

MOONS'	RELEASE DEPARTMENT: R&D	PAGE: 1 of 8
	TITLE: MU050S150BQI201 SPECIFICATIONS	
		REVISION: A0

oc No.: MSSD-6420 A0

LED DRIVER SPECIFICATIONS

Part Description: Input:90AC~305VAC,

Customer's Part Number:

MOONS' Part Number: **MU050S150BQI201**

Customer:

<p>Company:</p> <p>Department:</p> <p>Approved by:</p> <p>Date:</p>
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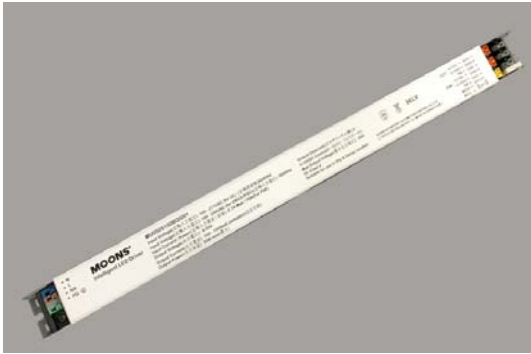
STANDARD:

DATE:

APPROVED:

DATE:

SHANGHAI MOONS' AUTOMATION CONTROL Co., LTD.



- **Features**
 - ◆ Input voltage: 100-277Vac , 140-388Vdc
 - ◆ Built-in active PFC function 0.95 Typ.
 - ◆ High efficiency: up to 87% Typ.
 - ◆ Constant current, 2 channels output
 - ◆ 2 channels 0-10V control
 - ◆ 4 in 1:Tunable white(1500-6500K).Dim to warm(1500-3200K),Solo dimming, Dual dimming
 - ◆ Output current can be set from 150~1500mA
 - ◆ AUX output 12V,150mA
 - ◆ Protection: OVP, SCP, OTP
 - ◆ According with UL Class2、EN SELV

