

short circuit

# DATASHEET



**Short Circuit Company**

For Services And Lighting Solutions

# OUR TECH- NOLOGY

## PRODUCTS MAIN PARTS

We have three main categories, to cover various lighting functions and needs. And here we explain the products parts diversity according to each category.

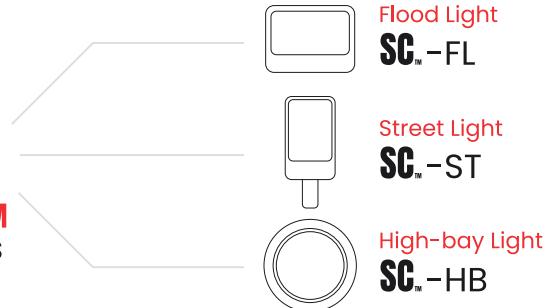


Item	SC™ LED fixtures	ECO™ LED fixtures	SV™ LED fixtures
Body and heat sink الجسم والمشتت الحراري	<p>is made of Aluminum alloy with purity 96:98% Lifetime 100,000 h at:</p> <ul style="list-style-type: none"> <li>• TC 25°C</li> <li>• Humidity 40%</li> </ul> <p>يصنع من سبيكة الألومونيوم بدرجة نقائص 98:96 العمر الافتراضي 100,000 ساعة في الظروف الآتية:</p> <ul style="list-style-type: none"> <li>• درجة حرارة مثلث 25°C 40%</li> <li>• نسبة رطوبة 40%</li> </ul>	<p>is made of Aluminum alloy with purity 96:98% Lifetime 50,000 h at:</p> <ul style="list-style-type: none"> <li>• TC 25°C</li> <li>• Humidity 40%</li> </ul> <p>يصنع من سبيكة الألومونيوم بدرجة نقائص 98:96 العمر الافتراضي 50,000 ساعة في الظروف الآتية:</p> <ul style="list-style-type: none"> <li>• درجة حرارة مثلث 25°C 40%</li> <li>• نسبة رطوبة 40%</li> </ul>	<p>is made of Aluminum alloy with purity 96:98% Lifetime 30,000 h at:</p> <ul style="list-style-type: none"> <li>• TC 25°C</li> <li>• Humidity 40%</li> </ul> <p>يصنع من سبيكة الألومونيوم بدرجة نقائص 98:96 العمر الافتراضي 30,000 ساعة في الظروف الآتية:</p> <ul style="list-style-type: none"> <li>• درجة حرارة مثلث 25°C 40%</li> <li>• نسبة رطوبة 40%</li> </ul>
Chips رقاءق LED	<p><b>PHILIPS™ 3030</b> LED Chips with efficiency of 145Lm/W.</p> <p>رقائق LED من نوع 3030 <b>PHILIPS™</b> بقدرة 145 ليومن/واط.</p>	<p>EPISTAR™ LED Chips with efficiency of 130Lm/W.</p> <p>رقائق LED من نوع EPISTAR™ بقدرة 130 ليومن/واط.</p>	<p><b>Sanan™</b> LED Chips with efficiency of 110Lm/W.</p> <p>رقائق LED من نوع 110 بقدرة <b>Sanan™</b> ليومن/واط.</p>
Driver الدرايفر	<p><b>SC™ Driver</b> protected against over voltage, over current and over temp. occurrence. Lightening surge up to 10KV</p> <p><b>SC™ Driver</b> مقاوم لاختلافات التيار والجهد والحرارة. حماية ضد الصواعق تصل إلى 10 كيلو فولت</p>	<p><b>SC™ Driver</b> protected against over voltage occurrence. Lightening surge 4KV</p> <p><b>SC™ Driver</b> مقاوم لاختلافات التيار والجهد والحرارة. حماية ضد الصواعق 4 كيلو فولت</p>	<p><b>TLG 350mA. driver</b> with no protection</p> <p><b>TLG 350mA. driver</b> لا يحتوي على مقاومة لاختلافات التيار أو الجهد</p>



## Heat-Sink Operation Theory

Due to electronic circuits nature, there is over internal heat generated during the operation period. That heat needs to be dissipated to protect IC from being damaged. According to Heat Transfer Theory, materials with high thermal conductivity are used to transfer heat from the hot region to the cold one, space in our case, so a heat-sink made from Aluminum alloy is a suitable choice for this mission.



## ABSTRACT

**SC.** LED fixtures for industrial use. High performance of 98% of LED efficiency within more than 50,000 operating hours.

**SC.** LED fixtures are protected against the electricity instability with over voltage, current, and temperature protection.

**SC.** LED fixtures consist of **PHILIPS**™ chips and **SC. Driver** with warranty of 5 years.

## COMPATIBILITIES

**RoHS**



**LM79**

**LM80**

# SC™ LED fixtures



Flood Light

**SC™ - FL**



High-bay Light

**SC™ - HB**



Street Light

**SC™ - ST**

**SC™ - FL** is your choice for a high quality lighting for the big industrial projects as it provides sufficient lighting with high durability.

