

# LED Driver

## USCI Square Top



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### Highlights & Features

- Constant current design
- Universal AC input voltage from 120-277Vac
- Wide operating temperature range -25°C to +55°C
- Class 2 Output
- Dry / Damp location

### Safety Standards



### Dimensions (L x W x H):

USCI-020070DAA	82.9 x 75.4 x 31.5 mm (3.26 x 2.97 x 1.24 inch)
USCI-030070DAA	
USCI-020105DAA	
USCI-050105DAA	
USCI-050105FAA	

### General Description

Delta LED drivers come in different series to suit different application. USCI Square Top series offers the capability to achieve different level of LED brightness via 1-10V Dim. The products are designed and rigorously tested to work with various indoor LED lighting conditions.

### Model Information

USCI Square Top LED Driver

Model Number	Input Voltage Range	Rated Output Voltage	Rated Output Current	Rated Output Power
USCI-020070DAA	120-277Vac Typical 108-305Vac Range	14-30Vdc	700mA	20W
USCI-030070DAA		28-44Vdc	700mA	30W
USCI-020105DAA		10-19Vdc	1050mA	20W
USCI-050105DAA		29-48Vdc	1050mA	50W
USCI-050105FAA		29-48Vdc	1050mA	50W

### Model Numbering

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Safety Approval – UL,	Constant current	Indoor		Output Power 020: 20W 030: 30W 050: 50W	Output Current 070: 700mA 105 – 1050mA	F: Fix output current D: Dimming output current	A: Top	Variable A – Delta Standard

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### Specifications

Model Number	USCI-020070DAA	USCI-030070DAA	USCI-020105DAA	USCI-050105DAA	USCI-050105FAA
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### Input Ratings / Characteristics

Normal Input Voltage	120-277Vac					
Input Voltage Range	108-305Vac					
Normal Input Frequency	50-60Hz					
Input Frequency Range	47-63Hz					
Max. Input Current	120Vac	0.23A	0.33A	0.21A	0.51A	0.51A
Efficiency <sup>1)</sup>	120-277Vac	80%	81%	80%	83%	83%
Inrush Current	277Vac	meet NEMA.410				
Power Factor	Full Load: > 0.9 @ 120-277Vac,					
Total Harmonic Distortion	Full Load: THD < 20% @ 120-277Vac					
Leakage Current	< 0.5mArms @ 277Vac					

1) 100% Load (typical) and tested after 30 minutes warm up.

### Output Ratings / Characteristics

Output Voltage Range	14-30Vdc	28-44Vdc	10-19Vdc	29-48Vdc	29-48Vdc
Max. No Load Output Voltage	35Vrms	48Vrms	25Vrms	56Vrms	56Vrms
Output Power Range	20W	30W	20W	50W	50W
Rated Output Current	700mA	700mA	1050mA	1050mA	1050mA
Current Accuracy	± 10% (@ Typical output current range)				
Line Regulation	± 5% (@ 120-277Vac input)				
Load Regulation	± 5% (@ Min-Max output voltage)				
Output Current Ripple	30% (ripple = peak-average/average) at full load & @120V/277V 60Hz				
Start-up Time	1000ms max. @ 120-277Vac (full load)				

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### Mechanical

Casing	Metal Sheet, Color: Black				
Dimensions (L x W x H)	[mm]	82.9*75.4*31.5			
	[inch]	3.26*2.97*1.24			
Unit Weight	[kg]	0.40			
	[lb]	0.88			
Cooling System	Convection				
Input Wire	Line: Black, Neural: White, Wire Length 300mm				
Output Wire	Positive: Red, Negative: Blue, Wire Length 300mm				
Dimming Wire	Dim(+): Violet, Dim(-): Gray, Wire Length 300mm				N/A
Noise (90cm distance)	Sound Pressure Level (SPL) < 24dBA				

### Environment

Ambient Temperature	Operating	-25°C to +55°C				
	Storage	-40°C to +85°C				
Maximum Case Temperature	+80°C	+85°C	+80°C	+90°C	+90°C	
Relative Humidity	Operating	10 to 85% RH (Non-Condensing)				
	Storage	5 to 95% RH (Non-Condensing)				
Environmental Locations	Dry / Damp					

### Protections

Over Voltage	35Vrms	48Vrms	25Vrms	56Vrms	56Vrms
	Auto-Recovery when the fault is removed				
Overload / Overcurrent	Auto-Recovery when the fault is removed				
Short Circuit	Auto-Recovery when the fault is removed				
Over Temperature	Auto-Recovery when the fault is removed				

