PRODUCT SPECIFICATION

MPA1954 Series

Power Supply for LED

PS E UL Japan

muRata

Murata Manufacturing Co., Ltd.

RoHS-Y(B)

CE

Ordering Guide	Constant current power supply	
Model Name	Output current(±5%)	Output voltage range
MPA1954A	270mA	30～50V
MPA1954B	350mA	30～50V
MPA1954C	440mA	30～50V
MPA1954D	500mA	30～50V
MPA1954E	530mA	30～45V
MPA1954F	560mA	30～45V
MPA1954G	300mA	30～55V
MPA1954H	600mA	30～40V

Input Characteristics::(Ta=25℃)

		Min	Typ	Max	Units
Input Voltage Operating Range		90	100/242	267	Vac
Input Frequency		47	50/60	63	Hz
Inrush Current	AC100V(25℃ Cold start)			10	A
	AC242V(25℃ Cold start)			20	A

Model Name	Input current(Typ) Output Voltage:50V		Power Factor (Typ) Output Voltage:50V		Input Power(Typ) Output Voltage:50V		Input rated capacity Output Voltage:50V
	AC90V	AC267V	AC100V	AC242V	AC100V	AC242V	
MPA1954A	0.19A	0.08A	0.952	0.820	16.1W	16.4W	17VA
MPA1954B	0.24A	0.09A	0.977	0.894	21.0W	21.0W	21VA
MPA1954C	0.30A	0.11A	0.982	0.927	26.4W	26.2W	27VA
MPA1954D	0.34A	0.12A	0.989	0.944	30.0W	29.5W	30VA

Model Name	Input current(Typ) Output Voltage:45V		Power Factor (Typ) Output Voltage:45V		Input Power(Typ) Output Voltage:45V		Input rated capacity Output Voltage:45V
	AC90V	AC267V	AC100V	AC242V	AC100V	AC242V	
MPA1954E	0.33A	0.12A	0.984	0.938	28.7W	28.4W	30VA
MPA1954F	0.34A	0.12A	0.988	0.946	30.4W	29.9W	30VA

Model Name	Input current(Typ) Output Voltage:55V		Power Factor (Typ) Output Voltage:55V		Input Power(Typ) Output Voltage:55V		Input rated capacity Output Voltage:55V
	AC90V	AC267V	AC100V	AC242V	AC100V	AC242V	
MPA1954G	0.33A	0.12A	0.955	0.863	19.9W	20.2W	21VA

Model Name	Input current(Typ) Output Voltage:40V		Power Factor (Typ) Output Voltage:40V		Input Power(Typ) Output Voltage:40V		Input rated capacity Output Voltage:40V
	AC90V	AC267V	AC100V	AC242V	AC100V	AC242V	
MPA1954H	0.33A	0.12A	0.993	0.949	29.6W	29.1W	30VA

Output Characteristics(*1)::(Ta=25℃)

Model Name	Output current(±5%)		fficiency(Typ)			
	Average current	Ripple current (mAp-p typ)	tput voltage:30V		Output voltage:50V	
			AC100V	AC242V	AC100V	AC242V
MPA1954A	Output current(±5%)	40mA	78%	72%	82%	80%
MPA1954B	270mA	40mA	79%	77%	83%	82%
MPA1954C	350mA	40mA	80%	78%	83%	84%
MPA1954D	440mA	40mA	80%	79%	83%	84%

Output Characteristics(*1)::(Ta=25℃)

品名	Output current(±5%)		fficiency(Typ)			
	Average current	Ripple current (mAp-p typ)	tput voltage:30V		Output voltage:45V	
			AC100V	AC242V	AC100V	AC242V
MPA1954E	500mA	40mA	80%	79%	83%	83%
MPA1954F	560mA	40mA	80%	79%	83%	84%

PRODUCT SPECIFICATION

MPA1954 Series

Power Supply for LED

Output Characteristics(*1)::(Ta=25℃)

品名	Output current(±5%)		fficiency(Typ)			
	Average current	Ripple current (mAp-p typ)	tput voltage:30V		Output voltage:55V	
			AC100V	AC242V	AC100V	AC242V
MPA1954G	300mA	40mA	78%	72%	82%	81%

Output Characteristics(*1)::(Ta=25℃)

品名	Output current(±5%)		fficiency(Typ)			
	Average current	Ripple current (mAp-p typ)	tput voltage:30V		Output voltage:40V	
			AC100V	AC242V	AC100V	AC242V
MPA1954H	600mA	40mA	80%	80%	81%	82%

(*1)Output characteristics are measured by LE-5150-2(KEISOKUGIKEN) as a LED-load .