كشاف **SC™ - FL** هو الاختيار المثالي لإضاءة عالية الجودة للمشاريع الصناعية الكبيرة لأنها توفر إضاءة مناسبة وقوة تحمل عالية.

**SC™ - HB** is the best applicant for huge surface areas as it guarantees the best light spread with the high quality lense.

كشاف **SC™ - HB** هو أفضل تطبيق للمساحات الكبيرة لأنه يضمن أفضل انتشار للضوء باستخدام العدسة عالية الجودة.

**SC™ - ST** is the best outdoor fixture as it is highly protected against temperature and humidity and electricity instability.

كشاف **SC™ - ST** هو أفضل كشاف للاستخدامات الخارجية وذلك لأنه محمي ضد الحرارة والرطوبة وتقلبات الكهرباء.

# PRODUCT GENERAL INFO.

## GENERAL SPECIFICATIONS

Item	Specs	Units	المواصفة
LED Chip	Philips 3030		رقاقة LED
Driver	SC Driver		درايفر
LED Efficiency	145	Lm/W ليumen/واط	كفاءة LED
Wattage	50 to 500	W واط	شدة التيار
Beam Angle	120	Deg. درجة	زاوية الانتشار
Color Temp.	3000 to 6500	K كلفن	درجة اللون
CRI	> 90		مؤشر تجسيد اللون
Power Factor	> 0.95		معامل القدرة
Input Voltage	AC~65-300	V فولت	جهد الداخل
Frequency	50-60	Hz هيرتز	التردد
Op. Temp.	-40 to 85	C درجة مئوية	درجة حرارة التشغيل
Humidity	up to 90%		الرطوبة
IP	65		معامل الحماية
Driver Protection	OV, OC & OT		حماية الد라이فر
Life Time	50,000	Hour ساعة	عمر الكشاف
Warranty	5	Year سنة	الضمان

## BODY & HEAT-SINK DESCRIPTION

Body الجسم	Anti-corrosion aluminum alloy heat sink (electrostatic painted) مشتت حراري مصنوع من سبيكة الألومنيوم المضادة للتآكل (مطلي إلكتروستاتيك)		
Aluminum Purity نقاء الألومنيوم	96-98%		
Number of fins عدد الشرائح	 SC.-FL	 SC.-HB	 SC.-ST
	14-24	48	16
Thickness of fins سمك الشرائح	Inner من الداخل 5 mm	Outer من الخارج 1.5 mm	
Front glass thickness سمك الزجاج الأمامي	 SC.-FL	 SC.-HB	 SC.-ST
	3-5mm	-	3-5mm
Front glass max. temp. درجة الحرارة القصوى للزجاج	 SC.-FL	 SC.-HB	 SC.-ST
	750°C	-	750°C
Lenses العدسات	 SC.-FL	 SC.-HB	 SC.-ST
	-	UV Poly-carbonateheat resistant بوليكاربونات مقاوم للحرارة ومطلي بايز UV	UV Poly-carbonateheat resistant بوليكاربونات مقاوم للحرارة ومطلي بايز UV
Beam angle زاوية انتشار الضوء	120°		
Gasket الجوان	silicone rubber insulation عزل مطاط سيليكون		
Glands الوصلات	Waterproof cable glands (silicone insulated) وصلات مقاومة للماء (معزولة بالسيلikon)		
IP معامل الحماية	65		
Weight الوزن	 SC.-FL	 SC.-HB	 SC.-ST
	3-10 Kg	6 Kg	3.7 Kg
Wattage القدرة الكهربائية	 SC.-FL	 SC.-HB	 SC.-ST
	From 50 to 500 Watt من 50 إلى 500 واط	From 100 to 250 Watt من 100 إلى 250 واط	From 50 to 150 Watt من 50 إلى 150 واط
Installation التركيب	 SC.-FL	 SC.-HB	 SC.-ST
	With angle (30°, 45°, 60°) تحكم في الزاوية (30°, 45°, 60°)	-	Arm diameter 2" قطر ذراع التركيب 2 بوصة



# **PHILIPS**<sup>TM</sup>

## **3030**

### **LED CHIPS**

Chip performance characteristics  
Electrical and thermal characteristics  
Absolute maximum  
Characteristic curves

# LED CHIPS

## CHIP PERFORMANCE CHARACTERISTICS

Product	Nominal CCT	Minimum CRI	Typical Luminous Efficacy	Luminous Flux (lm)		Part Number
				Minimum	Typical	
LUXEON 3030 2D (Square LES)	6500 K	90	144	94	104	L130-6590003000X21

