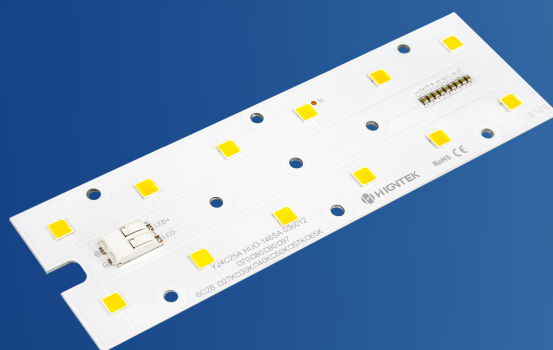




A 220lm/w
Ultra-High Luminous Efficacy Street Light Module

HUO-146SA-036012

LED Module Datasheet

The HIGNTEK HUO-146SA-036012 product is a high-performance LED module engineered for demanding outdoor illumination, including street lights, tunnel lighting, and industrial area applications. The product uses lumileds 5050 led chip to make the module with exceptional brightness. Its modular design allows for easy installation and maintenance. The compact size and robust construction make it ideal for urban roads, industrial areas, and public spaces.

FEATURES AND BENEFITS

Efficacy and luminous flux of up to 220lm/W typical and 9157lm available

Available CCT/CRI options: 2700K-6500K(70 & 80 CRI)

Designed to be compatible with standard third party optics

MCPCB for efficient heat dissipation and mechanical robustness

CE, ROHS, ERP compliance

5-year limited guarantee

PRIMARY APPLICATIONS

Street Light

Flood and area lighting

Tunnel lighting



Performance Characteristics

Product Selection Guide

Table 1. Product performance of HIGNTEK HUO-146SA-036012 (T_p=25°C)

NOMINAL CCT	CRI [RA]	CURRENT [mA]	FORWARD VOLTAGE [V]	POWER [W]	LUMINOUS FLUX [lm]		EFFICACY [lm/W]	
					T _c = 25° C	T _c = 80° C	T _c = 25° C	T _c = 80° C
3000K	70	360	32.6	11.74	2402	2282	205	201
	70	480	32.9	15.79	3141	2984	199	195
	70	1500	35.7	53.55	8516	8090	159	156
4000K	70	360	32.6	11.74	2583	2454	220	215
	70	480	32.9	15.79	3377	3208	214	208
	70	1500	35.7	53.55	9157	8699	171	167
6500K	70	360	32.6	11.74	2557	2429	218	214
	70	480	32.9	15.79	3343	3176	212	208
	70	1500	35.7	53.55	9065	8612	169	166
3000K	80	360	32.6	11.74	2234	2022	190	186
	80	480	32.9	15.79	2921	2775	185	181
	80	1500	35.7	53.55	7920	7524	148	145
4000K	80	360	32.6	11.74	2402	2282	205	201
	80	480	32.9	15.79	3141	2984	199	195
	80	1500	35.7	53.55	8516	8090	159	156
6500K	80	360	32.6	11.74	2378	2259	203	199
	80	480	32.9	15.79	3109	2954	197	193
	80	1500	35.7	53.55	8430	8009	157	154

Notes for Table1:

1. T_c: temperature at which performance is specified measured at "T_c point".
2. HIGNTEK maintains a measurement tolerance of : Luminous flux: ± 7 %, CRI: ± 3.0,.
3. Measurement tolerance of CCT is ± 5%.
4. HUO-146SA-036012 Color temperature (2700K-6500K) is optional.

Product Code Information

Table 2. Product Code-HUO-146SA-036012-XXX

CRI [RA]	NOMINAL CCT	PRODUCT CODE
70	2700K	HUO-146SA-036012-277
	3000K	HUO-146SA-036012-307
	3500K	HUO-146SA-036012-357
	4000K	HUO-146SA-036012-407
	5000K	HUO-146SA-036012-507
	5700K	HUO-146SA-036012-577
	6500K	HUO-146SA-036012-657
80	2700K	HUO-146SA-036012-278
	3000K	HUO-146SA-036012-308
	3500K	HUO-146SA-036012-358
	4000K	HUO-146SA-036012-408
	5000K	HUO-146SA-036012-508
	5700K	HUO-146SA-036012-578
	6500K	HUO-146SA-036012-658