Environmental Characteristics:

	Condition	Min	Typ	Max	Units
Operating Temp. Range		-10 (*)		50	℃
Operating Humidity	Non-condensing	5		95	%
Storage Temp. Range		-20		55	℃
Cooling condition	Natural air cooling				
MTBF	EIAJ RCR-9102A	10			year
Estimated life	Ta=50℃, AC100V/242V	50000			hour
Weight			320		g
Sinusoidal Vibration	Vibration frequency:10～55Hz、Vibration acceleration:2G				
Shock	10G				
RoHS	compliant				
Warranty	1 Year				
Manufacturing Country	China				

(*)Start-up at -20℃

Safety:

Safety standards	Electrical Appliance Safety Low (1st clause) EN61347-1, EN61347-2-13(CB REPORT)
Harmonics	JIS C61000-3-2 Class C、IEC61000-3-2 Class C
Conducted emission	Electrical Appliance Safety Low (1st clause)
CISPR	CISPR15,22
VCCI	Class B
Insulation resistance	30MΩ or more (Primary-Secondary)
Withstand voltage	AC4000V (60Hz Primary-Secondary)、Leak current:10mA or less
Leakage current	1mArms or less (AC242V 60Hz normal temperature/normal humidity)

Protection Characteristics:

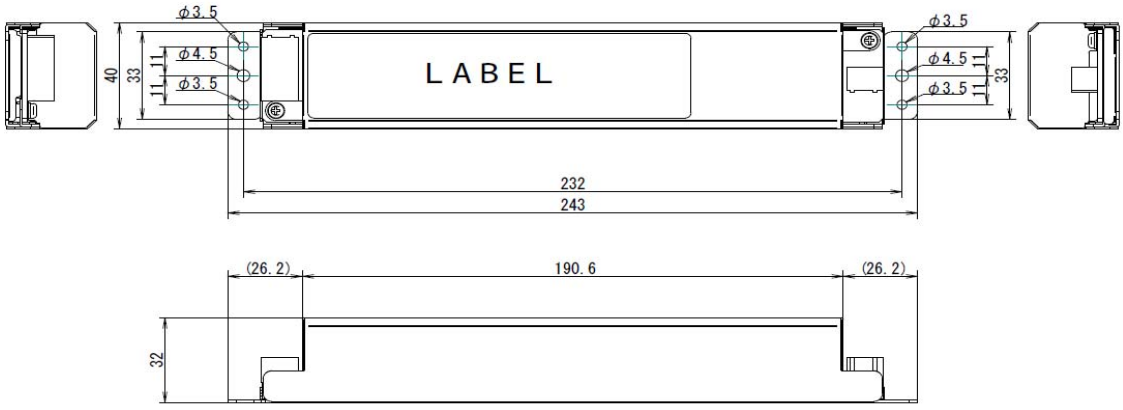
	Operating	Conditions	Return method
Over Current Protection	—	Shut down	AC re-injection
Over Voltage Protection	62V or more	Shut down	AC re-injection
Output Open Protection	—	Shut down	AC re-injection

Immunity:

Electrostatic discharge	IEC61000-4-2	Level 3
Electrical fast transient burst	IEC61000-4-4	Level 3
Surge	IEC61000-4-5	Level 3