## ELECTRICAL & THERMAL RATINGS

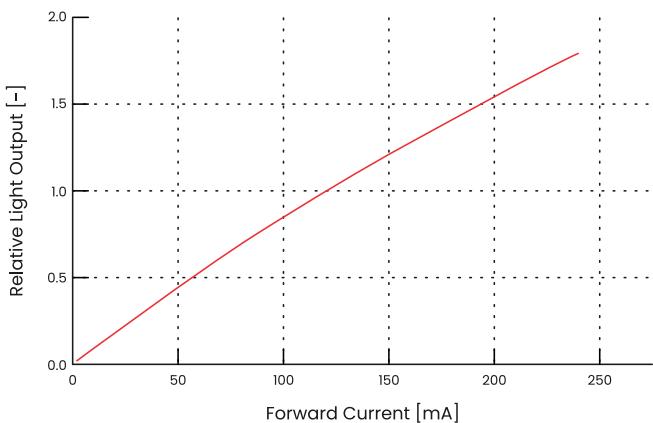
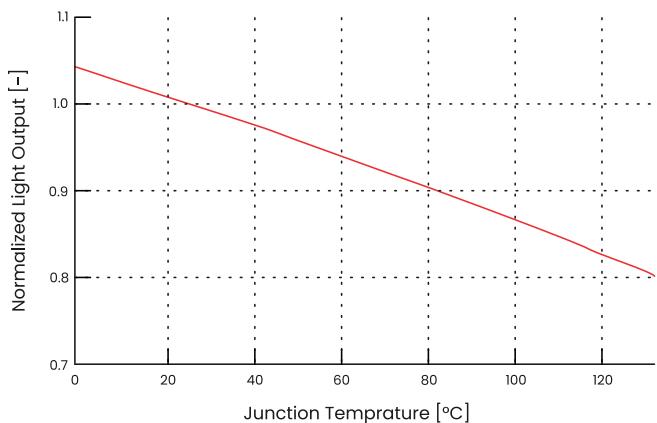
Part Number	Forward Voltage (Vf)			Typical Temperature Coefficient of Forward Voltage [2] (mV/°C)
	Minimum	Typical	Maximum	
L130-6590003000X21	5.8	6	6.6	-2 to -4

## ABSOLUTE MAXIMUM RATINGS

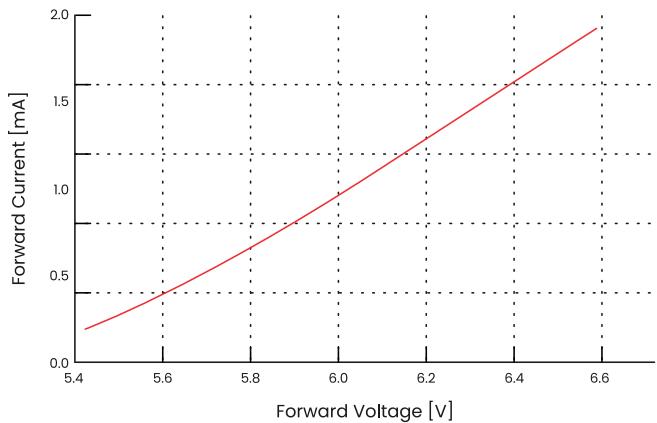
Parameter	Maximum performance
DC Forward Current	240 mA
Peak Pulsed Forward Current	300 mA
LED Junction Temperature (DC & Pulse)	125°C
Operating Case Temperature	40°C to 105°C
LED Storage Temperature	40°C to 105°C

## CHARACTERISTIC CURVES

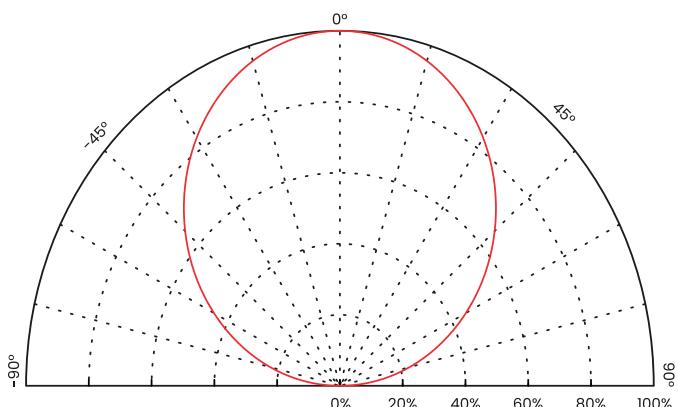
### LIGHT OUTPUT CHARACTERSTICS



### FORWARD CURRENT CHARACTERSTICS



### POLAR CURVE





# SC™ Driver

Driver description

Driver characteristics

Driver stages

Driver protection

## GENERAL DESCRIPTION

LDF series is an offline LED lighting controller with high power factor, low THD and high constant current (CC) precision. It can achieve low system cost for an isolated lighting application by primary side control in a single stage converter. It significantly simplifies the LED lighting system design by eliminating the secondary side feedback components and the opto-coupler.

The proprietary CC control is used, and the system can achieve high power factor with constant on-time control. Quasi-resonant (QR) operation and clamping frequency improve the system efficiency.

The advanced start-up technology is used to meet the start-up time requirement (<0.5s). The constant output current is compensated for tolerance of transformer inductance variation. Besides, the line compensation and load compensation are built in for high precisely constant output current control.

This series offers comprehensive protection coverage with auto-recovery features including programmable VIN foldback, programmable VIN OVP, programmable thermal foldback, LED open loop protection, LED short circuit protection, cycle-by-cycle current limiting, built-in leading-edge blanking, VDD under voltage lockout (UVLO).