Electrical Characteristics

Table 3. Electrical characteristics for HIGNTEK HUO-146SA-036012

PARAMETER	SYMBOL	VALUE			UNIT	REMARK
		MIN.	TYP.	MAX.		
Operating Current	I_F	-	480	1500	mA	-
Operating Voltage	V_F	31.8	33.0	34.8	Vdc	$I_F = 480 \text{ mA}$
Power Consumption	P	15.26	15.84	16.70	W	$T_P = 80 \text{ }^\circ\text{C}$

Notes for Table3:

1. T_P : temperature at which performance is specified measured at "Tc point".
2. HIGNTEK maintains a tolerance of $\pm 0.1\text{V}$ on forward voltage measurements.

Absolute Maximum Ratings

Table 4. Maximum Operating Specification ($T_p=25^{\circ}\text{C}$)

PART NUMBER	PARAMETER	SYMBOL	UNIT	RATING
HUO-146SA-036012-XXX	Power Consumption	P	W	54
	DC Forward Current	I_F	mA	1500
	Operating Temperature	-	$^{\circ}\text{C}$	-40 to 85
	Storage Temperature	T_{Ctg}	$^{\circ}\text{C}$	-20 to 105
	ESD Sensitivity	-	KV	3
	Beam Angle	$\angle$	$^{\circ}$	120
	IP Grade	-	-	IP20
	Maximum Reverse Voltage	V_{RRM}	V	Module are not designed to be driven in reverse bias

Notes for Table4:

1. T_p : temperature at which performance is specified measured at " T_c point".

Characteristics Curves

$T_c [^{\circ}\text{C}]$	Flux [%]	Efficacy [%]
95	97	98
80	100	100
45	103	101
25	105	102
0	106	102

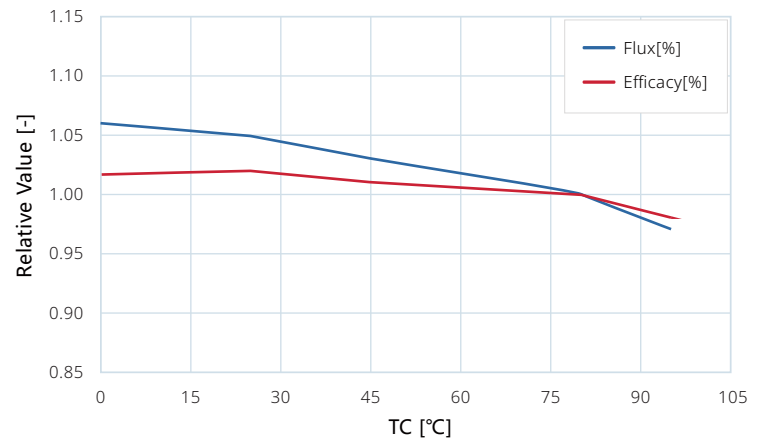


Figure 1. Typical normalized Flux and Efficacy vs. T_c temperature for HIGNTEK HUO-146SA-036012.

I [mA]	Flux [%]	Efficacy [%]
1500	271	80
480	100	100
360	76	103
225	51	104

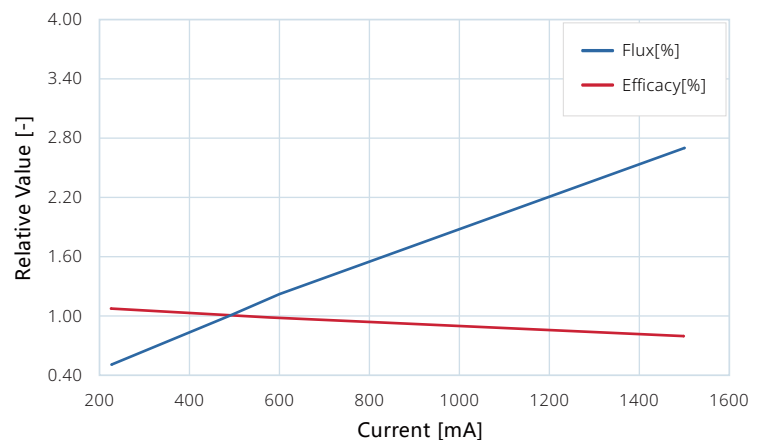


Figure 2. Typical normalized Flux and Efficacy vs. Current for HIGNTEK HUO-146SA-036012.