Mechanical Dimensions・Label

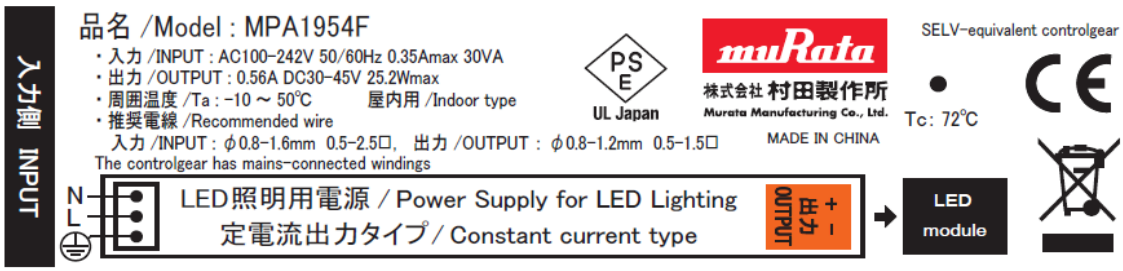
Unit : mm



Tolerance of outline	
Range of dimension	Tolerance
0.5 ＜ L ≦ 6	± 0.3
6 ＜ L ≦ 10	± 0.4
10 ＜ L ≦ 30	± 0.7
30 ＜ L ≦ 180	± 1.0
180 ＜ L ≦ 500	± 1.5
500 ＜ L ≦ 1000	± 2.0

L : Dimension

LABEL1 (Ex.MPA1954F)



Input/Output Terminal

AC Input connector

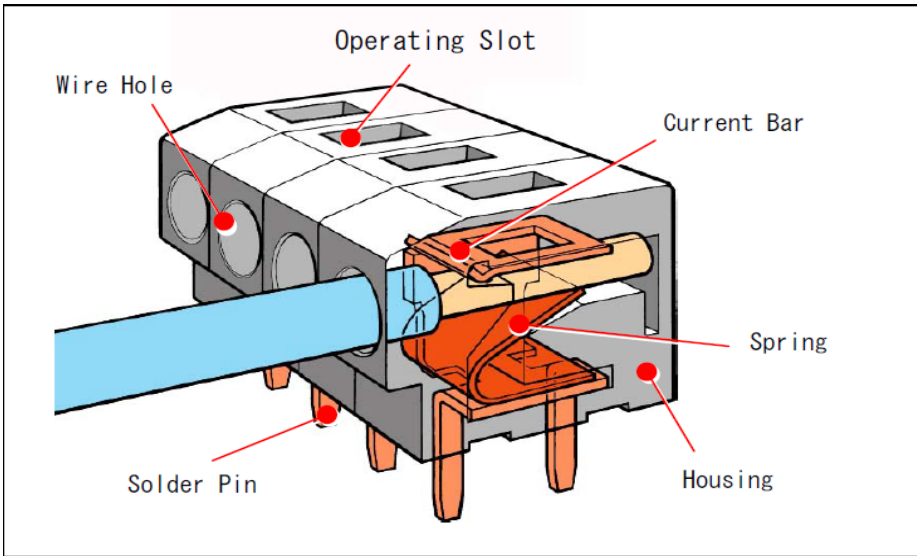
Connector No.	Maker Type Name	Terminal No.	Description
CN1	235−503/342−325 (WAGO)	1	AC Neutral
		2	AC LIVE
		3	FG

Output Connector

Connector No.	Maker Type Name	Terminal No.	Description
CN101	235−102/330−000 (WAGO)	1	LED Output + (Anode)
		2	LED Output− (Cathode)

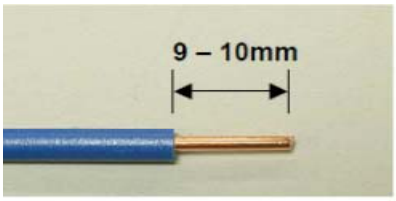
Instruction for Connecting Conductor

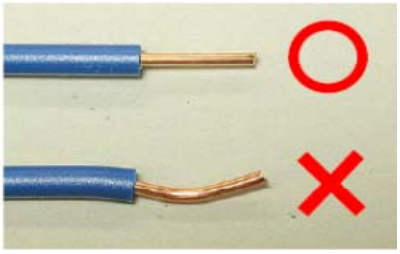
■ Structure : Part name and structure of terminal block.



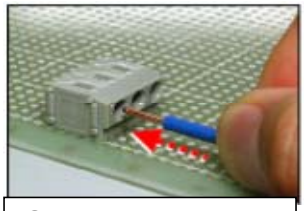
■ Stripping of Wire

Please strip a conductor's stripped length related as drawings.
Please fix splayed, bent or twisted wire.

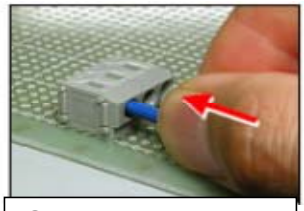




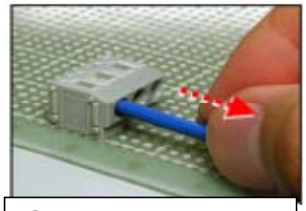
■ Connecting Please follow the instructions



① Insert a wire to the wire hole.