## FEATURES

- Primary-side control with single stage PFC LED driver for low system cost.
- High power factor (>0.95)
- Low THD (<10%)
- High efficiency (>85%)
- Lifetime up to 50,000h
- Pre-programmed VIN foldback
- Pre-programmed VIN OVP
- Pre-programmed thermal foldback
- Pre-programmed CC regulation
- High precision constant current
- Fast start-up time (<0.5s)
- Built-in line/load compensation
- No visible flicker, and audible noise free.

## PROTECTION

- LED short circuit protection
- LED open circuit protection
- VDD over/under voltage protection
- Lightning surge voltage up to 10kV
- AC input overvoltage protection
- AC input overcurrent protection

The LED driver recovers automatically and back to normal operation after all fault causes are removed.

## MODULE SPECIFICATION

This section presents the specification of the LED driver, normal operation range and the driver performance

### AC INPUT SPECIFICATIONS

LED driver max. apparent power	56W at full load 95Vac<Vin<275V
AC input voltage rating	30Vac ~ 300Vac
AC input voltage range for normal operation	90Vac ~ 275Vac
AC input voltage range for foldback operation	30Vac ~ 90Vac
AC input frequency range	47Hz ~ 63Hz
Power factor	>0.95 at 220Vac full load
AC input current THD	<10% at 220Vac full load
AC max. input current	<0.8% at 95Vac full load
Efficiency	>85% at 220Vac full load

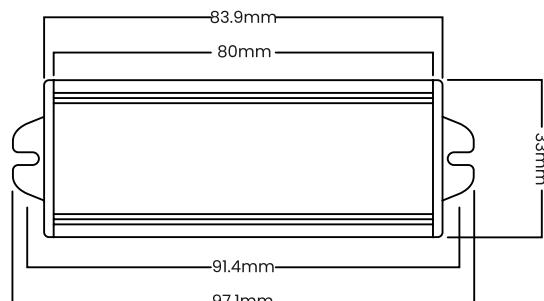
### DC OUTPUT CHARACTERISTICS

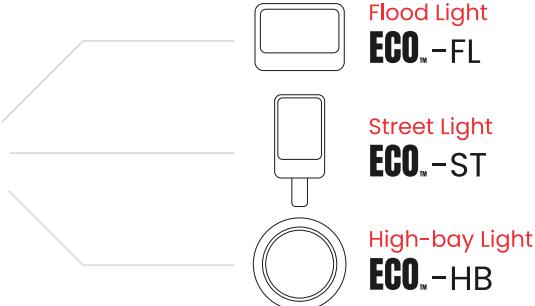
DC output voltage	20 ~ 35Vdc
Output voltage ripples	<2.5V peak-peak at max. load
DC output constant current	1450 mA, ±5%
Output current ripples	<45%
Maximum output power	50W
Line regulation	±5%
Load regulation	±5%
Start-up time	<600ms at 220Vac full load

### PROTECTION SPECIFICATIONS

AC input overvoltage	275Vac ~ 300Vac
AC input foldback voltage	85Vac ~ 95Vac
DC output open circuit overvoltage	41 ~ 45 Vdc
Thermal foldback temperature	100°C
Lightning surge	up to 10KV
Controlled IC VDD undervoltage protection	9Vdc
Controlled IC VDD undervoltage protection	24Vdc

### MECHANICAL SPECIFICATIONS





## ABSTRACT

**ECO.** LED fixtures for industrial use. High performance of 98% of LED efficiency within more than 30,000 operating hours.

**ECO.** LED fixtures are protected against the electricity instability with over voltage protection.

**ECO.** LED fixtures consist of EPISTAR<sub>®</sub> chips and with warranty of 3 years.

## COMPATIBILITIES

**RoHS**



**LM79**

**LM80**

# ECO™ LED fixtures



Flood Light  
**ECO™-FL**



High-bay Light  
**ECO™-HB**



Street Light  
**ECO™-ST**

**ECO™-FL** is your choice to have sufficient lighting with economic prices for the projects.

كشاف **ECO™-FL** هو الاختيار المثالي لإضاءة كافية للمشاريع الاقتصادية.

**ECO™-HB** is the best applicant for warehouses and sieling lighting.

كشاف **ECO™-HB** هو أفضل تطبيق للمخازن والكمشافات المعلقة.

**ECO™-ST** is the best outdoor fixture that give sufficient lighting with economic prices.

كشاف **ECO™-ST** هو أفضل كشاف يعطي إضاءة كافية بتطبيقات اقتصادية.

