PLED-SD-xxxLF

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SMDLED-SERIES Rev.02-2010

- ✓ **High Power** LED Driver
- ✓ **Step-Down** Converter
- ✓ **SMD** Package
- ✓ **Constant Current**
- ✓ **High Efficiency**
- ✓ **Dimming** Function(PWM/Analog)
- ✓ Remote Control

The SMDLED Series are step-down constant current source designed for driving high power LEDs. Following output currents are available: 300mA, 350mA, 500mA ,600mA, 700mA. SMDLED series is fully featured with very high efficiency, wide input voltage range, high ambient operating temperature, PWM dimming or Remote ON/OFF.

All specifications typical at Ta=25℃, nominal input voltage and full load unless otherwise specified

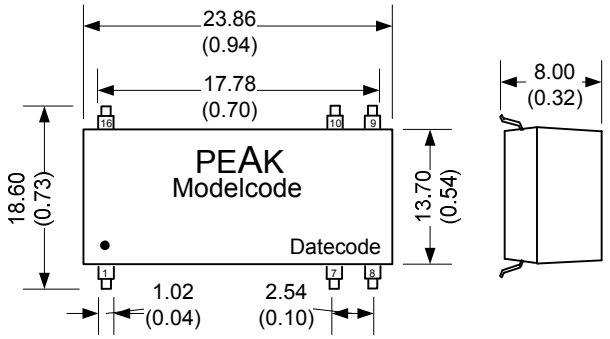
Input Specifications	
Voltage Range	5 – 36 VDC Wide Input (24V Recommended)
Filter	Capacitor
Output Specifications	
Output Voltage (Vin = 36V)	2 – 32 VDC
Output Current	See table (Vin – Vout > 1.5-4 V)
Current Accuracy / Stability	± 5%, typ. (Vin= 24V, 5 LED's / 1–5 LED's)
Short Circuit Protection	Continuous
Temperature coefficient	± 0.03% / C°, max. (-40° to +71℃)
General Specifications	
Efficiency	See table, max.
Capacitive Load	470 uF, max.
MTBF (MIL-HDBK-217F @ 25℃)	> 2000 kHrs
Physical Specifications	
Case Material	Epoxy Resin (UL94V-0 rated)
Weight	~ 4.5g, typ.
Environment Specifications	
Operating Temperature	-40 to +85 ℃ (for 100% / 300 - 350mA) -40 to +71 ℃ (for 100% / 500 - 700mA)
Maximum Case Temperature	100℃
Storage Temperature	-55 to +125℃
Cooling	Free Air Convection (10mm distance required)
RoHS	Soldering 240℃ (10sec), max.

Selection Guide

Order #	Input Voltage (Vdc)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
PLED-SD-300LF	5.5-36 (nom. 24)	2-32	300	95
PLED-SD-350LF	5.5-36 (nom. 24)	2-32	350	95
PLED-SD-500LF	5.5-36 (nom. 24)	2-32	500	95
PLED-SD-600LF	5.5-36 (nom. 24)	2-32	600	95
PLED-SD-700LF	5.5-36 (nom. 24)	2-32	700	95

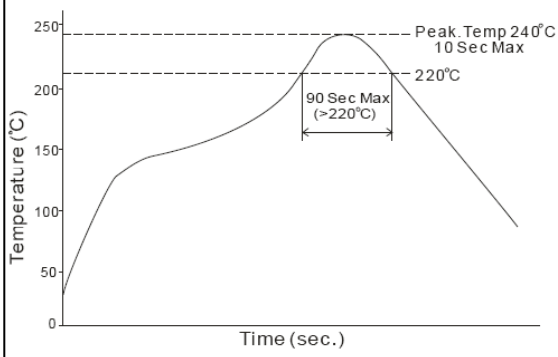
If you need other specifications, please ask.