Mechanical Dimensions

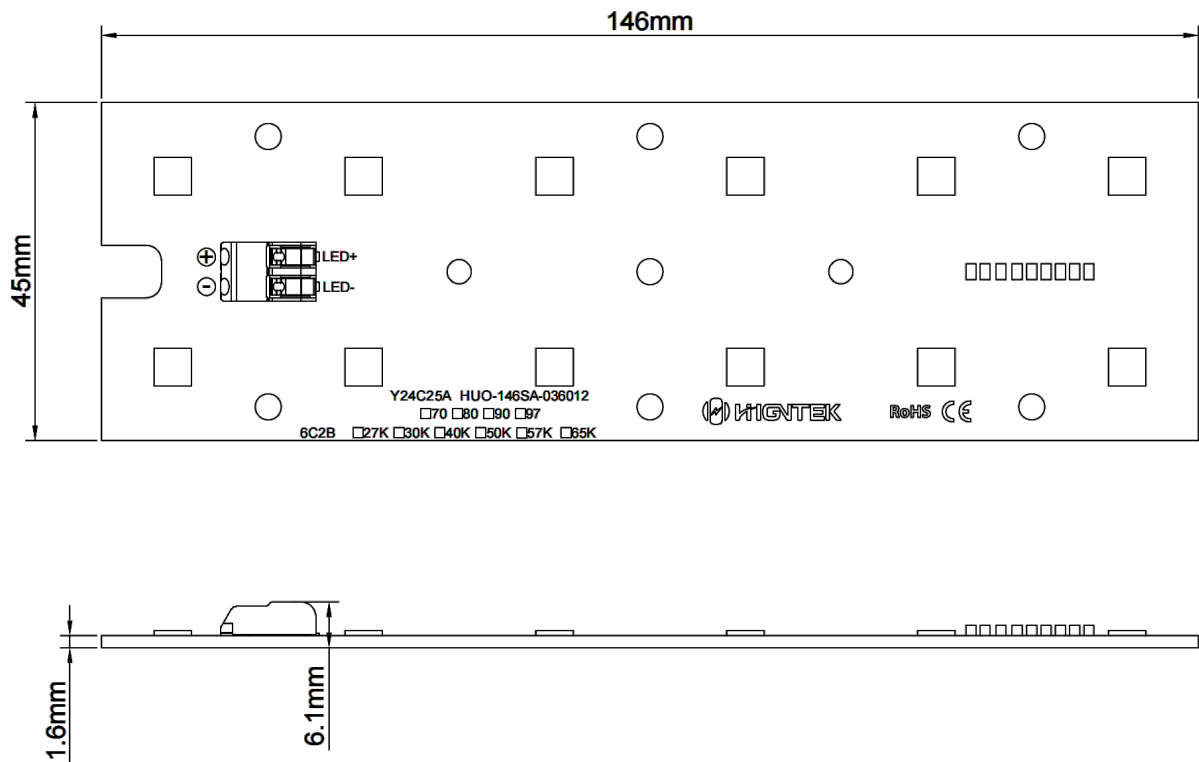


Figure 3. Mechanical Dimensions for HIGNTEK HUO-146SA-036012.

Notes for Figure 3:
1. Drawings are not to scale.
2. All dimensions are in millimeters.

Table 5. Bill of Materials for HIGNTEK HUO-146SA-036012.

COMPONENT	SPECIFICATION PARAMETERS	QUANTITY
LED:5050	LUMILEDS 5050 6V	12
PCB: MCPCB	146*49.5*1.6mm	1
Chip capacitor	0805 1UF 50V X7R	9
SMD PCB terminal block	WAGO 2060-452 998-404	1

Notes for Table5:
1. Resistance specifications are adjusted according to different power.

Optional Branding (LED)



About HengXinYuan

Hengxinyuan is a professional lighting solutions company that helps customers deliver differentiated solutions to gain and maintain a competitive edge. The company's broad product portfolio includes a wide array of package and device choices such as CREE led, SAMSUNG led, LUMILEDS led, UHE led, Indoor lighting module and Outdoor lighting module. Hengxinyuan's LED products pursue high efficiency, high quality, and high reliability, and aim to meet the needs of customers to the greatest extent. With the supply of high-standard supply chain services as the driving force, they contribute to the development of global LED green and healthy lighting power.