# PRODUCT GENERAL INFO.

## GENERAL SPECIFICATIONS

Item	Specs	Units	المواصفة
LED Chip	Epistar		رقاقة LED
Driver	SC Driver		درايفر
LED Efficiency	130	Lm/W ليumen/واط	كفاءة LED
Wattage	50 to 500	W واط	شدة التيار
Beam Angle	120	Deg. درجة	زاوية الانتشار
Color Temp.	3000 to 6500	K كلفن	درجة اللون
CRI	> 90		مؤشر تجسيد اللون
Power Factor	> 0.95		معامل القدرة
Input Voltage	AC~65-300	V فولت	جهد الداخل
Frequency	50-60	Hz هيرتز	التردد
Op. Temp.	-40 to 85	C درجة مئوية	درجة حرارة التشغيل
Humidity	up to 90%		الرطوبة
IP	65		معامل الحماية
Driver Protection	OV		حماية الدرايفر
Life Time	30,000	Hour ساعة	عمر الكشاف
Warranty	3	Year سنة	الضمان

## BODY & HEAT-SINK DESCRIPTION

Body الجسم	Anti-corrosion aluminum alloy heat sink (electrostatic painted) مشتت حراري مصنوع من سبيكة الألومنيوم المضادة للتآكل (مطلي إلكتروستاتيك)		
Aluminum Purity نقاء الألومنيوم	96-98%		
Number of fins عدد الشرائح	 ECO.-FL	 ECO.-HB	 ECO.-ST
Thickness of fins سمك الشرائح	14-24	48	16
Front glass thickness سمك الزجاج الأمامي	 ECO.-FL	 ECO.-HB	 ECO.-ST
Front glass max. temp. درجة الحرارة القصوى للزجاج	3-5mm	-	3-5mm
Lenses العدسات	 ECO.-FL	 ECO.-HB	 ECO.-ST
Beam angle زاوية انتشار الضوء	120°		
Gasket الجوانب	silicone rubber insulation عزل مطاط سيليكون		
Glands الوصلات	Waterproof cable glands (silicone insulated) وصلات مقاومة للماء (معزولة بالسيلينيون)		
IP معامل الحماية	65		
Weight الوزن	 ECO.-FL	 ECO.-HB	 ECO.-ST
Wattage القدرة الكهربائية	2-3 Kg	3 Kg	3 Kg
Installation التركيب	 ECO.-FL	 ECO.-HB	 ECO.-ST
	From 50 to 200 Watt من 50 إلى 200 واط	From 100 to 200 Watt من 100 إلى 200 واط	From 100 to 150 Watt من 100 إلى 150 واط
	With angle (30°, 45°, 60°) تحكم في الزاوية (30°, 45°, 60°)	-	Arm diameter 2" قطر ذراع التركيب 2 بوصة



# EPISTAR<sup>TM</sup>

## **3030**

### **LED CHIPS**

Chip performance characteristics  
Electrical and thermal characteristics  
Absolute maximum  
Characteristic curves

# LED CHIPS

## CHIP PERFORMANCE CHARACTERISTICS

Product	Nominal CCT	Minimum CRI	Typical Luminous Efficacy	Luminous Flux (lm)		Part Number
				Minimum	Typical	
Taiwan Epistar2345mil	6500 K	90	130	110	130	GS-3030W6

## ELECTRICAL & THERMAL RATINGS

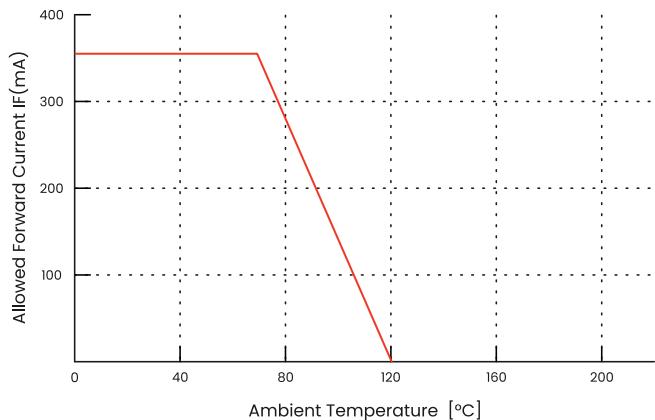
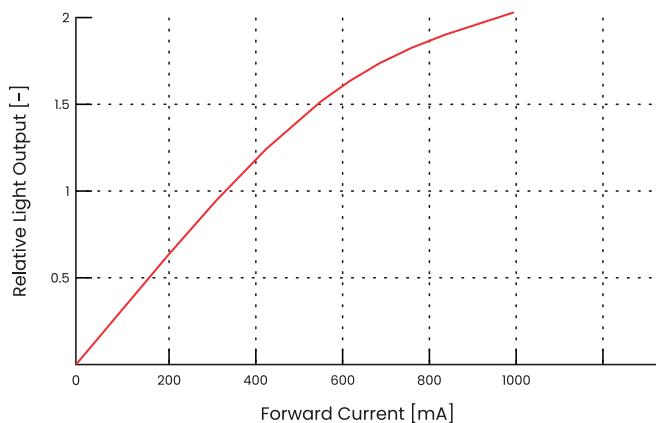
Part Number	Forward Voltage (Vf)			Typical Temperature Coefficient of Forward Voltage [2] (mV/°C)
	Minimum	Typical	Maximum	
GS-3030W6	5.8	6	6.6	-2 to -4