Package / Pinning / Derating

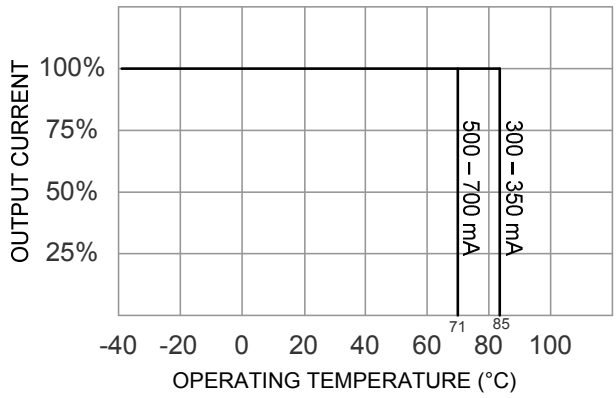


All dimensions are typical in millimeters (inches).
- Pin pitch tolerance: +/-0.35 (+/-0.014)
- Case tolerance +/-0.5 (+/-0.02)
Specification may change without notice.

SMDLED-Series



TEMPERATURE DERATING GRAPH



PIN CONNECTIONS	
#	LED
1	GND
7	ON/OFF/PWM
8	LED -
9	LED +
10	N.C.
16	+ Vin

Note:
1. Operation under minimum load will not damage the converter. (May not meet all listed specification)
2. All specifications measured @Ta=25℃, humidity <75%, nominal input voltage and rated output load unless otherwise specified.
3. In this datasheet, all the test methods of indications are based on corporate standards.
4. Only typ. models listed. Other models may be different, please contact our technical service

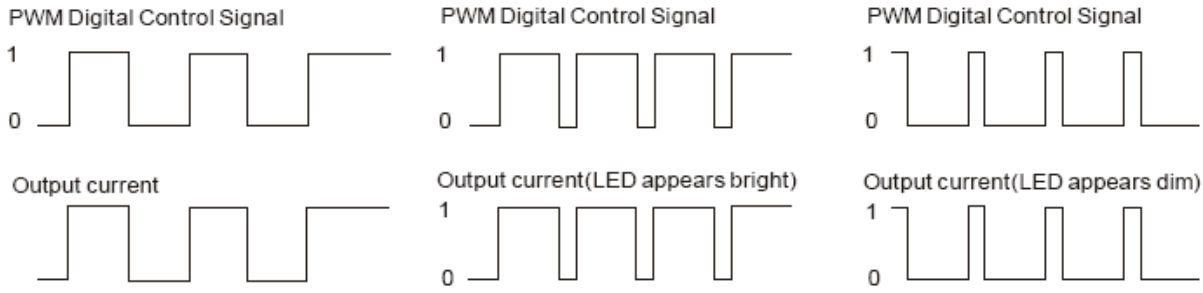
App Notes

REMOTE ON/OFF:
(Leave open if not in use)

ON:	Open or 2.8V < Vc < 6V
OFF:	Vc < 0.6V
Remote Pin Current:	1mA (Vc=5V)
Quiescent Input Current:	800uA (Vin=24V, Vc < 0.6V) in Shutdown mode

DIMMING CONTROL:
(Leave open if not in use)

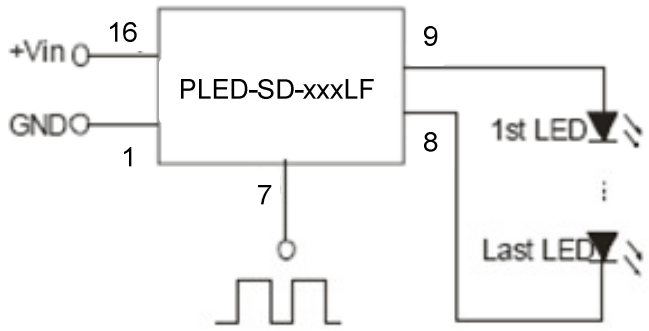
Digital Control: Max PWM Frequency **10 kHz**



This is a PWM type digital dimming, which you can control the output current by adjusting the pulse width of the PWM signal.

Io_set=Io_norm×D
Io_set refres to the wanted output current value.
Io_norm refers to the rated output current
D refers to the pulse width of the PWM signal

For example: we assume the rated output current is 300mA and wanted output current is 150mA, then the pulse width should be 0.5 from the equation above. That is say if we keep the pulse width of PWM signal at 0.5, the output current will be kept at 150mA. It is natural for the driver to generate a audibly noise in dimming process, because the frequency of the control circuit is within human audibly range (20Hz~20KHz).



In actual use, if necessary to protect LED, a PTC of positive temperature coefficient may be connect to the input end of every channel or all channels, as shown on the left hand side.