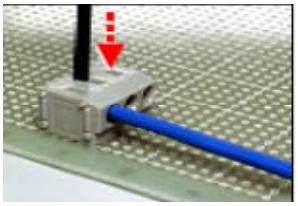


② A wire must be inserted to a stop position.

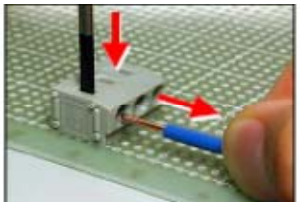


③ Pull a wire slightly to check if connecting has been done completely.

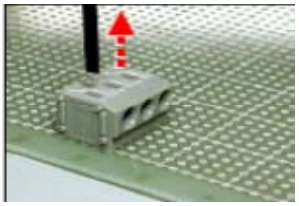
■ Removal Please follow the instructions



① Put a screwdriver to the operating slot.



② Hold down a screwdriver, a conductor can be releaase



③ Put off a screwdriver.

【Instruction Manual】

Before using the Power Supply Unit

Pay attention to all warnings and cautions before using the PSU.
Incorrect usage could lead to an electrical shock, damage to the PSU or a fire hazard.

★Warning & Caution

・Do not modify and remove the cover.
・If any failure or trouble occurs because of utilizing the power supply unit without reflecting the described contents on this specification, Murata cannot assure such trouble.
・Do not touch the internal components, they may have high voltage or high temperature. You may get electrical shock or burned.
・Definitely avoid to use the power supply unit by the excessive input voltage, output voltage, output current and ambient temperature as defined on this specification. The excessive current, voltage and temperature will cause the deterioration of the components or abnormal heat, both of which may affect not only to shorten the unit's life-long but also to damage and break the unit.
・Use the PSU after confirm the correct connection of input and output.
・Be sure not to scratch and damage the input leads. Never transfer the unit by holding and pulling any lead wire.
・If PSU is dropped, absolutely not to use it any more.
・Make sure not to install and/or store the unit under the environment as stated below because such will cause the insulation deterioration.

① Make sure to avoid storing the unit under the condition of high temperature, high humidity or direct sunlight which are out of the standard on this specification.
② Ambient air containing the corrosive gas. (Cl2, H2S, NH3, SO2, NOX, etc.)
③ Places which have the fear to be splashed with water, oil, organic solvent, etc.
④ Places with a high concentration of dusty places.
⑤ Other environment correspondingly mentioned above.

・Make sure not to install and/or store the unit under the environment as stated below because such will cause the insulation deterioration.

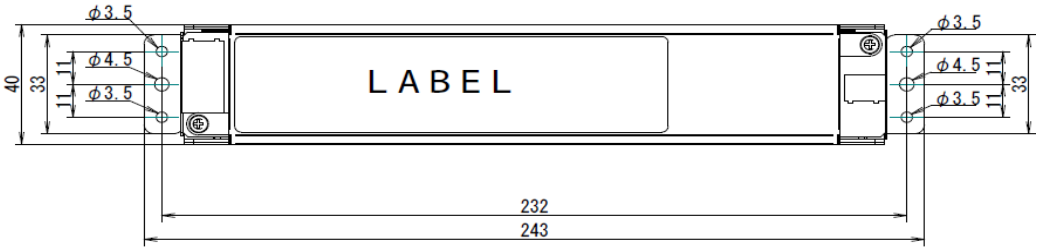
① If any alien substance attached on terminals, it may cause the contact failure or insertion deterioration.
② The use of the silicon rubber or silicon bond which contain a high percentage of dimethylpolysiloxane may cause to trigger the contact failure of volume, potentiometer volume or switch. Make sure to use such rubber or bond with the percentage of dimethylpolysiloxane 0.1% or less.

・PSU can not be used under the condition of the series operation.
・Rust may occur in the chassis because of use environment.
・This specification regulates the quality of the power unit, if nothing specially defined. When using the power supply unit, make sure to evaluate and confirm the quality upon mounting the power supply unit to your product.

