

<b>MOONS'</b>	RELEASE DEPARTMENT: <b>R&amp;D</b>	PAGE: 1 of 8
	<b>TITLE:</b> <b>MU050S150BQI550 SPECIFICATIONS</b>	
		REVISION: A0

oc No.: MSSD-7401 A0

## LED DRIVER SPECIFICATIONS

Part Description: Input:90AC~305VAC,

Customer's Part Number:

MOONS' Part Number: **MU050S150BQI550**

**Customer:**

<p><b>Company:</b></p> <p><b>Department:</b></p> <p><b>Approved by:</b></p> <p><b>Date:</b></p>
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**EDITED:**

**DATE:**

**CHECKED:**

**DATE:**

**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
  - ◆ Support DALI Dimming
  - ◆ 4 in 1: DT8 tunable white(1500-6500K); DT6 tunable white(1500-6500K), solo dimming,dual dimming
  - ◆ Output current can be set from 150~1500mA
  - ◆ Protection: OVP, SCP,OPP ,OTP
  - ◆ According with UL Class2、 EN SELV
  - ◆ 5-year warranty



UL Japan

MOONS' INDUSTRIES JAPAN株式会社

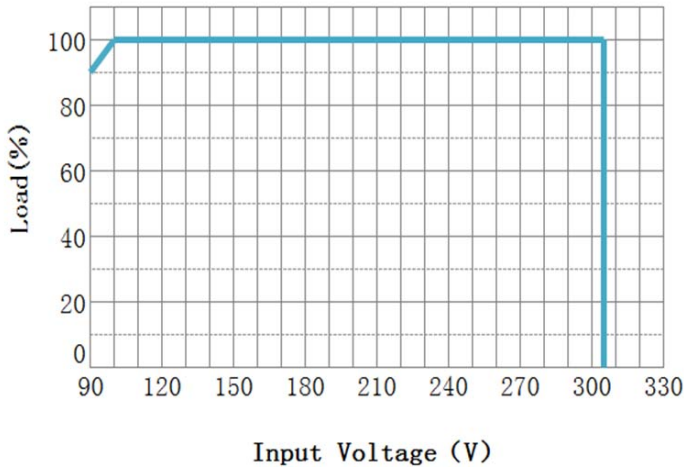
### ■ Specification

Model (MU050S150BQI550)							
Input	Efficiency(230Vac)	87% (Typical) at 55V/0.91A load condition					
	Efficiency(120Vac)	87% (Typical) at 55V/0.91A load condition					
	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 60%~100% load conditions					
	THD	< 20%, at 100~277Vac 50/60Hz input, with 60%~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°C 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) <sub>Note.1</sub>	8-55					
	Output Current Range(mA)	150-1500.Support hot plug, without overshoot current .					
	Rated Power (W)	50(max)					
	Output channels	2					
	Ripple Current	Output current 200~1500mA ripple LF(<120HZ) ≤ 3% Ripple = peak / average; ripple HF ≤ 30 %					
	Current Tolerance	±5%					
	Line Regulation	±1%					
	Load Regulation	±3%					
Setup, Rise Time	<0.5S @ 120V/60HZ, 230V/50HZ						
Dimming Control	DALI 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 Power	Solo&Dual dimming the current drops by 5% per 100ms; Tunable white each time drops 10%					
	Over Temperature	tc 100°C±10%. Hiccup mode,When the temperature of tc rise to 100°C (Typ.)					
Environment	Operating Temp.	-25~+50°C; tc 85°C					
	Operating Humidity	20~95%RH, non-condensing					
	Storage Temp., Humidity	-40~+85°C, 10-95%RH					
	Vibration	10~500Hz, 5G 12min/cycle, period for 72min each along X、 Y、 Z axis					
Safety & EMC	Ingress Protection Rating	IP20					
	Safety Standard	UL8750, CSA C22.2 No.250.13-14, EN61347-1, EN61347-2-13					
		Isolation	Input	Output	Dimming interface	Enclosure	
		Input	No applicable	3.75KV	1.6KV	1.875KV	
		Output	3.75KV	No applicable	1.6KV	1.5KV	
		Dimming interface	1.6KV	1.6KV	No applicable	500V	
	Enclosure	1.875KV	1.5KV	500V	No applicable		
Isolation Resistance	I/P-O/P ,I/P-FG,O/P-FG:100M Ohms/500VDC/25°C/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 2KV, L-N 1KV) Additional suger test L,N-FG 2.5KV;L-N 2.5KV						
Others	Life time	>50000@Tc =70°C at 100% load conditions					
	MTBF	300,000 hours, measured at full load, 25°C ambient temperature MIL-HDBK-217F(25°C)					
	Dimension (LxWxH)	152.38x 76 x 30 mm ( LxWxH )					
	Weight	400g					

