

Specification for LED Driver Series

AB-D2050-V12-Q

AB-D2050-V24-Q

Features:

- US standard input voltage 90-132 Vac
- IP20
- Short circuit / Overload / Over Voltage protection
- Compliance with worldwide safety regulations for lighting
- 5 years warranty



Description:

AB-D2050-Vxx-Q is a US standard indoor ultra-thin constant voltage LED driver. Its input voltage range is 90-132Vac, with a maximum conversion efficiency of 88%, working at -20 °C ~+ 45 °C ambient temperature range, low standby power consumption, and all-round protection functions, not only greatly improves the reliability of the product, but also ensures the product life cycle. This series is designed for LED lighting and applied to indoor bathroom mirror lamps and other lighting lamps.

Model

Model	Rated Output Voltage	Rated Output Current	Maximum Output Power	Output Voltage Tolerance	Total Harmonic Distortion (Typ.)	Power Factor (Typ.)	Efficiency (Typ.)
AB-D2050-V12-Q	12V	0-4.17A	50W	±5%	6.5%	0.99	87.5%
AB-D2050-V24-Q	24V	0-2.08A	50W	±5%	6.5%	0.99	88%

Remark:

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

Input

Parameter	Minimum Value	Typical Value	Maximum Value	Note
Rated Input Voltage	100Vac		120Vac	The derating curve is shown in the figure
Input Voltage	90Vac		132Vac	
Input Frequency	47Hz		63Hz	
Maximum Input Current			0.66A	90Vac, Full Load
			--	120Vac, Full Load
Input Inrush Current			60A	120Vac/60Hz, Cold Start
Power Factor	0.98	0.99		120Vac, Full Load
Total Harmonic Input		6.5%	7%	120Vac, Full Load
Leakage Current		--	0.7mA	120Vac/60Hz, Full Load
Stand-By Power Consumption		0.30W	0.5W	120Vac/60Hz, No Load

Output

Parameter	AB-D2050-V12-Q	AB-D2050-V24-Q	Note
Rated Output Voltage	12VDC	24VDC	Maximum Output power should comply to: Po = Vo*Io=50W
Rated Output Current	0-4.16A	0-2.08A	
Output Current ADJ. Range	--	--	
Rated Output Power	50W	50W	
Rated Output Efficiency	88%	88%	120Vac/60Hz
Output Current Tolerance	--		
Output Voltage Ripple (PK-PK)	±2%		Full Load (Test under 20M bandwidth)
Output Current Ripple (PK-PK)	--		
Rise Time	--		120Vac
Startup Time	--		120Vac
Line Regulation	±1%		Full Load
Load Regulation	±2%		

Characteristic Curve

Fig.1 Output Load-Temperature Curve:

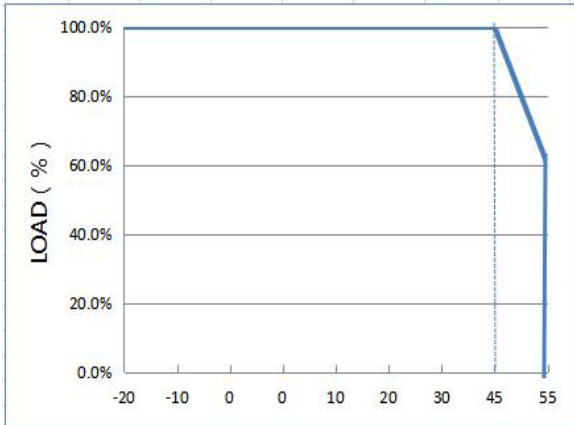


Fig.2 Static Characteristic Curve:

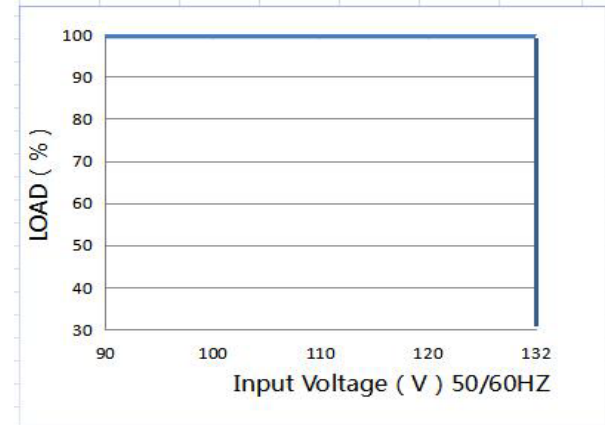


Fig.3 I-V Curve:

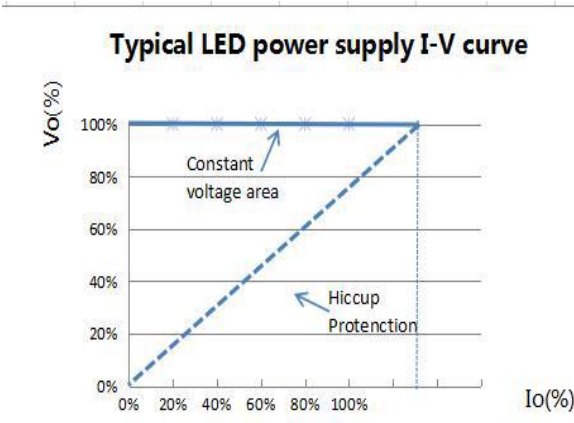


Fig.4 Efficiency-Load Curve:

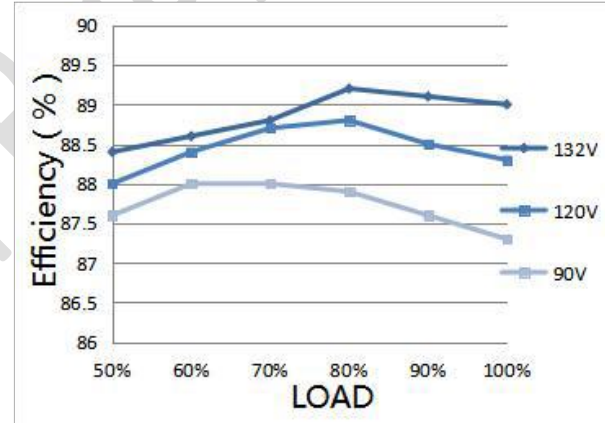


Fig.5 Power Factor Characteristic Curve (PF):

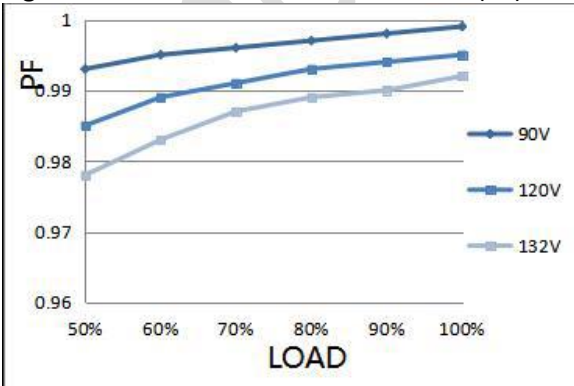
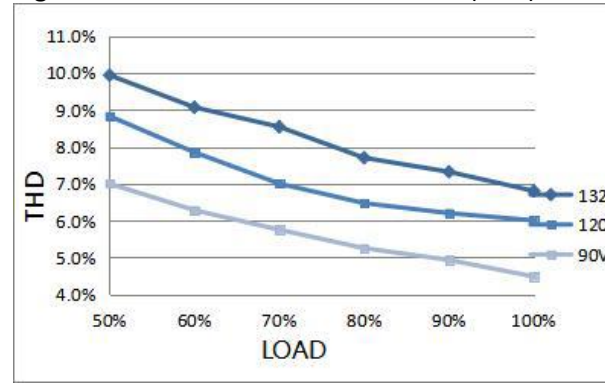


Fig.6 Total Harmonic Distortion Curve (THD):



Protection

Parameter		Conditions	Note
Protection	Overload	1.3 times of rated load	Auto-recovery after overload removed
	Short Circuit	Short circuit power $\leq 1.3W$	Hiccup mode, auto-recovery after short circuit removed
	Over Voltage	1.5 times of rated output voltage	Turn off the input voltage, can be restored after restart
	Over Temperature	110°C	Turn off the input voltage can be restored after restart.

Environment Requirement

Parameter	Minimum	Typical	Maximum	Note
Working Temperature	-20°C	25°C	+45°C	See Fig.2
Storage Temperature	-40°C	25°C	+85°C	
Working Humidity	10%RH		90%RH	
Storage Humidity	5%RH		95%RH	
IP Grade		IP20	IP20	
Cooling Mode	Natural Cooling			

Remark:

All parameters NOT specially mentioned are typical values measured at 25°C of ambient temperature.

