AMERICAN BRIGHT OPTOELECTRONICS CORP.

Specification for LED Driver Series

AB-D2080-V12-TR

AB-D2080-V24-TR

Features:

- American standard input voltage (108-132Vac)
- High PF, IP20, Suitable for dry environment
- Active PFC Function
- Short circuit / Over temperature / Over Voltage protection
- Load range 10-100%, Dimming range 0-100%
- No Flicker
- 5 Years Warranty

Description:

AB-D2080-Vxx-TR series is an indoor triac dimming constant voltage LED driver. Its input voltage range is 108- 132Vac, and it works in the temperature range of -20°C - +45°C. It has a high power factor, ultra-low total harmonic distortion, low standby power consumption, and lighting protection with all-around protection functions, which not only greatly improves the reliability of the product, but also guarantees the product life cycle. This series of products is designed for LED lighting and applied to indoor triac dimming LED lighting.

Model

Model	Rated Output Voltage	Rated Output Current	Maximum Output Power	Power Factor (Typ.)	Efficiency (Typ.)	Dimming Range	THD (Typ.)
AB-D2080-V12-TR	12V±5%	0-6.67A	80W	0.95	84%	0%-100%	10%
AB-D2080-V24-TR	24V±5%	0-3.33A	80W	0.95	85%	0%-100%	10%

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

Input

Parameter	Minimum Value	Typical Value	Maximum Value	Note
Rated Input Voltage			120Vac	The derating curve is shown in Fig.2
Input Voltage	108Vac	120Vac	132Vac	
Input Frequency	47Hz		63Hz	
Maximum Input Current			1.2A	108Vac, Full Load
			1A	120Vac, Full Load
Input Inrush Current			75A	120Vac/50Hz, Cold Start
Power Factor		0.95		120Vac, Full Load
Total Harmonic Input		20%	15%	120Vac, Full Load
Leakage Current			0.5mA	120Vac/60Hz, Full Load
Stand-By Power Consumption		1.5W	2W	120Vac/60Hz, No Load

Output

Parameter	AB-D2060-V12-TR	AB-D2060-V24-TR	Note
Output Voltage	11.4-12.6VDC	22.8-25.2VDC	Maximum Output power should comply to: Po = Vo*Io=80W
Rated Output Current	6.67A	3.33A	
Output Current	0-5A	0-3.33A	
Rated Output Power	80W	80W	
Rated Output Efficiency	84%	85%	120Vac, Full load
Output Voltage Precision	±5%		
Output Voltage Ripple (PK-PK)	±3%		Full Load (Test under 20M bandwidth)
Line Regulation	±1%		Full Load
Load Regulation	±2%		

Characteristic Curve

Fig.1 Output Load-Temperature Curve:

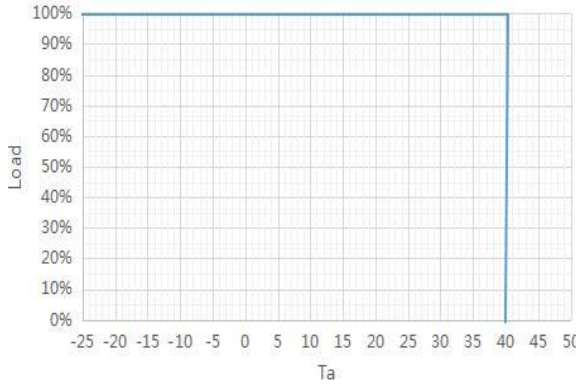


Fig.2 Static Characteristic Curve:

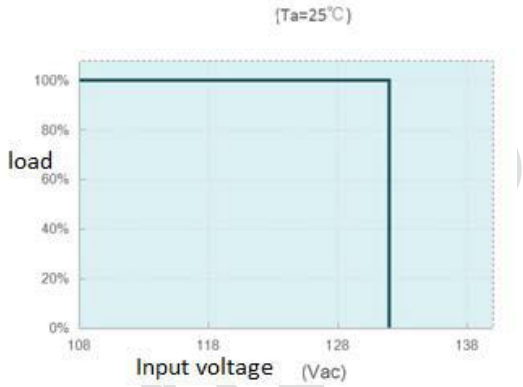


Fig.3 Efficiency-Load Curve:

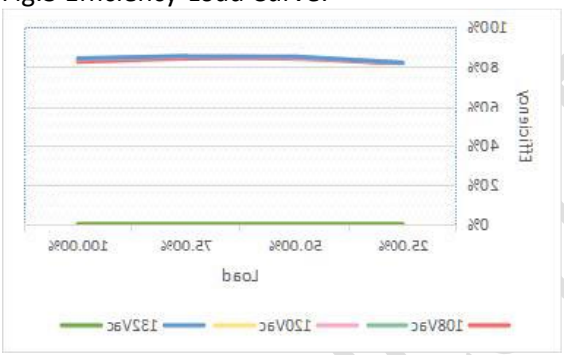


Fig.4 Power Factor Characteristic Curve (PF):

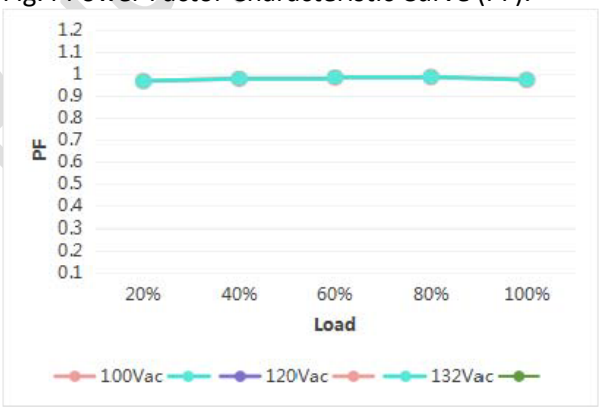
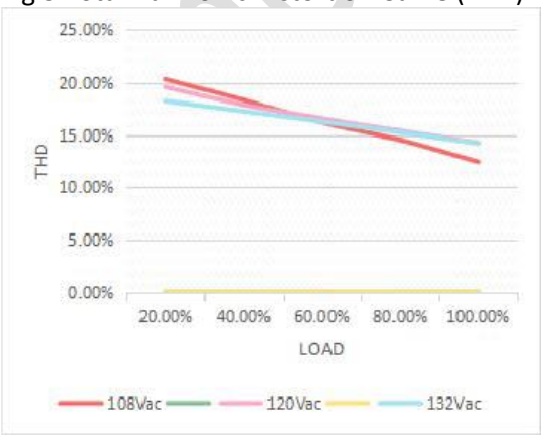


Fig.5 Total Harmonic Distortion Curve (THD):



Protection

Parameter		Conditions	Note
Protection	Overload	1.1-1.6 times the rated output power	Auto-recovery after overload removed
	Short Circuit		Hiccup mode, auto-recovery after short circuit removed
	Over Voltage	≤1.5 times of rated output voltage	Auto-recovery after overload removed
	Over Temperature	110°C	Auto-recovery after over temperature fault removed

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	45%RH		85%RH	
Storage Humidity	5%RH		95%RH	
IP Grade			IP20	
Cooling Mode	Natural Cooling			

Naming System:

AB-D2080-V12-TR
20: IP20
80: 80 Watts
V12: 12 Volts
TR: TRIAC Series Dimming

AB-D2080-V24-TR
20: IP20
80: 80 Watts
V24: 24 Volts
TR: TRIAC Series Dimming

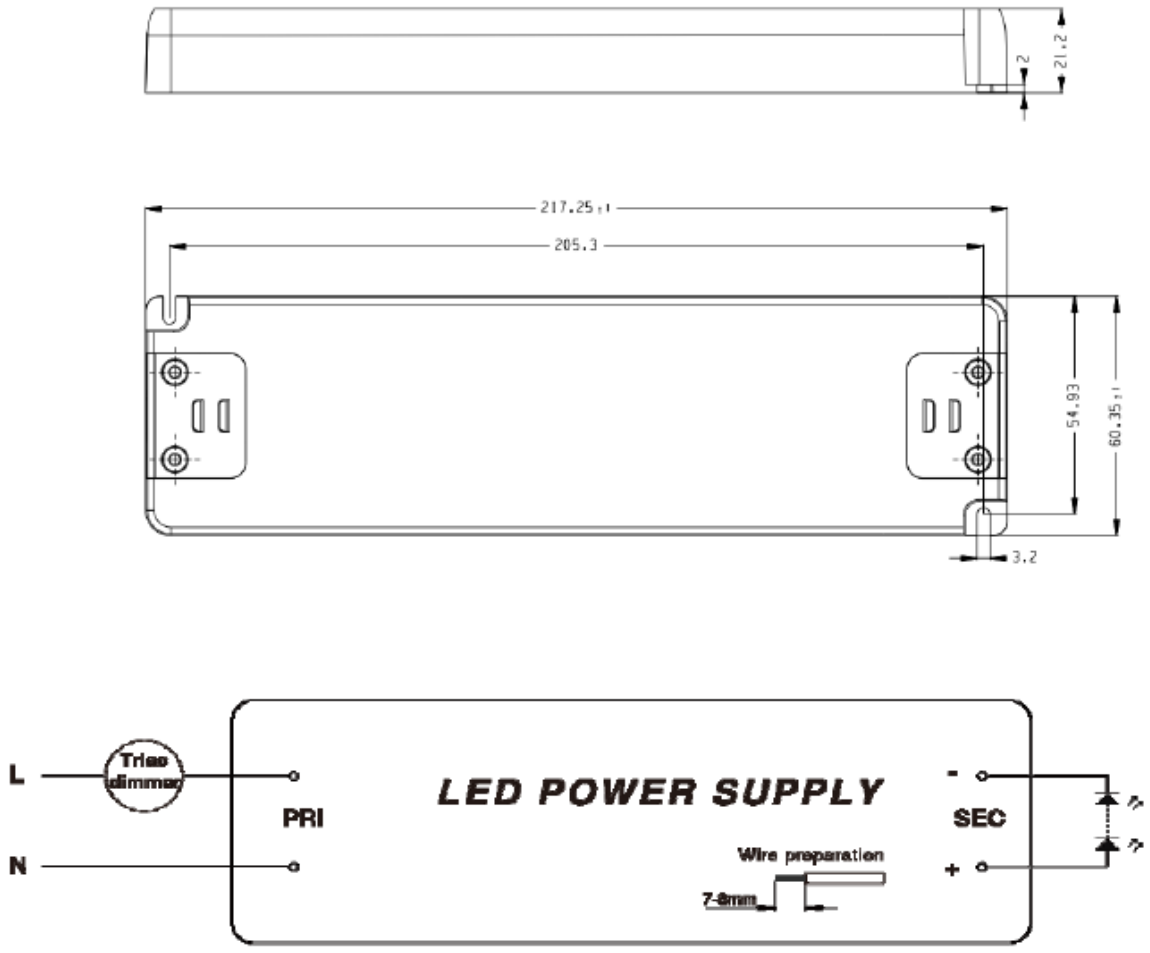
Safety & EMC Standard

Certificate		Safety Standards	Certification	Note
UL/CUL		UL8750		
Safety Test		Technical Indexes	Note	
Dielectric Compressive Strength	Input-Output	1800Vac/5mA Max/60s	Reinforced insulation, no breakdown, no flashover	
Insulation Resistance	Input-Output	≥100MΩ	Test voltage: 500Vdc	
Leakage Current		≤0.5mA	120Vac	
EMI/EMS Item		Standard	Data	
Conduction CE		Fcc Part 15B		
Radiation RE		Fcc Part 15B		

Others

Parameter	Condition	Note
Lifetime	30,000 Hours	120Vac, Full Load, TC: 75°C
MTBF	200,000 Hours	120Vac, Full Load, 25°C (MIL-HDBK-217F)
TC	90°C	
Warranty	5 Years	TC 80°C
Weight	360g±10g	
Dimensions	217.25*60.35*21.2mm	L x W x H

Mechanical Specification (Unit: mm)



Remark:

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