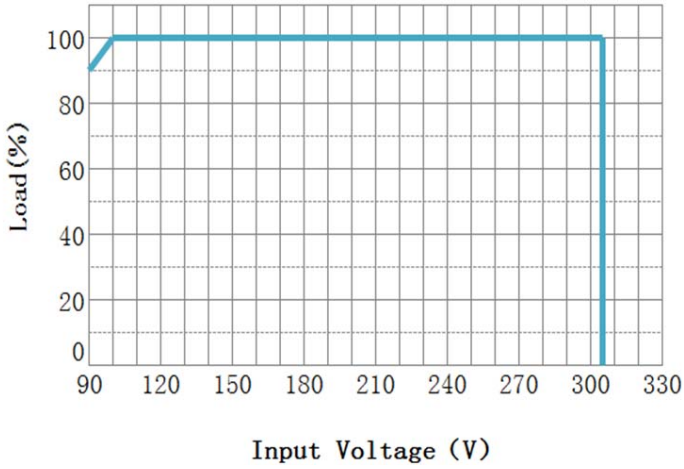
■ Specification

Model (MU050S150BQI201)						
Input	Efficiency(230Vac)	87% (Typical) at 100% load conditions				
	Efficiency(120Vac)	87% (Typical) at 100% load conditions				
	Voltage Range	90-305Vac , 126-427Vdc				
	Rated Input Voltage	100-277Vac , 140-388Vdc				
	Frequency Range (Hz)	50/60				
	Power Factor	>0.9 at 100~277Vac 50/60Hz input, with 50%~100% load conditions				
	THD	< 20%, at 100 ~ 277Vac 50/60Hz input, with 50% ~ 100% load conditions				
	AC Current(Typ.)	0.55A MAX at 120VAC , 0.3A MAX at 230VAC				
	Inrush Current(Typ.)	<10A at 100~277Vac input 25℃ cold start at 100% conditions .for more details in the attached graph				
	Input Power (W)	60(max)				
	Standby power (W)	<0.5W at input 120Vac, 230Vac				
Leakage Current(max.)	0.75mA at 277Vac 60Hz input					
Output	Output Voltage Range (V) ^{Note.1}	8-55				
	Output Current Range(mA)	150-1500.Support hot plug, without overshoot current .				
	Rated Power (W)	50(max)				
	Output channels	2				
	Ripple Current (PK-PK)/AV	10% max, at output 700~1500mA conditions				
	Current Tolerance	±5%				
	Line Regulation	±1%				
	Load Regulation	±3%				
	Setup, Rise Time	<0.5S @ 120V/60HZ, 230V/50HZ				
	AUX output	12V± 3% ,150mA max				
Dimming Control	Isolated 0-10V dimming / 0.1%lo~100%lo ref. Dimming module diagram and dimming curve					
Protection	Open circuit protection(V)	60				
	Short Circuit	Power supply stops output, recovers automatically when fault condition removed				
	Over Temperature	110℃±20%				
Environment	Operating Temp.	-25~+50℃ (TBD)				
	Operating Humidity	20~95%RH, non-condensing				
	Storage Temp., Humidity	-40~+85℃, 10~95%RH				
	Vibration	10~500Hz, 5G 12min/cycle, period for 72min each along X、 Y、 Z axis				
	Ingress Protection Rating	IP20				
Safety & EMC	Safety Standard	UL8750, UL1012,UL1310 Class 2, CAN/CSA-C22.2No.107.1-01,EN61347-1, EN61347-2-13				
		Isolation	Input	Output	Dimming interface	Enclosure
		Input	No applicable	3.75KV	1.5KV	1.875KV
		Output	3.75KV	No applicable	1.5KV	1.5KV
		Dimming interface	1.5KV	1.5KV	No applicable	1.5KV
	Enclosure	1.875KV	1.5KV	1.5KV	No applicable	
	Isolation Resistance	I/P-O/P ,I/P-FG,O/P-FG:100M Ohms/500VDC/25℃/70%RH				
EMC Emission	FCC Part 15 ClassB, EN55015, EN61000-3-2 Class C, EN61000-3-3					
EMC Immunity	EN61000-4-2,3,4,5,6,8,11, EN61547 (Surge L,N-FG 2.5KV, L-N 2.5KV)					
Others	Life time	> 50000@Tc =70℃(TBD) at 100% load conditions				
	MTBF	300,000 hours, measured at full load, 25℃ ambient temperature MIL-HDBK-217F(25℃)				
	Dimension	408x 30 x 21 mm (LxWxH)				
	Weight	TBD				