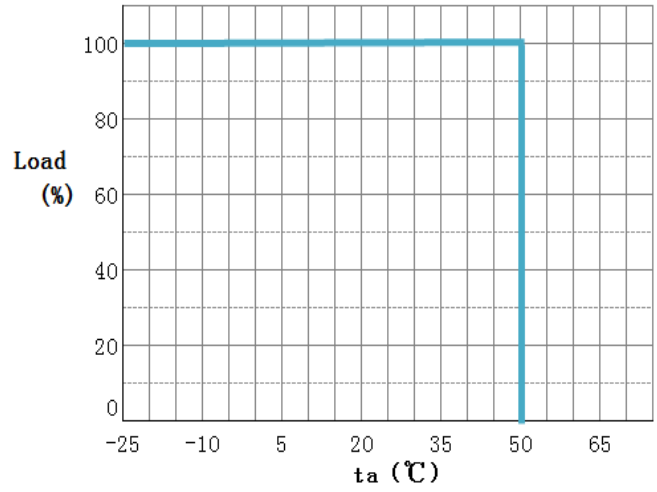
Note.1: refer to V/I curve

■ Curve

Derating Curve

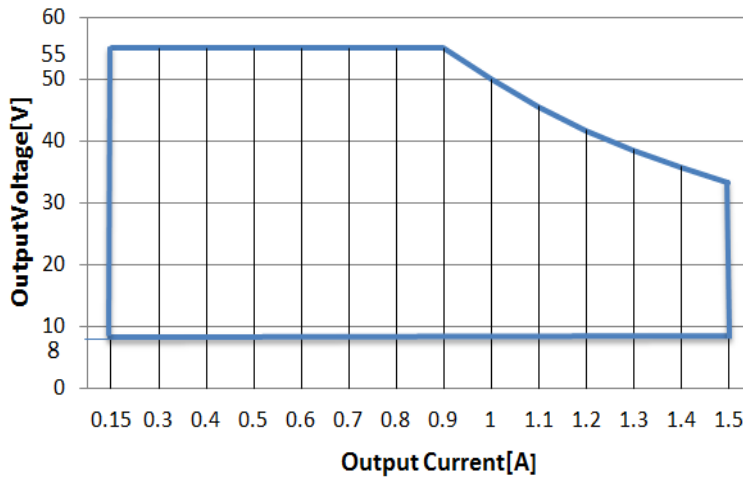


Derating Curve



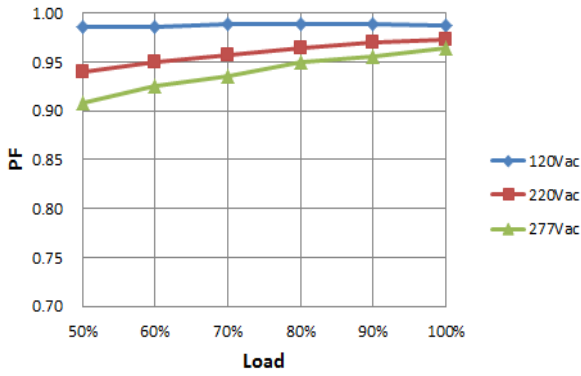
V/I Curve

OPERATING RANGE/50W

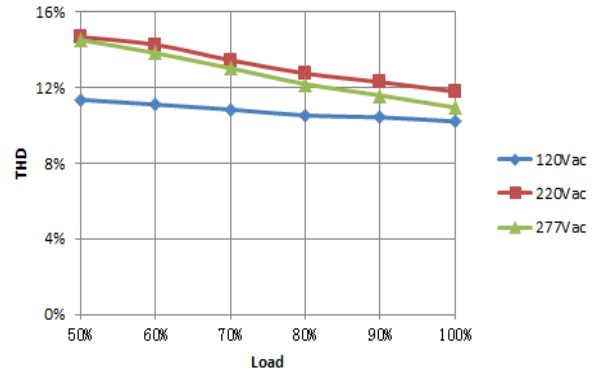


■ Curve

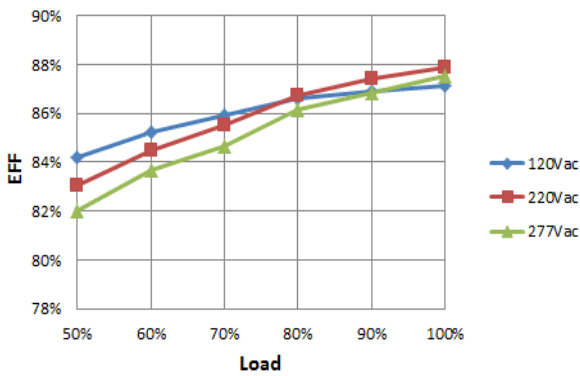
PF VS. Load Curve



THD VS. Load Curve

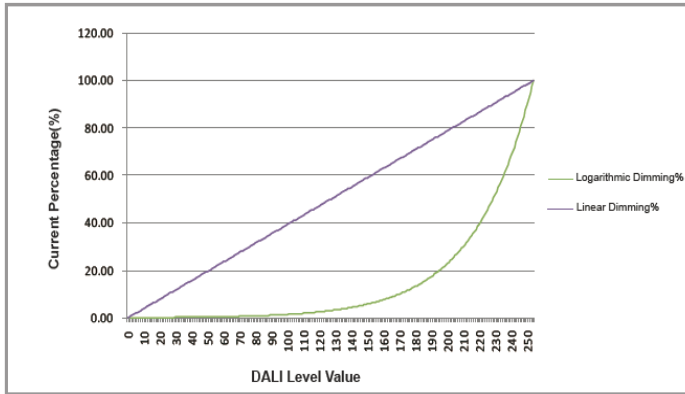


Efficiency VS. Load Curve

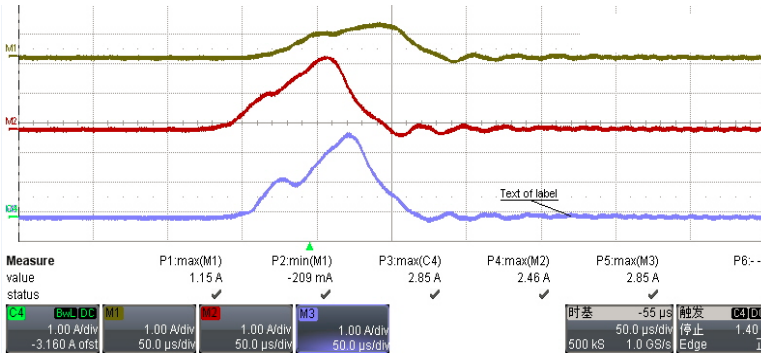


### Curve

#### DALI 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. DALI interface**

- Comply with IEC62386-102(2.0), IEC62386-207, IEC62386-209
- update Online,use smart key to connect PC and the driver to update the firmware.

**2. 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 log dimming.
- NTC thermal management protects LED lamp,when the temperature of LED lamp over temperature protection point, the current will be reduced by 50% every 5 minutes. Default setting is 85℃.

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

- Control the status of Auxiliary power when dim level =0. Enable standby mode: when dim level =0, the Auxiliary power will be closed. Disable standby mode: when dim level =0, the auxiliary power still can work. Default setting is enable

**3. Dimming performance**

- When changed to any dimming level, flicker wouldn't occur,dimming would be achieved smoothly.
- In the range of 200~1500mA,the current operating in continuous mode; In the range of 0~200mA,the current operating in PWM dimming mode, and the PWM frequency 3.6KHZ.