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### Reliability Data

Lifetime	50,000 hours at case temp. tc & full load. Refer to "Lifetime VS Case Temperature"				
Lifetime @ tc	+65°C	+70°C	+65°C	+75°C	+75°C

### Safety Standards / Directives

Electrical Safety	UL 8750, UL 60950-1 Class 2 Output
Galvanic Isolation	Mains (Input) to Output : 3.75KVac
	Mains (Input) to Case : 3.75KVac
	Output to Case : 0.5KVac
	Output to DIM : 2.25KVac

### EMC Compliance

Emissions (CE & RE)	47 CFR FCC Part 15, Subpart B, Class B	
Electrostatic Discharge	IEC 61000-4-2	Air Discharge: 8kV Contact Discharge: 4kV Criteria A <sup>1)</sup> or Criteria B <sup>2)</sup>
Radiated Field	IEC 61000-4-3	80MHz-1GHz, 3V/m with 1kHz Sine Wave / 80% Modulation Criteria A <sup>1)</sup>
Electrical Fast Transient / Burst	IEC 61000-4-4	1KV, Criteria A <sup>1)</sup> or Criteria B <sup>2)</sup>
Surge		7 Strikes 2.5KV Ring wave
Conducted	IEC 61000-4-6	150kHz-80MHz, 3Vrms :Criteria A <sup>1)</sup>
Power Frequency Magnetic Fields	IEC 61000-4-8	3A/Meter : Criteria A <sup>1)</sup>
Voltage Dips	IEC 61000-4-11	100% dip; 0.5 cycle , Criteria A <sup>1)</sup> or Criteria B <sup>2)</sup> 30% dip; 10 cycle, Criteria A <sup>1)</sup> or Criteria B <sup>2)</sup>
Harmonic Current Emission	IEC 61000-3-2	Class C
Voltage Fluctuation & Flicker	IEC 61000-3-3	

1) Criteria A: Normal performance within the specification limits

3) Asymmetrical: Common mode (Line to earth)

2) Criteria B: Temporary degradation or loss of function, which is self-recoverable

4) Symmetrical: Differential mode (Line to line)

### 1-10V Dimming Specification

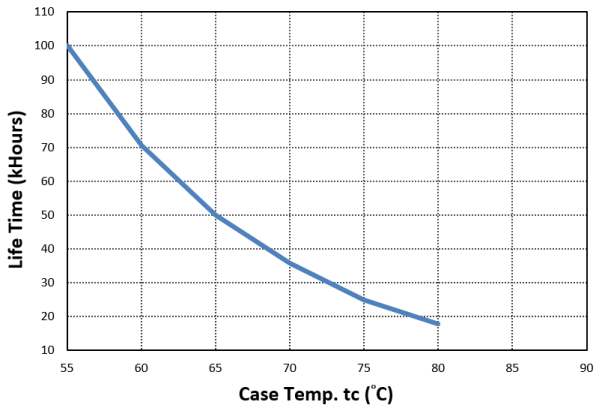
Absolute Maximum Voltage	± 20V	NA
Source Current	275µA ±5%	NA
Dimming Input Range	0-1V : 10% duty , 1-10V: 10~100% duty	NA

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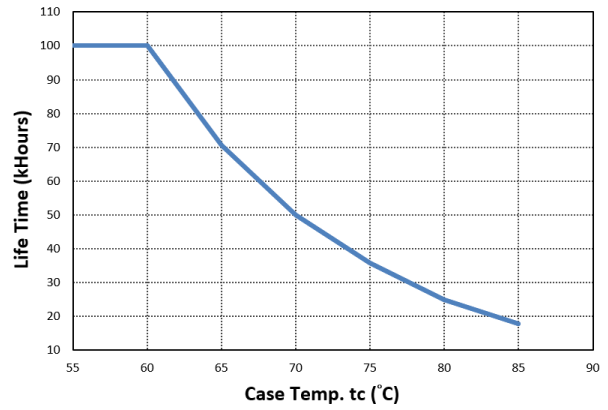
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### Lifetime VS Case Temperature