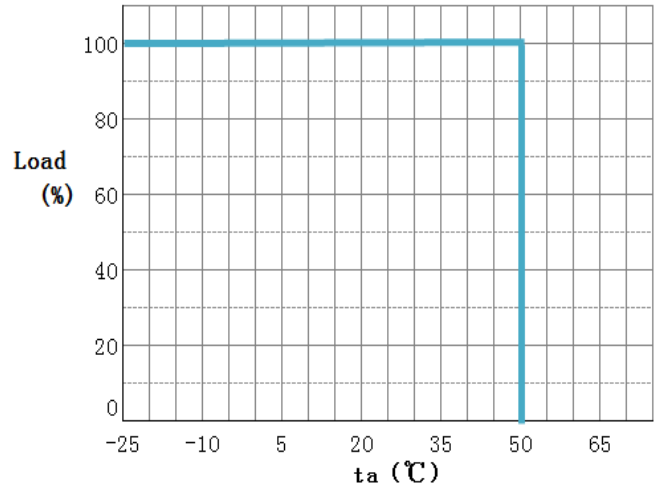
Note.1: refer to V/I curve

■ Curve

Derating Curve

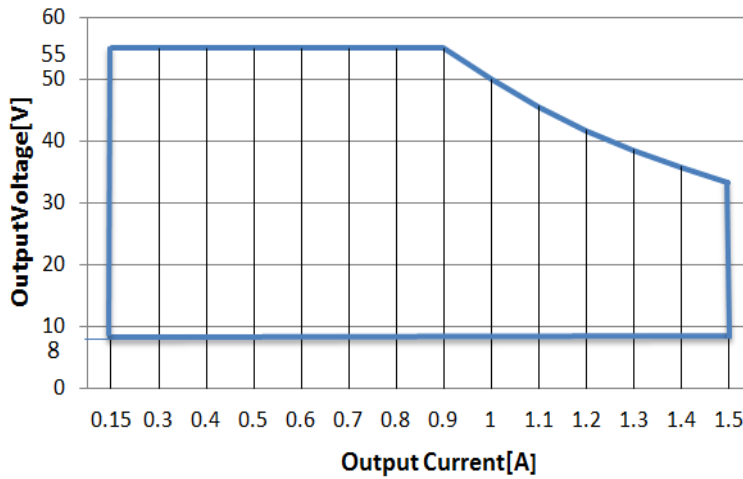


Derating Curve



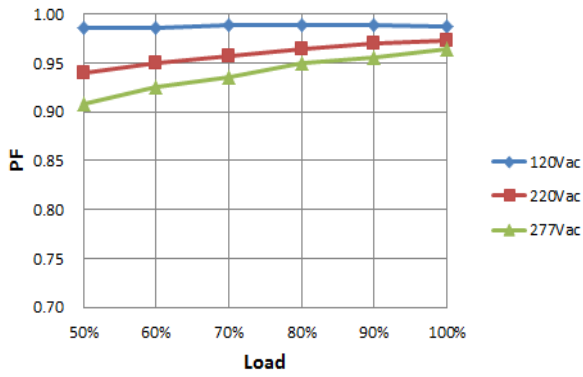
V/I Curve

OPERATING RANGE/50W

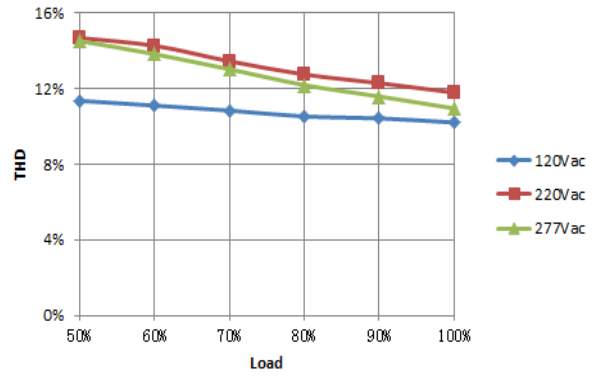


■ Curve

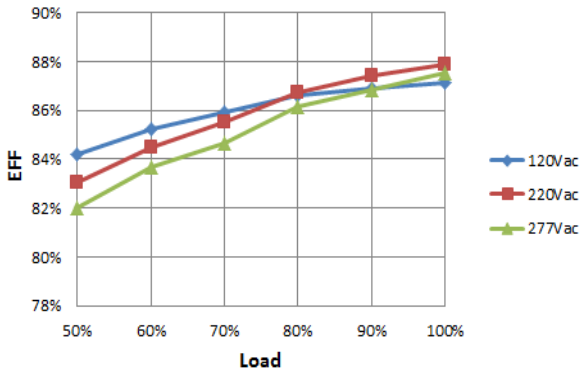
PF VS. Load Curve



THD VS. Load Curve

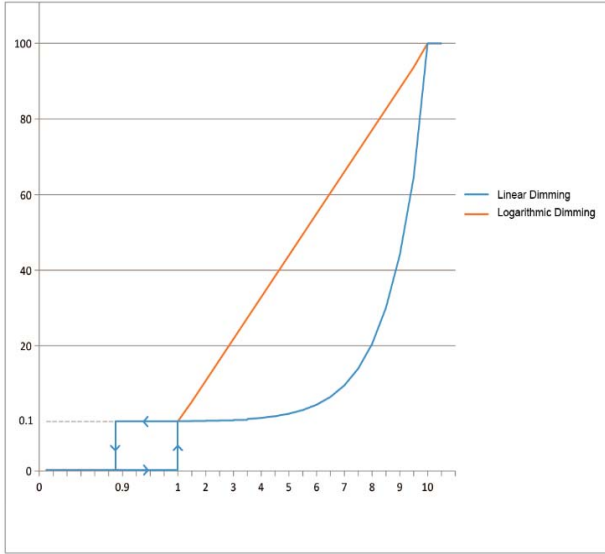


Efficiency VS. Load Curve

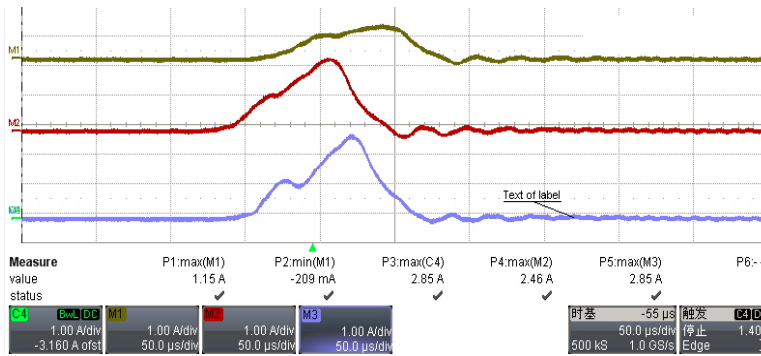


■ Curve

0-10V dim Curve



Inrush current waveform



Inrush current information

Input voltage	Ipeak	Time@50% of Ipeak
120VAC	1.15	50us
220VAC	2.46	50us
277VAC	2.85	60us

Max number of drivers per MCB

Item	Max. number of drivers		
	120	220	277
Input voltage [VAC]			
MCB B type 10A	16	30	34
MCB B type 13A	21	38	45
MCB B type 16A	26	47	56
MCB B type 20A	32	59	70
MCB B type 25A	40	74	87

■ **Application of introduction**

1. MCS interface(MCS+/MCS-)

- MCS+ interface voltage 15V
- Max current setting(each step is 1 mA), default driving current defined as 350mA.
- Log or linear dimming curve,default setting is linear.
- NTC thermal management protects LED lamp,default setting is 70℃.

NTC compatibility list	NTC Manufacturer	NTC Model NO.
	MURATA	NCP21WB473J03RA
	VISHAY	NTCS0805e4473JXT
	VISHAY	NTCLE100E3473

- update Online,use smart key to connect PC and the driver to update the firmware.

2. Dimming performance

- When changed to any dimming level, flicker wouldn't occur,dimming would be achieved smoothly.
- In the range of 300~1500mA,the current operating in continuous mode; In the range of 0~300mA,the current operating in PWM dimming mode, and the PWM frequency 4.8KHZ.

3. Guide for setting driver's parametersTouch setting

- Touch Setting

Program driver's parameters quickly and easily through Near Field Communication. Software download link:

http://leddriver.moons.com.cn/SouProduct/UCenter/M_Search/Software_view.aspx?MATNR=Touch%20Setting&rnd=2119

- Smartkey Network

Driver's parameters can be set through SmartkeyII and Smartkey Network.What's more,driver's firmware can be updated through this tool.Software

http://leddriver.moons.com.cn/SouProduct/UCenter/M_Search/Software_view.aspx?MATNR=Smartkey%20Network&rnd=2119