Safety & EMC Standard

Certificate	Safety Standards	Certification	Note
UL/CUL	UL8750	√	
Safety Test	Technical Indexes	Note	
Safety Test Item	UL8750		
EMI/EMSS	Standard	Criterion	
EMC	FCC PART 15		

Others

Parameter	Condition	Note
Lifetime	55,000 Hours	120Vac, Full Load, TC: 75°C
MTBF	200,000 Hours	120Vac, Full Load, Ta: 25°C (MIL-HDBK-217F)
TC	85°C	
Warranty	5 Years	TC: 75°C
Weight	145g	
Dimensions	156*50*17mm	L x W x H

Naming System:

AB-D2050-V12-Q

20: IP20

50: 50 Watts

V12: 12 Volts

Q: No Dimming

AB-D2050-V24-Q

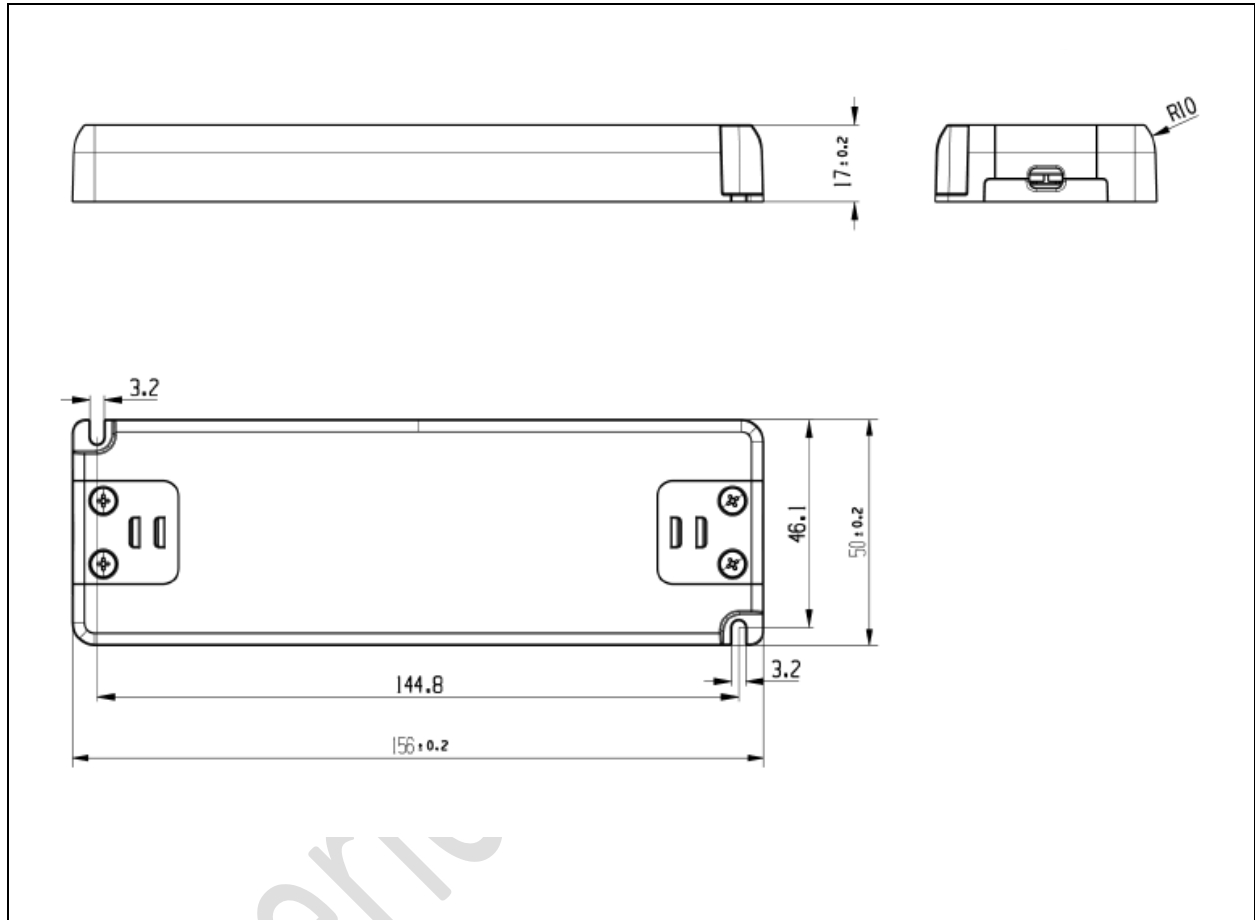
20: IP20

50: 50 Watts

V24: 24 Volts

Q: No Dimming

Mechanical Specification (Unit: mm)



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