## ABSOLUTE MAXIMUM RATINGS

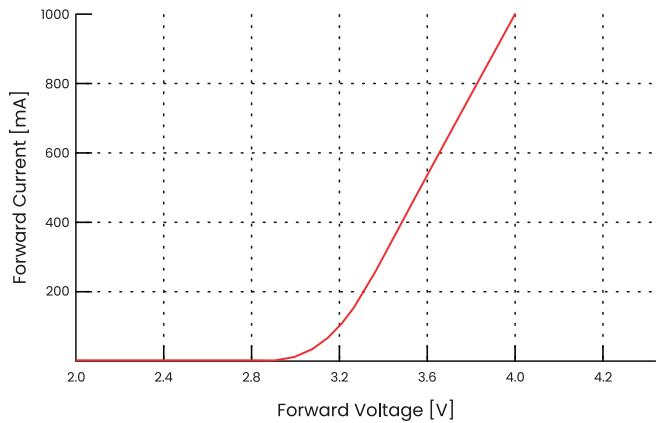
Parameter	Maximum performance
DC Forward Current	350 mA
Peak Pulsed Forward Current	700 mA
LED Junction Temperature (DC & Pulse)	125°C
Operating Case Temperature	-30°C to 75°C
LED Storage Temperature	-40°C to 85°C

## CHARACTERISTIC CURVES

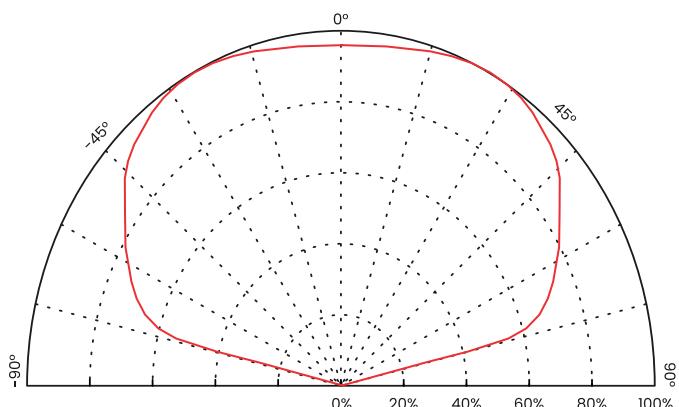
### LIGHT OUTPUT CHARACTERISTICS

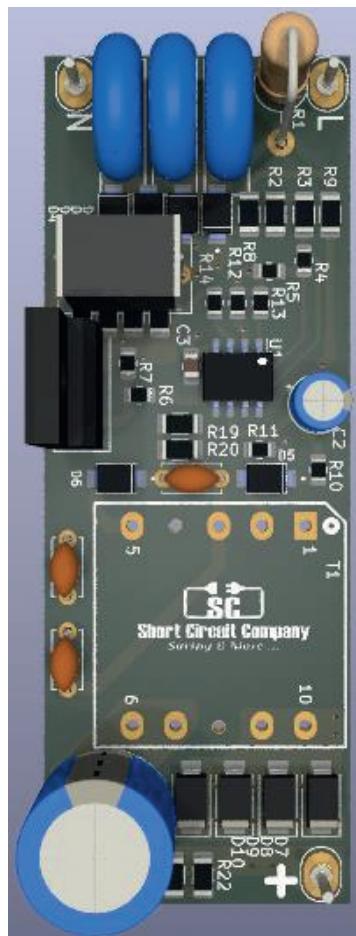


### FORWARD CURRENT CHARACTERISTICS



### POLAR CURVE





# SC™ Driver

Driver description  
Driver characteristics  
Driver stages  
Driver protection

## GENERAL DESCRIPTION

LDF series is an offline LED lighting controller with high power factor, low THD and high constant current (CC) precision. It can achieve low system cost for an isolated lighting application by primary side control in a single stage converter. It significantly simplifies the LED lighting system design by eliminating the secondary side feedback components and the opto-coupler. The proprietary CC control is used, and the system can achieve high power factor with constant on-time control. Quasi-resonant (QR) operation and clamping frequency improve the system efficiency.

The advanced start-up technology is used to meet the start-up time requirement (<0.5s). The constant output current is compensated for tolerance of transformer inductance variation. Besides, the line compensation and load compensation are built in for high precisely constant output current control. This series offers comprehensive protection coverage with auto-recovery features including programmable VIN foldback, programmable VIN OVP.

## FEATURES

- Primary-side control with single stage PFC LED driver for low system cost.
- High power factor (>0.95)
- Low THD (<10%)
- High efficiency (>85%)
- Lifetime up to 30,000h
- Pre-programmed VIN foldback
- Pre-programmed VIN OVP
- Pre-programmed CC regulation
- High precision constant current
- Fast start-up time (<0.5s)
- Built-in line/load compensation
- No visible flicker, and audible noise free.

## PROTECTION

- VDD over voltage protection
- Lightning surge voltage 4kV
- AC input overvoltage protection

The LED driver recovers automatically and back to normal operation after all fault causes are removed.

