Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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LED Driver

Indoor 30w Compact Driver

Non–Dimming : SI-CU55230N1WW
Dimming : SI-CU5523001WW

Constant Current LED Driver

Features & Benefits

- Output Current Range: 0.275~0.555 A (adjustable via R-set)
- Output Voltage Range: MAX 54 Vdc
- Output Power Range: Max 30 W
- Dimming Control: 0-10 V (Min. 3.5%)
- Input Voltage: 120 ~ 277 Vac, 50/60 Hz
- Safety: UL / cUL (UL 8750, UL Class 2)
- EMI: FCC Part 15 Class B
- Protections: Short Circuit, Over Voltage (Auto Recovery)
- t_a Range: -20 ~ +50 °C
- Expected lifetime: 50,000 hours at tc < 65 °C
- Long lasting & high reliability
- Metal housing

Applications

- Indoor lighting

SAMSUNG

Table of Contents

1. Characteristics

Article		Symbol	Specification			Unit	Note
			Min.	Typ.	Max.		
INPUT SPECIFICATIONS							
Nominal Voltage		Vin	120		277	Vac	
Voltage Range			108		300	Vac	
Nominal Frequency		Fin		50 / 60		Hz	
Frequency Range			47		63	Hz	
Input Current	At 120 Vac	Iin			0.35	A	At full load
	At 277 Vac	Iin			0.15	A	At full load
Total Harmonic Distortion		THD			20	%	At 120-277 Vac
Power Factor		PF	0.9			-	At 120-277 Vac
Efficiency		η	86 86	87 88		%	At full load, 120 Vac, 60 Hz At full load, 277 Vac, 60 Hz
In-rush Current					30	Apk	NEMA410.
OUTPUT SPECIFICATIONS							
Voltage Range		Vo	37		54	Vdc	70% of MAX power can meet PF,THD
Max. Voltage					60	Vdc	Open circuit, No-load protection
Current Range		Io	0.275		0.555	A	70% of MAX power can meet PF,THD
Line Regulation			-3		3	%	@120~277Vac
Load Regulation			-5		5	%	@120~277Vac, W/O dimming
Current Tolerance			-5		5	%	@120~277Vac, W/O dimming
Ripple Current					50%	%	$\frac{1}{\text{Iavg}}(\text{Ipeak} - \text{Iavg})\text{X}100\%$
Peak current					150%		$\frac{\text{Ipeak}}{\text{Iavg}}\text{X}100\%$
Nominal Power		Po			30	W	
Turn-on Delay Time		Td			1	s	@120Vac, W/O dimmer

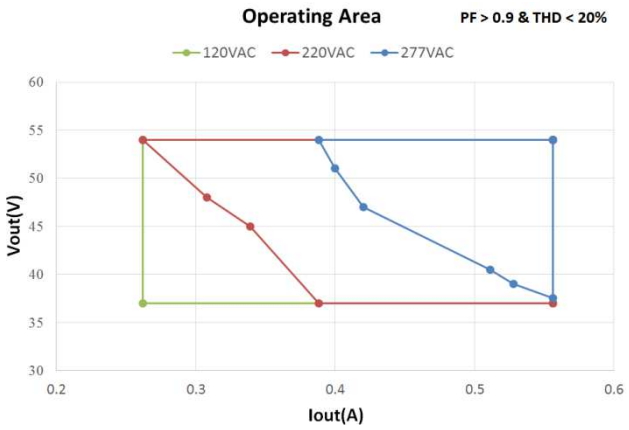
1) PF, THD, FCC can meet the electrical performance from 70% of MA X power.

2) Measured the unit is thermally stabilized after half an hour, Ta 25℃.