**4. Guide for setting driver's parameters Touch 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=TouchSetting&rnd=1411](http://leddriver.moons.com.cn/SouProduct/UCenter/M_Search/Software_view.aspx?MATNR=TouchSetting&rnd=1411)
- Smartkey Network  
Driver's parameters can be set through Smartkey Ver.A1 and Smartkey Network.What's more,driver's firmware can be updated through this tool. Software download link:  
[http://leddriver.moons.com.cn/SouProduct/UCenter/M\\_Search/Software\\_view.aspx?MATNR=SmartkeyNetwork&rnd=1411](http://leddriver.moons.com.cn/SouProduct/UCenter/M_Search/Software_view.aspx?MATNR=SmartkeyNetwork&rnd=1411)

**5. DT8 Tunable white; DT6 Tunable white、Solo dimming、 Dual dimming function introduction**

**Channel Definition**

DT8/DT6 Tunable white	Cold color channel	CH1
	Warm color channel	CH2

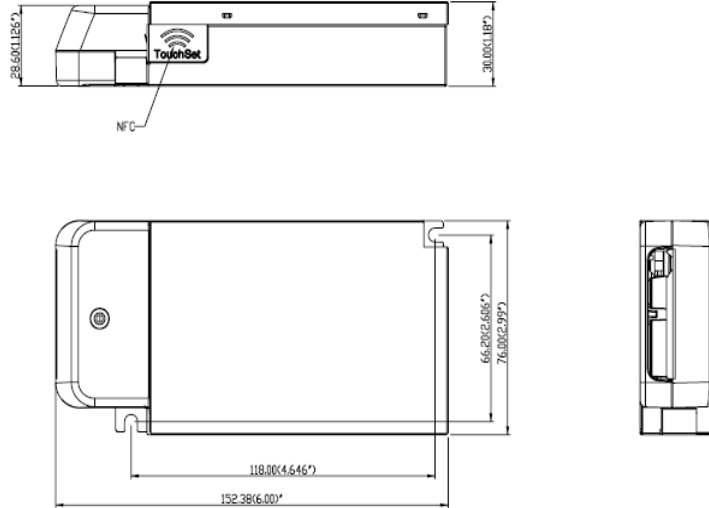
**Function Description**

DT8 Tunable white	One address controls intensity and color temperature	
DT6 Tunable white	Address X controls intensity	
	Address X+1 controls color temperature	
DT6	Solo dimming	Dim two channels through 1 address simultaneously.
	Dual dimming	Dim two channels through 2 addresses respectively.

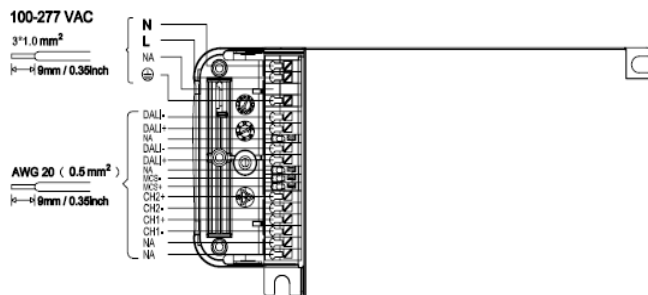
**6. Default factory settings**

■ **Mechanical Specification**

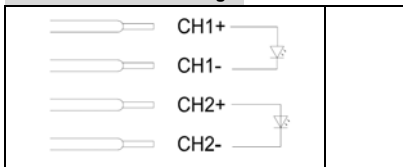
Dimensions(Unit:mm)



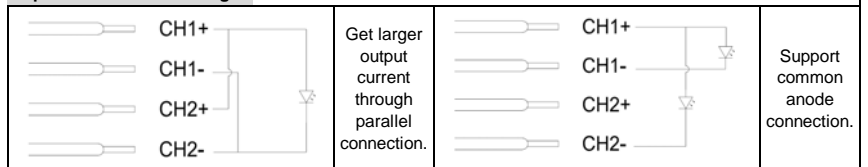
Port:



**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.