## MODULE SPECIFICATION

This section presents the specification of the LED driver, normal operation range and the driver performance

### AC INPUT SPECIFICATIONS

LED driver max. apparent power	56W at full load 95Vac<Vin<275V
AC input voltage rating	30Vac ~ 300Vac
AC input voltage range for normal operation	90Vac ~ 275Vac
AC input frequency range	47Hz ~ 63Hz
Power factor	>0.95 at 220Vac full load
AC input current THD	<10% at 220Vac full load
Efficiency	>85% at 220Vac full load

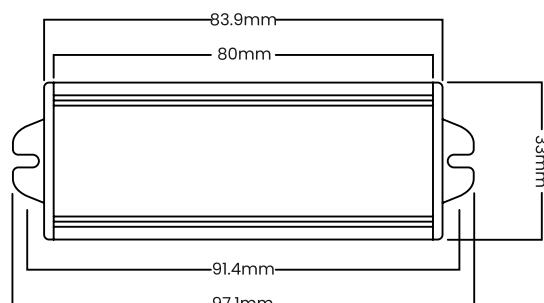
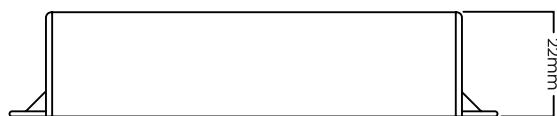
### DC OUTPUT CHARACTERISTICS

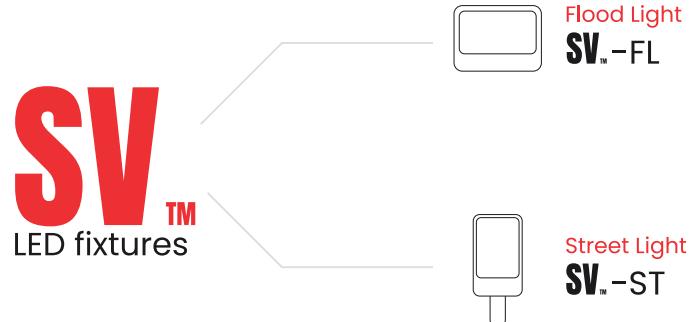
DC output voltage	20 ~ 35Vdc
Output voltage ripples	<2.5V peak-peak at max. load
DC output constant current	1450 mA, ±5%
Output current ripples	<45%
Maximum output power	50W
Line regulation	±5%
Load regulation	±5%
Start-up time	<600ms at 220Vac full load

### PROTECTION SPECIFICATIONS

AC input overvoltage	275Vac ~ 300Vac
DC output open circuit overvoltage	41 ~ 45 Vdc
Lightning surge	4KV
Controlled IC VDD undervoltage protection	9Vdc
Controlled IC VDD undervoltage protection	24Vdc

### MECHANICAL SPECIFICATIONS





## ABSTRACT

**SV** LED fixtures for industrial use. High performance of 98% of LED efficiency within more than 20,000 operating hours.

**SV** LED fixtures consist of **Sanan™** chips and LED driver with warranty of 2 years.

## COMPATIBILITIES

**RoHS**



**CE**



**LM79**

**LM80**

# SV™ LED fixtures



Flood Light  
**SV™-FL**



Street Light  
**SV™-ST**

**SV™-FL** is to lighten a constructions site for a low price and sufficient performance.

كشاف **SV™-FL** هو الاختيار المثالي لإضاءة المواقع الهندسية والعمارية بأسعار قليلة وأداء جيد.

**SV™-ST** is the best outdoor fixture for a constructions site for a low price and sufficient performance.

كشاف **SV™-ST** هو أفضل كشاف للمواقع الهندسية والعمارية بأسعار قليلة وأداء جيد.

# PRODUCT GENERAL INFO.

## GENERAL SPECIFICATIONS

Item	Specs	Units	المواصفة
LED Chip	Sanan		رقاقة LED
Driver			درايفر
LED Efficiency	110	Lm/W ليومن/واط	كفاءة LED
Wattage	100 to 400	W واط	شدة التيار
Beam Angle	120	Deg. درجة	زاوية الانتشار
Color Temp.	3000 to 6500	K كلفن	درجة اللون
CRI	> 80		مؤشر تجسيد اللون
Power Factor	> 0.6		معامل القدرة
Input Voltage	AC~85-256	V فولت	جهد الداخل
Frequency	50-60	Hz هيرتز	التردد
Op. Temp.	-40 to 85	C درجة مئوية	درجة حرارة التشغيل
Humidity	up to 90%		الرطوبة
IP	65		معامل الحماية
Life Time	20,000	Hour ساعة	عمر الكشاف
Warranty	2	Year سنة	الضمان

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## BODY & HEAT-SINK DESCRIPTION