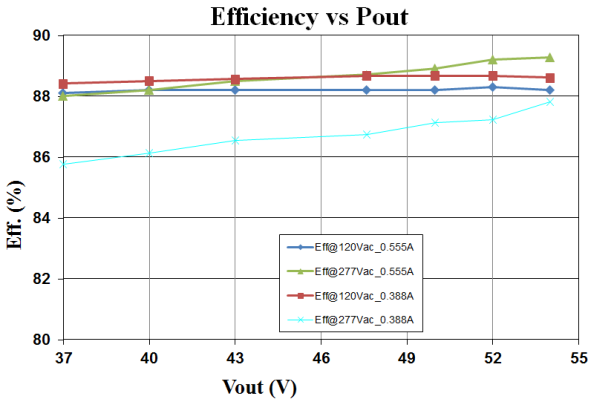
Article	Symbol	Specification			Unit	Note
		Min.	Typ.	Max.		
DIMMING SPECIFICATIONS		3.5		100	%	@555mA
Dimming Control			0-10 V			See Dimming Specification section
ENVIRONMENTAL SPECIFICATIONS						
Ambient Temperature	ta	-20		50	ºC	
Case Temperature	tc			75	ºC	Type TL 75 ºC / 65 ºC
Storage Temperature	ts	-40		85	ºC	
Ambient Humidity		10		90	%	Not condensing
Surge Transient Protection	L / N			±2.5	kV	ANSI/IEEE C62.41 100KHz Ring Wave
	LN / GND			±2.5	kV	
IP Rating			20		-	Suitable for indoor environment
Expected Lifetime (e-cap)		50,000			h	At tc < 65 ºC, full load, 120-277 Vac
MTBF		500,000			h	Ta=25°C, Telcordia SR-332, Method I
Dimensions	L x W x H		165 x 43 x 32		mm	
Net Weight			195		g	