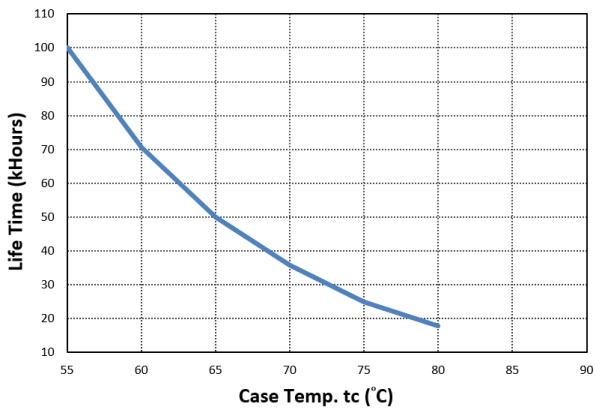
USCI-020070DAA



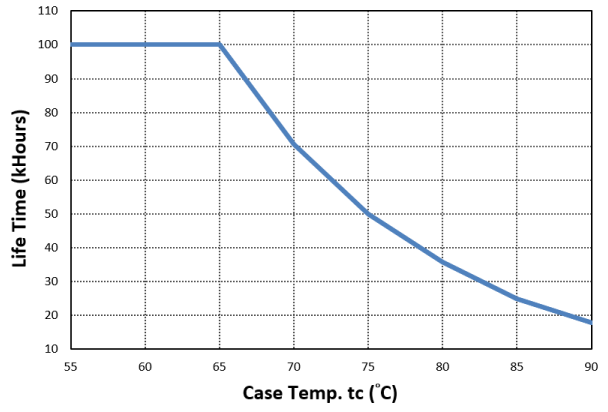
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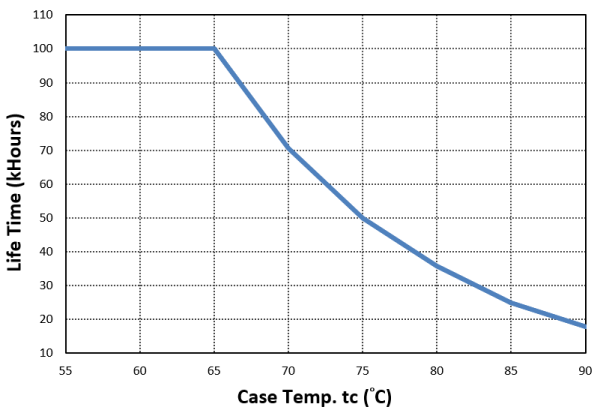
USCI-020105DAA



USCI-050105DAA



USCI-050105FAA

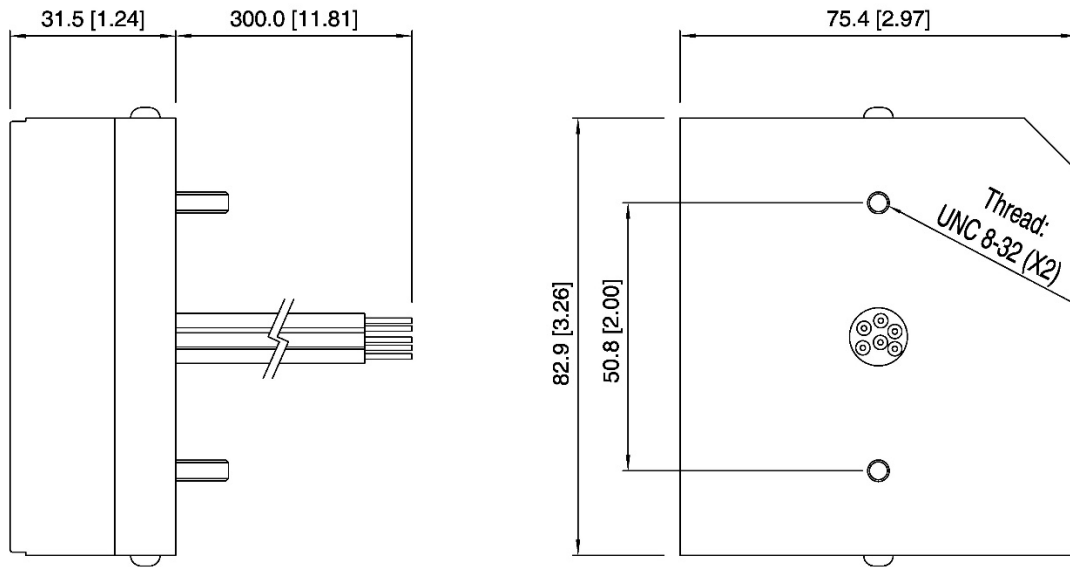


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### Dimensions

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USCI-020105FAA