【Mounting】

Mounting method

- Please use the place at 50℃ or less around the PSU ambient.
- Please connect the thick and short wire to the FG terminal for safety and EMI.
- Please separate Input wire and Output wire surely.
- Please refer as follows about the Wire for input and output.
  AC-intput wire: φ0.8-1.6mm, 0.5-2.5mm² single wire (Strip length 9-10mm)
  LED Output wire: φ0.8-1.2mm, 0.5-1.5mm² single wire (Strip length 9-10mm)
- Please fix a screw about the installation of the power supply.
  (more than two places in total) (Screw hole: φ3.5×4、Φ4.5×2)

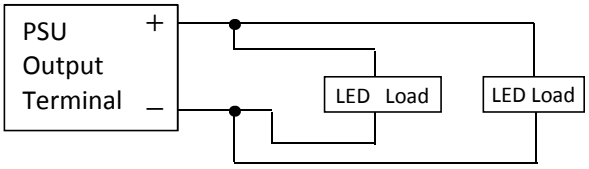


【Parallel Operation】

- Series Operation is not possible.
- For parallel operation, either method (1) or (2) is possible. But please caution as follows.

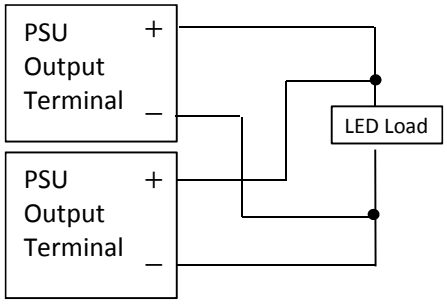
Parallel 1: In a case of operating the plural LEDs for one power supply.

If LED Vf voltage are different, the current may be partial.
Please add a balance circuit not to become so.



Parallel 2: In a case of operating twe Power supplies for one LED.

The total current of two power supplies pass through in the LED.
And please confirm the leakage current as the system.



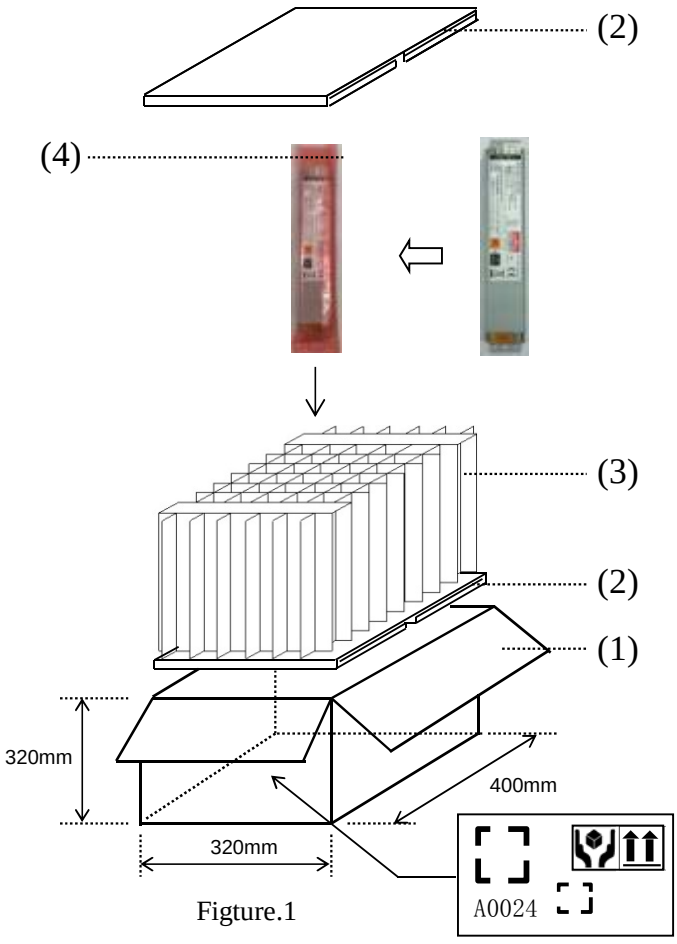
PACKING SPECIFICATION

Use for the Model MPA1954 series.

NO.	PARTS NAME	Q'TY
1	PACKING BOX	1/30
2	BASE PAD	2/30
3	PARTITION BOARD	1/30
4	Small PE Bag	30/30

PACKING PROCESS :

Note: 1. It contains 30 pieces of product in every box.



Figture.1