2. Typical Characteristics Graphs

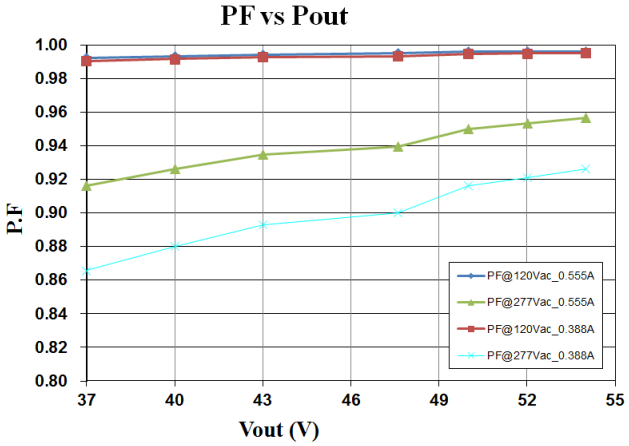
a) Operating Window



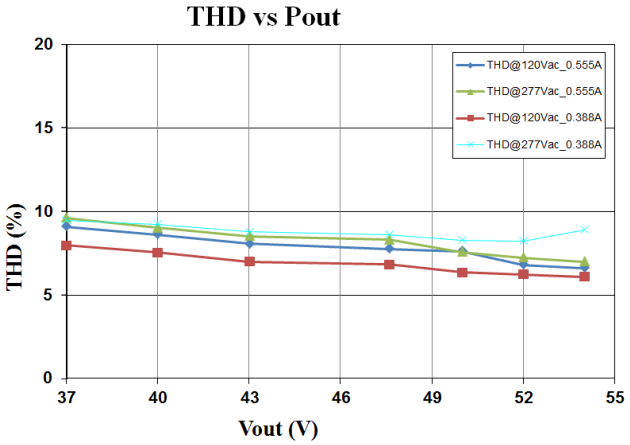
b) Efficiency vs. Load



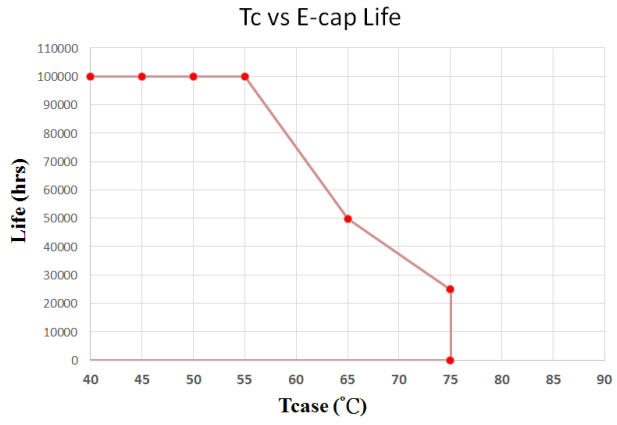
c) Power Factor vs. Load



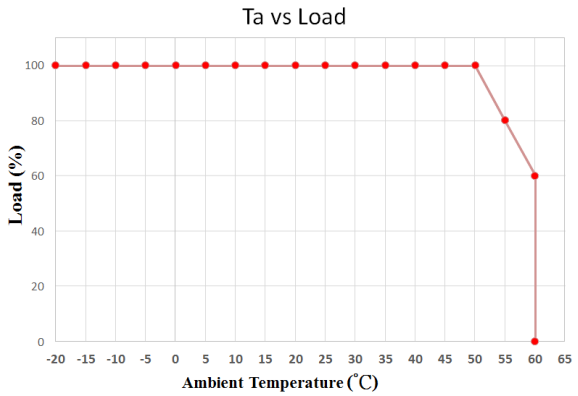
d) Total Harmonic Distortion vs. Load



e) Life time

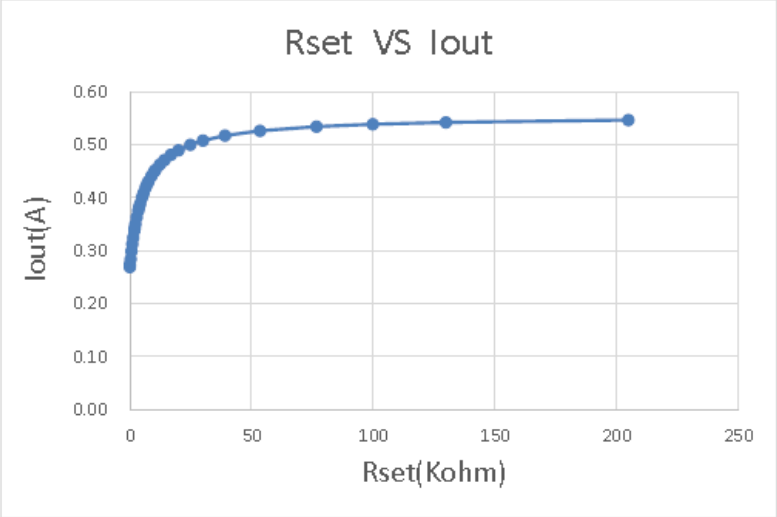


f) Ta vs. Load



g) R-set Table

Rset (Kohm)	Iout(A)	Iout(%)
0.00	0.2689	48.5
0.10	0.2737	49.3
0.33	0.2841	51.2
0.68	0.2985	53.8
1.05	0.3122	56.2
1.43	0.3248	58.5
1.87	0.3378	60.9
2.00	0.3414	61.5
2.32	0.3497	63.0
2.87	0.3625	65.3
3.48	0.3750	67.6
3.83	0.3815	68.7
4.22	0.3882	69.9
4.99	0.3999	72.1
5.62	0.4084	73.6
6.49	0.4187	75.4
7.15	0.4255	76.7
7.68	0.4306	77.6
8.87	0.4406	79.4
10.00	0.4487	80.8
10.50	0.4519	81.4
12.40	0.4625	83.3
14.30	0.4712	84.9
16.90	0.4807	86.6
20.00	0.4895	88.2
24.90	0.4998	90.1
30.10	0.5077	91.5
39.20	0.5171	93.2
53.60	0.5261	94.8
76.80	0.5341	96.2
100.00	0.5385	97.0
130.00	0.5420	97.7
205.00	0.5464	98.4
Open	0.5550	100.0



3. Protection

a) Output Short Circuit Protection

The unit is protected when output is short thus avoiding safety hazard, shock hazard and damage to the unit.

After the short circuit fault condition is removed, the unit will enter the auto-recovery mode.

b) Output Over Voltage Protection (Output Open Load Protection)

When no load condition occurs, the unit will clamp output voltage to the OVP Voltage avoiding damage to the unit.

