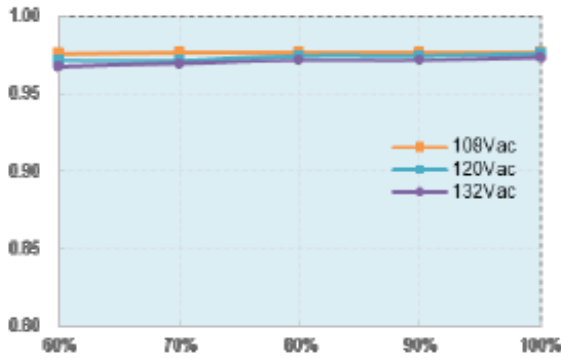
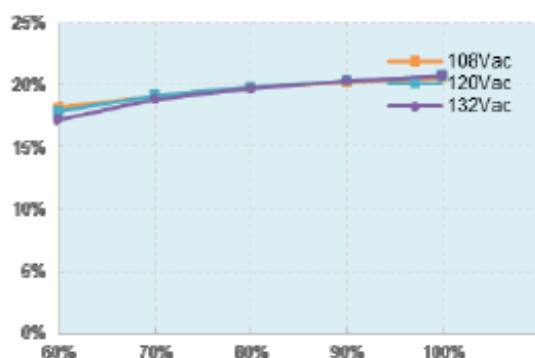


Fig.6 Total Harmonic Distortion Curve (THD):





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Protection

Parameter		Conditions	Note
Protection	Overload	Ta, 0.94-1.06 times of input voltage and 1.2 times of rated output power	Auto-recovery after overload removed
	Short Circuit	Hiccup Mode	Hiccup mode, auto-recovery after short circuit removed
	Over Voltage	Ta, 0.94-1.06 times of input voltage and 1.5 times of rated output power	Auto-recovery after overload removed
	Over Circuit	Ta, rated input voltage, output without load	Hiccup Mode

Environment Requirement

Parameter	Minimum	Typical	Maximum	Note
Working Temperature	-20°C	25°C	+45°C	
Storage Temperature	-40°C	25°C	+85°C	
Working Humidity	10%RH		90%RH	
Storage Humidity	5%RH		95%RH	
IP Grade			IP20	
Cooling Mode	Natural Cooling			

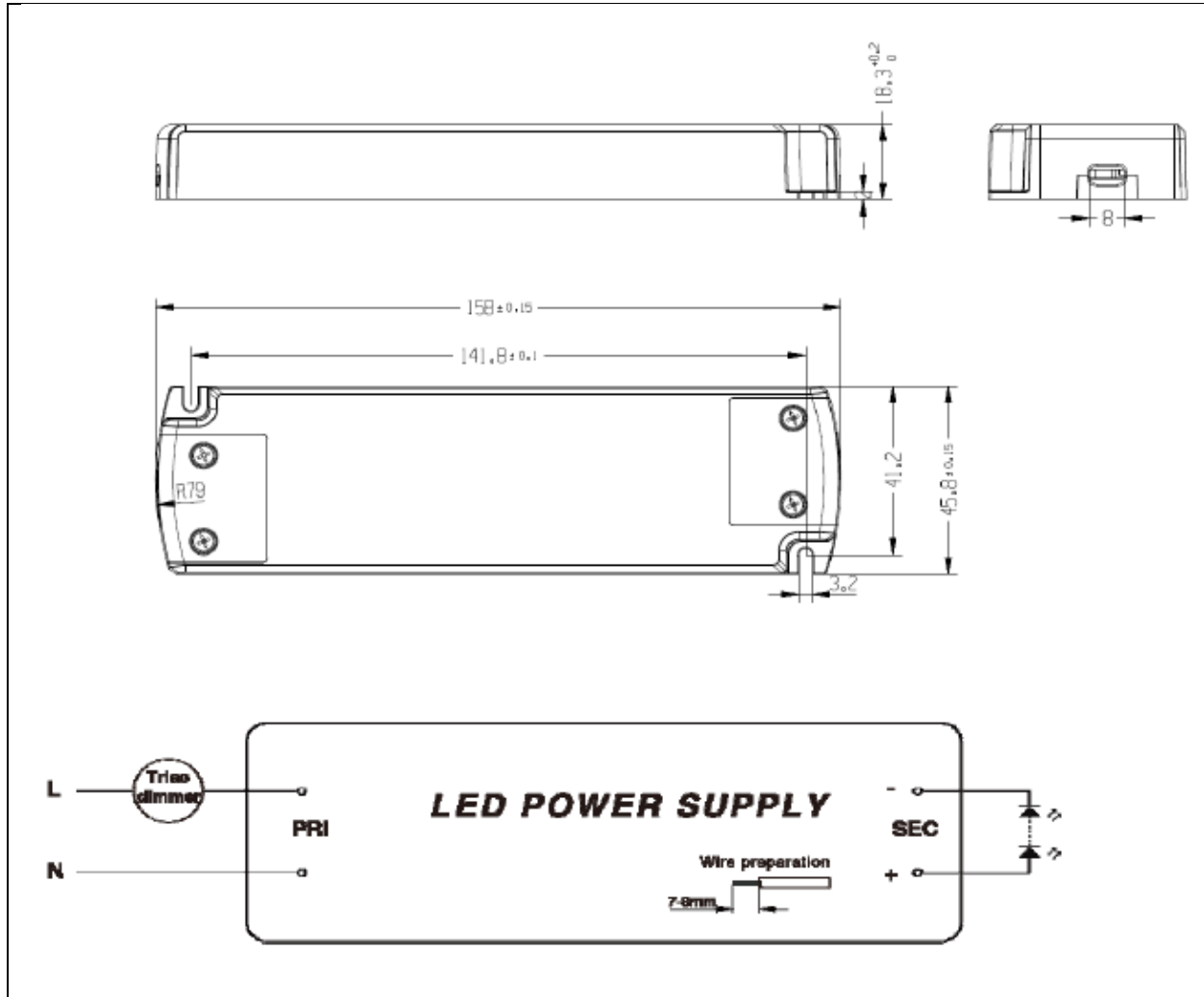
Safety & EMC Standard

Certificate		Safety Standards	Certification	Note
UL/CUL		UL8750, UL1310		
Safety Test		Technical Indexes	Note	
Dielectric Compressive Strength	Input-Output	1800Vac/5mA Max/60s	Reinforced insulation, no breakdown, no flashover	
	Primary to Ground	--	Basic insulation, no breakdown, no flashover	
	Secondary to Ground	--	Functional insulation, no breakdown, no flashover	
Insulation Resistance	Input-Output	≥10MΩ	Test voltage: 500Vdc	
Ground Resistance		--	25A/1min	
Leakage Current		≤0.75mA	132Vac	
EMI/EMS Item		Standard	Data	
Conduction CE		Fcc Part15B		
Radiation RE		Fcc Part15B		
Harmonics		--		

Others

Parameter	Condition	Note
Lifetime	30,000 Hours	120Vac, Full Load, TC: 75°C
TC	85°C	
Warranty	5 Years	--
Weight	135g	
Dimensions	158*45.8*18.3mm	L x W x H

Mechanical Specification (Unit: mm)



Remark:

AC Input Cable:	Terminal+ SPT-2 18AWG
DC Output Cable:	Terminal+ SPT-2 18AWG