Body الجسم	Anti-corrosion aluminum alloy heat sink (electrostatic painted) مشتت حراري مصنوع من سبيكة الألومنيوم المضادة للتآكل (مطلي إلكتروستاتيك)					
Aluminum Purity نقاء الألومنيوم	96-98%					
Number of fins عدد الشرائح	 SV.-FL	14-24	 SV.-ST	16		
Thickness of fins سمك الشرائح	Inner من الداخل	5 mm	Outer من الخارج	1.5 mm		
Front glass thickness سمك الزجاج الأمامي	 SV.-FL	3-5mm	 SV.-ST	3-5mm		
Front glass max. temp. درجة الحرارة القصوى للزجاج	 SV.-FL	750°C	 SV.-ST	750°C		
Lenses العدسات	 SV.-FL	-	UV Poly-carbonateheat resistant بوليكاربونات مقاوم للحرارة ومطلي بالـUV			
Beam angle زاوية انتشار الضوء	120°					
Gasket الجوان	silicone rubber insulation عزل مطاط سيليكون					
Glands الوصلات	Waterproof cable glands (silicone insulated) وصلات مقاومة للماء (معزولة بالسيلikon)					
IP معامل الحماية	65					
Weight الوزن	 SV.-FL	2.5 Kg	 SV.-ST	3 Kg		
Wattage القدرة الكهربائية	 SV.-FL	From 200 to 400 Watt من 200 إلى 400 واط	 SV.-ST	From 100 to 150 Watt من 100 إلى 150 واط		
Installation التركيب	 SV.-FL	With angle (30°, 45°, 60°) تحكم في الزاوية (30°, 45°, 60°)	 SV.-ST	Arm diameter 2" قطر ذراع التركيب 2 بوصة		



# Sanan<sup>TM</sup>

## 3030

### LED CHIPS

Chip performance characteristics  
Electrical and thermal characteristics  
Absolute maximum  
Characteristic curves

# LED CHIPS

## CHIP PERFORMANCE CHARACTERISTICS

Product	Nominal CCT	Minimum CRI	Typical Luminous Efficacy	Luminous Flux (lm)		Part Number
				Minimum	Typical	
GF-40WW6-10C8B-X3	6500 K	80	110	90	100	GC-20WW6-2002-X2

## ELECTRICAL & THERMAL RATINGS

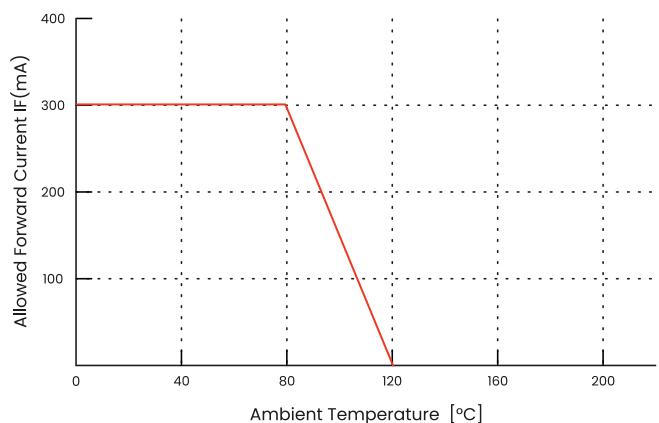
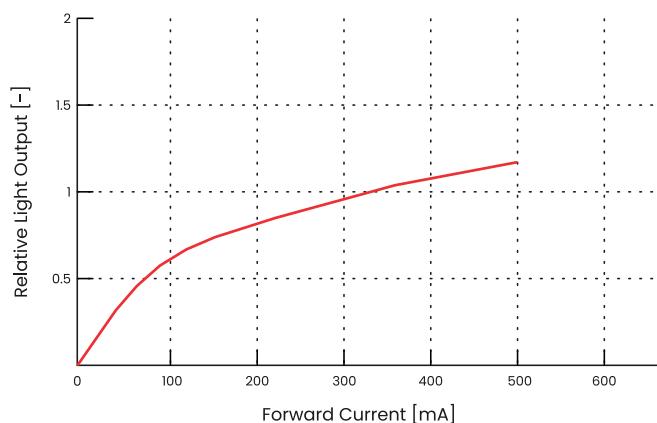
Part Number	Forward Voltage (Vf)			Typical Temperature Coefficient of Forward Voltage [2] (mV/°C)
	Minimum	Typical	Maximum	
GC-20WW6-2002-X2t	60		68	-2 to -4

## ABSOLUTE MAXIMUM RATINGS

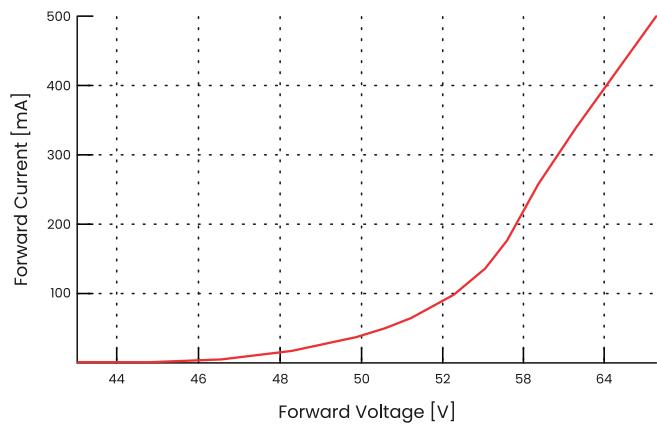
Parameter	Maximum performance
DC Forward Current	350 mA
Peak Pulsed Forward Current	500 mA
LED Junction Temperature (DC & Pulse)	115°C
Operating Case Temperature	-30°C to 75°C
LED Storage Temperature	-40°C to 85°C

## CHARACTERISTIC CURVES

### LIGHT OUTPUT CHARACTERISTICS



### FORWARD CURRENT CHARACTERISTICS



### POLAR CURVE