After the load is connected, the unit will enter the auto-recovery mode.

The OVP Voltage varies according to the Rset resistor value (see below curve and table) and under 60 V.

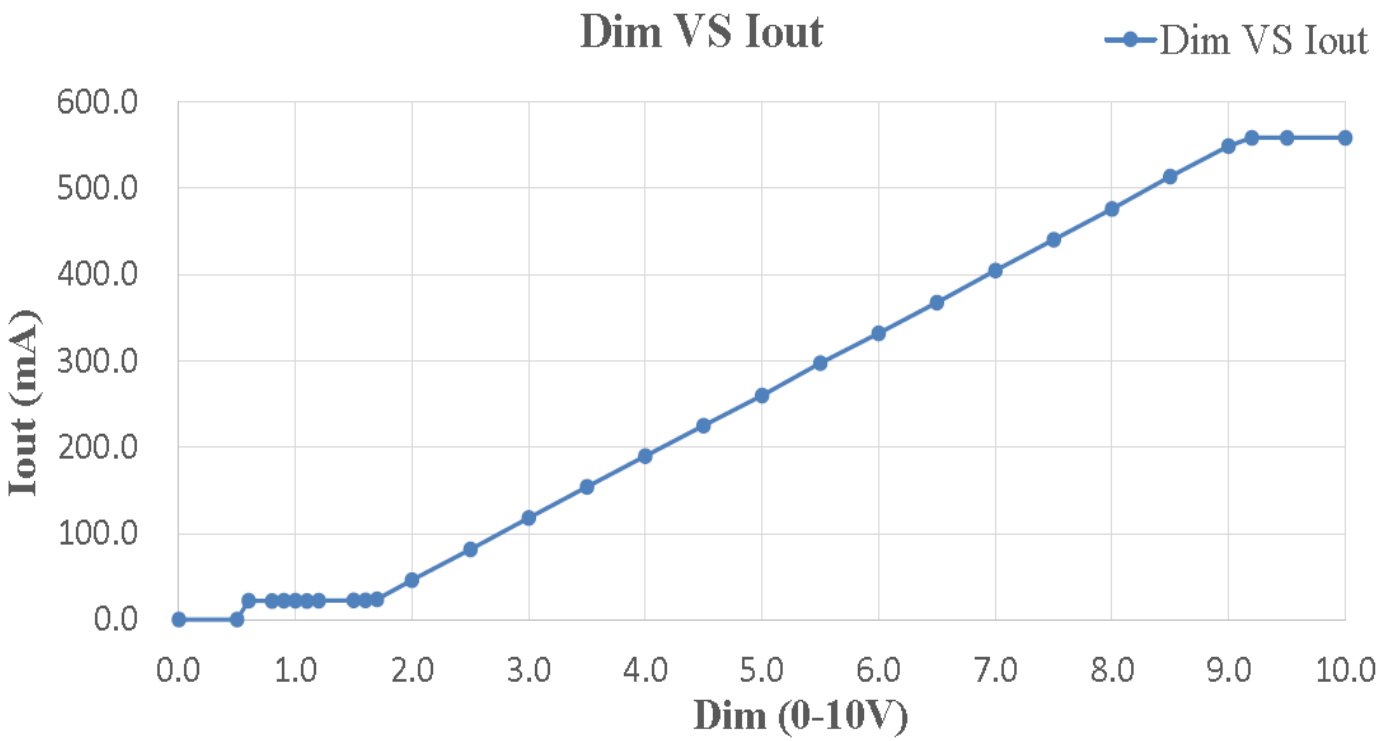
4. Diming Specification

1) Control Type : 0-10V

The unit has Analog Dimming (AD) function, using 0-10 Vdc. The typical dimming curve is shown below.

The dimming curve is tested with LED electronic load Chroma 63115A/6312A. Rd coefficient is 0.1.