4. Tunable white, Dim to warm , Solo dimming , Dual dimming function introduction

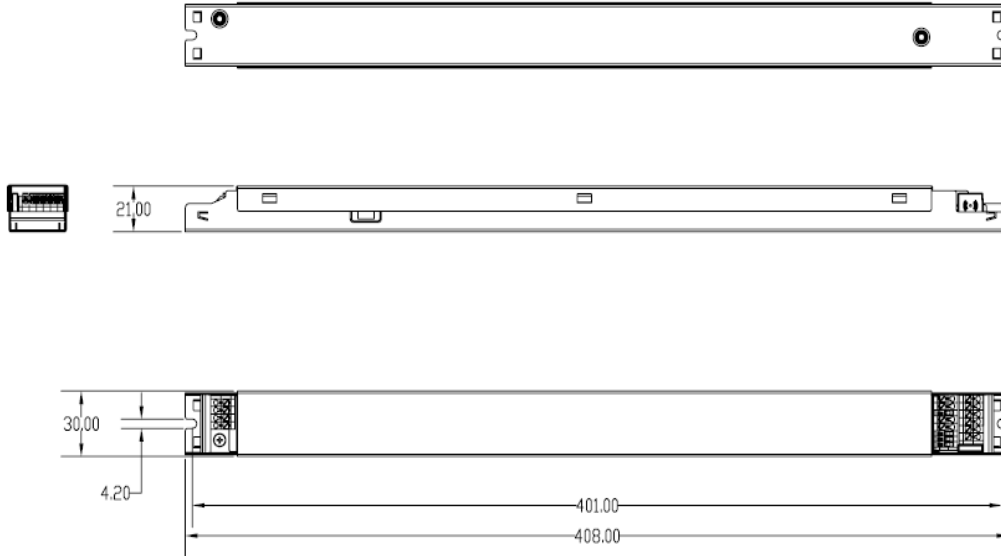
Tunable white	Cold color channel	CH1	Control port	DIM+CCT
	Warm color channel	CH2		

Dim to warm	Cold color channel	CH1	Control port	DIM
	Warm color channel	CH2		

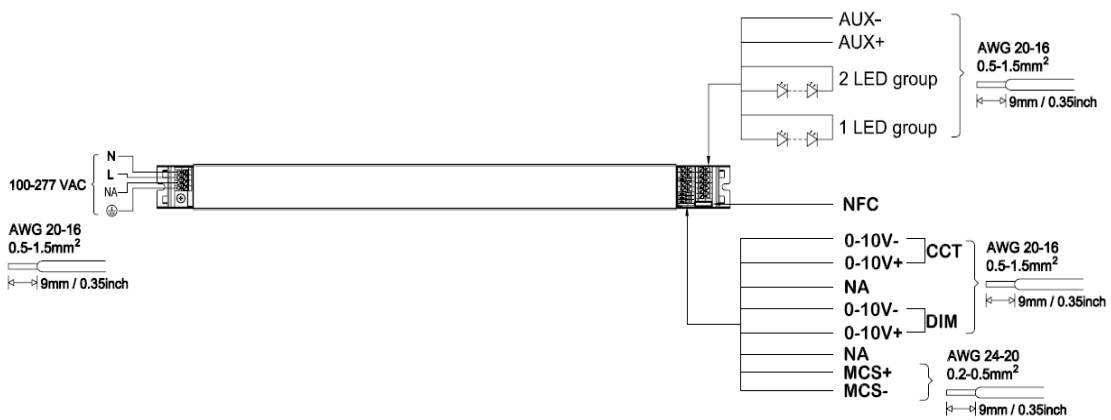
Solo dimming	One 0-10V port control two output channels
Dual dimming	Two 0-10V ports control two output channels

■ Mechanical Specification

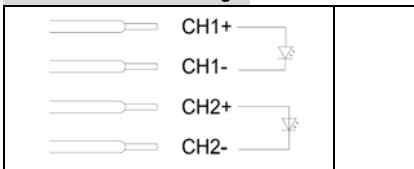
Dimensions(Unit:mm)



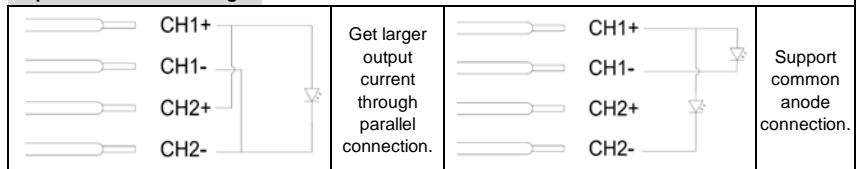
Port:



Normal connection using



Special connection using



RoHS Compliance:

Our products comply with the European Directive 2002/95/EC, calling for the elimination of lead and other hazardous substances from electronic products.