	Symbol	Unit	Min	Typ	Max	Remark
Dimming	Range	V	0		10	
	Dim off	V	0		0.5	Hysteresis to Dim > 0.8V
	Dim. Min.	V	0.6	1	1.6	
	Dim Max.	V	9.2		10	



5. Reliability & Standards

Test Items and Conditions

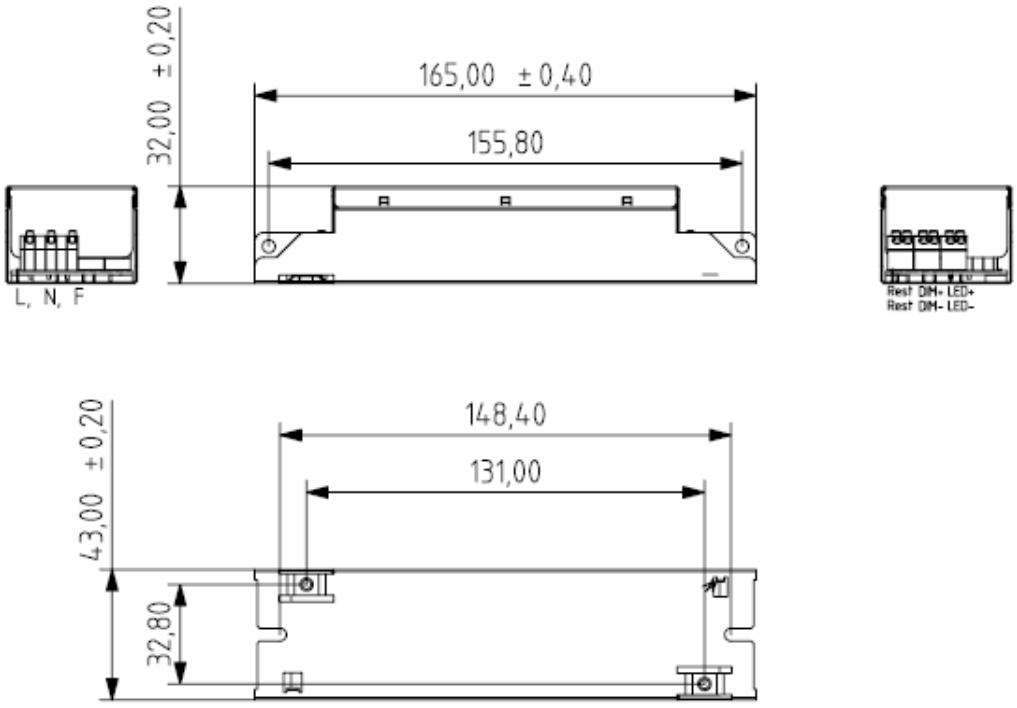
Test Item		Specification	Condition
Leakage Current		< 0.7 mA	305Vac, IEC 60598-1
Earth Continuity		< 0.5 Ω	IEC 61347-2-13
Hi-Pot	Input – Output	3750 Vac, 60 s, cut-off current 10 mA	100 % tested in production line
	Input – F.G	1857 Vac, 60 s, cut-off current 10 mA	100 % tested in production line
	Output – F.G	1500 Vac, 60 s, cut-off current 10 mA	100 % tested in production line
Insulation Resistance	Input – Output	500 Vdc, 60 s, insulation resistance 10 MΩ	100 % tested in production line
Surge	L / N	±2.5 kV	ANSI/IEEE C62.41 100KHz Ring Wave
	L-N / GND	±2.5 kV	
ESD	Contact	±4 kV	EN61547(IEC 61000-4-2)
	Air	±8 kV	

Safety, EMI and EMC

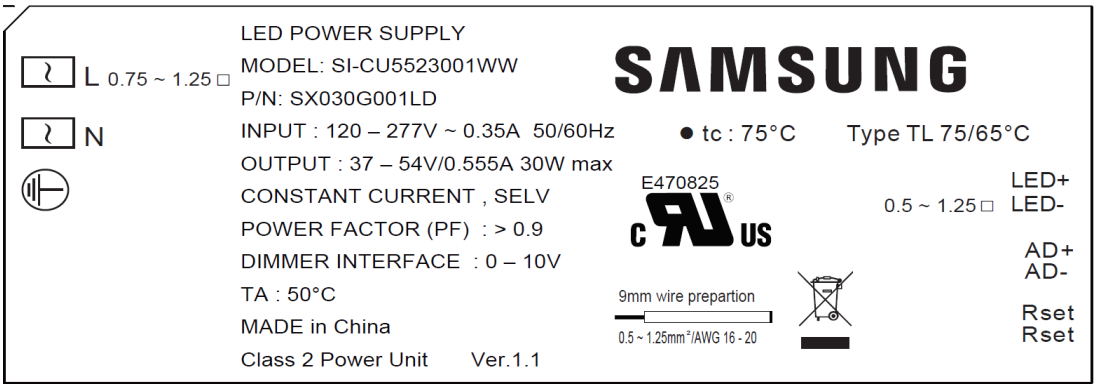
International Standard	Certification
UL Safety Standards (Class 2 Output)	UL8750
EMC	Comply with FCC Part 15 Class B
Harmonic current emissions: Class C	Comply with IEC/EN 61000-3-2
Electrostatic Discharge (ESD): Contact 4kV, Air 8kV	Comply with IEC/EN 61000-4-2
Radio-frequency Electromagnetic Fields	Comply with IEC/EN 61000-4-3
Electrical Fast Transients (EFT)	Comply with IEC/EN 61000-4-4
Surges: Differential 1kV, Common 2kV	Comply with IEC/EN 61000-4-5
Injected Currents, Conducted disturbances induced by Radio-Frequency fields	Comply with IEC/EN 61000-4-6
Voltage Dips and Short Interruptions (Class B)	Comply with IEC/EN 61000-4-11

6. Outline Drawing & Dimension

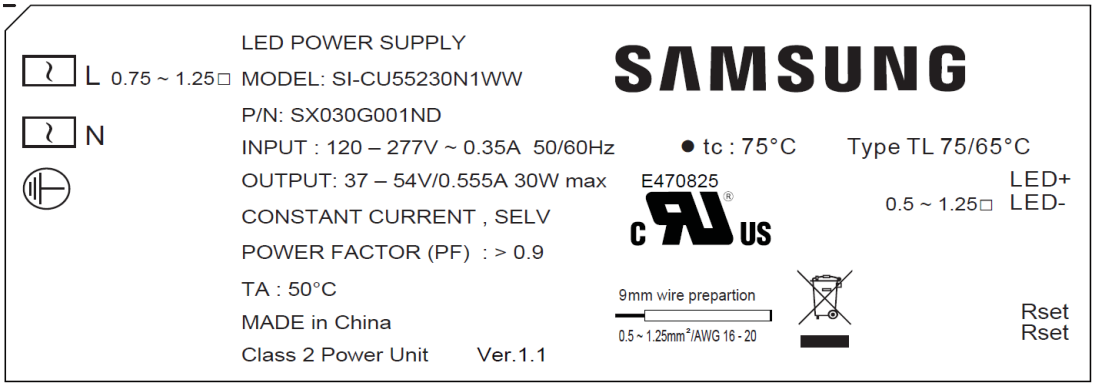
Dimension : 165 (L) x 43 (W) x 32 (H) Unit: mm



7. Label Structure



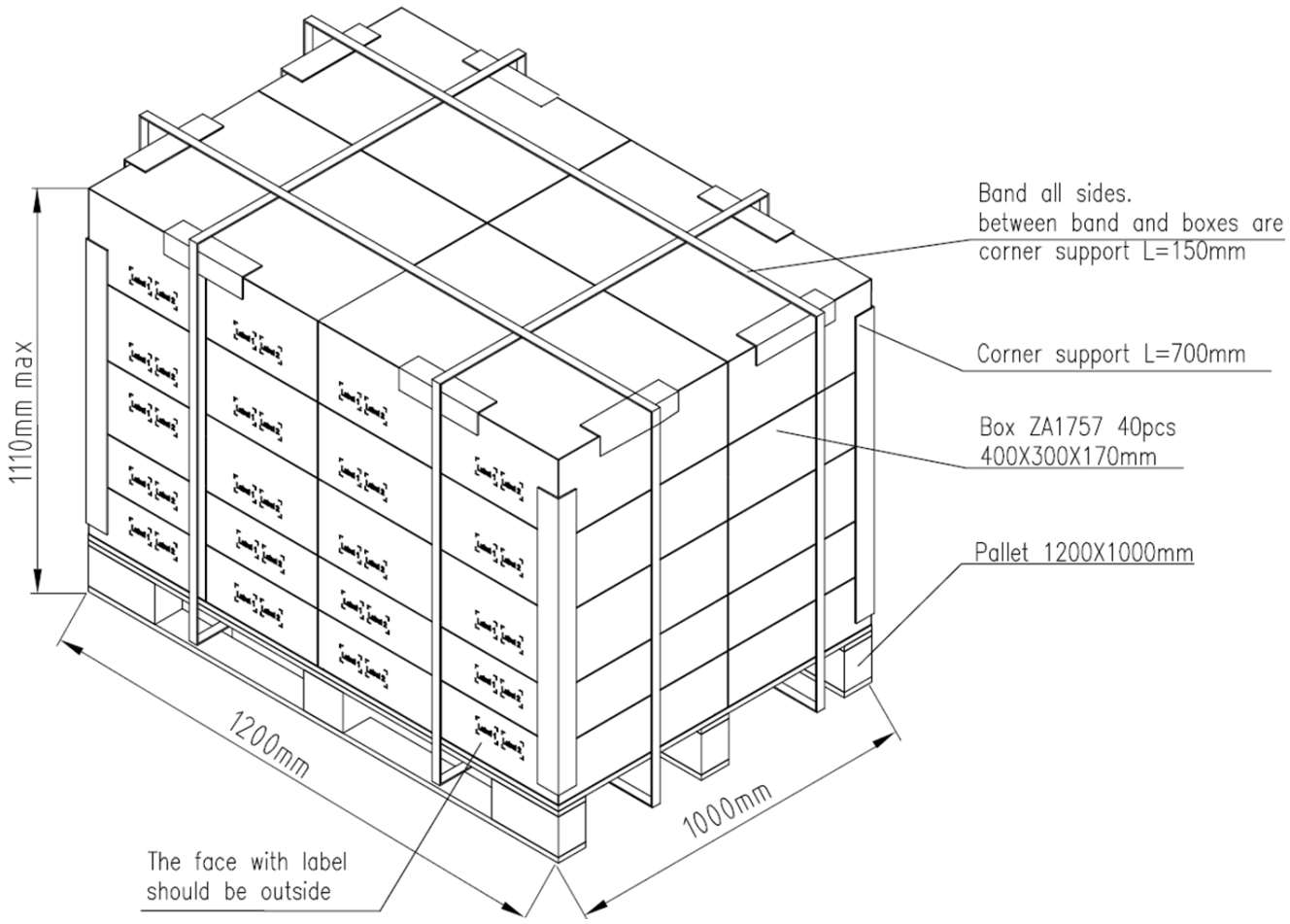
0-10 Dimming



Non- Dimming

8. Packing Structure

Packing material	Max. quantity (pcs)	Dimension (mm)		
		Length	Width	Height
Outer Box	24	400	300	170
Pallet	960 (40 outer boxes)	1,200	1,000	1110



9. Precautions in Handling & Use

1) To prevent the LED Driver from any defect, please handle and store it with care
    - Do not drop or give shock
    - Do not store in very humid location or at extreme temperature
    - Do not open or disassemble the product
2) Static electricity or surge voltage may damage the components inside LED Driver, as such please observe proper anti-electrostatic working process
    - People handing the Driver should be well grounded (e.g. using ESD wrist band) and wear anti-static working clothes and gloves
    - All related devices and instruments in the production line should be well grounded (e.g. working table, measuring equipment, assembly jigs)
3) Observe the correct polarity of output terminal
4) Avoid input voltage exceeds the maximum rating, which will cause damage to the circuit and result in malfunction

Legal and additional information.

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