

SPECIFICATION

PLED-3528-650-1

point source LED, 650nm (typ.), 1,3mW
SMD3528 PLCC2 (blk)
Rev. 1.0 (Oct. 2020)

Features



Features

- Long lasting
- High Brightness
- Energy saving and environmental protection
- Low DC voltage operation
- Fast reaction
- Adjustable luminosity
- UV-free
- Strong antistatic ability
- Eutectic process
- Comply with RoHS requirements

Application

- Signal light source suitable for various photoelectric detectors
- Suitable for all kinds of photoelectric conversion automatic control instruments, sensors, etc.
- According to the driving method, stable light, pulse light, slowly variable light can be obtained, Commonly used in remote control, alarm, wireless communication, etc.
- Can be used in various infrared remote control systems, infrared light of various sensors Source, detection link of automatic control system, optical counter and card reader Infrared light source for reading

Physical Characteristics and Structure (Chip only):

1) Material:	AlGaInP
2) Structure :	Resonant Cavity Structure
3) Die size :	0.250mm×0.400mm
4) Thickness :	0.250mm
5) Emission area :	0.150mm diameter
6) Anode Metallization :	Gold Alloy
7) Cathode Metallization :	Gold Alloy

Electro-Optical Characteristics (TA=25°C)

Item	symbol	condition	Min	Avg	Max	Unit
Forward voltage	V _F	I _F =20mA	--	2	--	V
Reverse current	I _R	V _R =5V	--	--	10	μA
Optical power	P _V	I _F =20mA	1.1	1.3	2.0	mW
Peak wavelength	λ _p	I _F =20mA	--	650	--	nm
Junction temperature	T _J	I _F =20mA	--	125	--	°C

Note

Tolerances: V_F ±0,1V peak WL ±5nm P_O ±5%

Absolute maximum ratings

Item	symbol	Rated value	unit
Pulse current	I _{FP}	150	mA
Reverse voltage	V _R	5	V
Power	P _D	40	mW
Operating temperature	T _{OPR}	-40~+80	°C
Storage temperature	T _{STG}	-40~+100	°C
Lead-free soldering temperature	T _{SOL}	Max. 260°C for 3 sec Max. 260 degrees does not exceed 3 seconds	

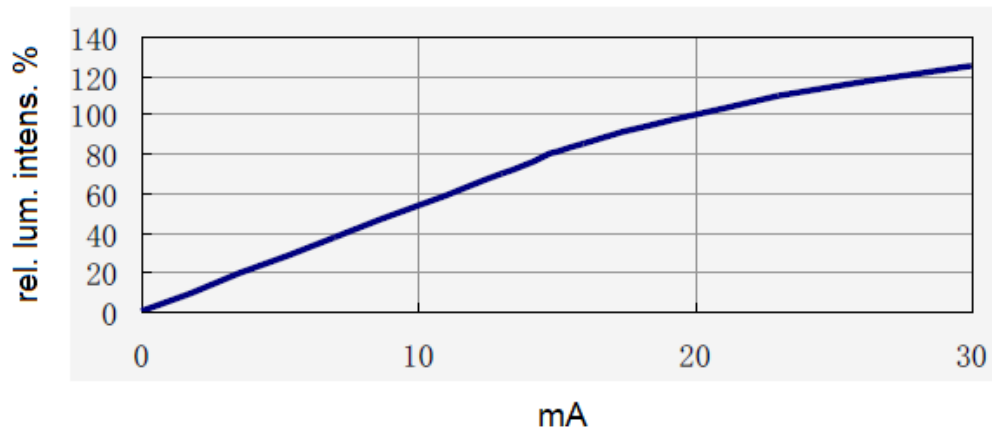
Note

*Maximum forward current condition: pulse width ≤10msec duty cycle ≤1/10.

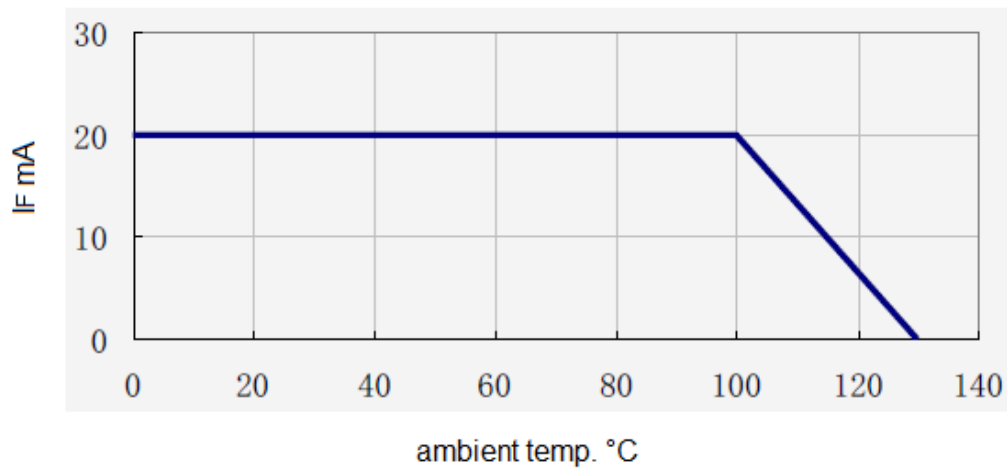
*The welding position is ≥ 2mm away from the pipe body, and the time ≤ 3s

Figures

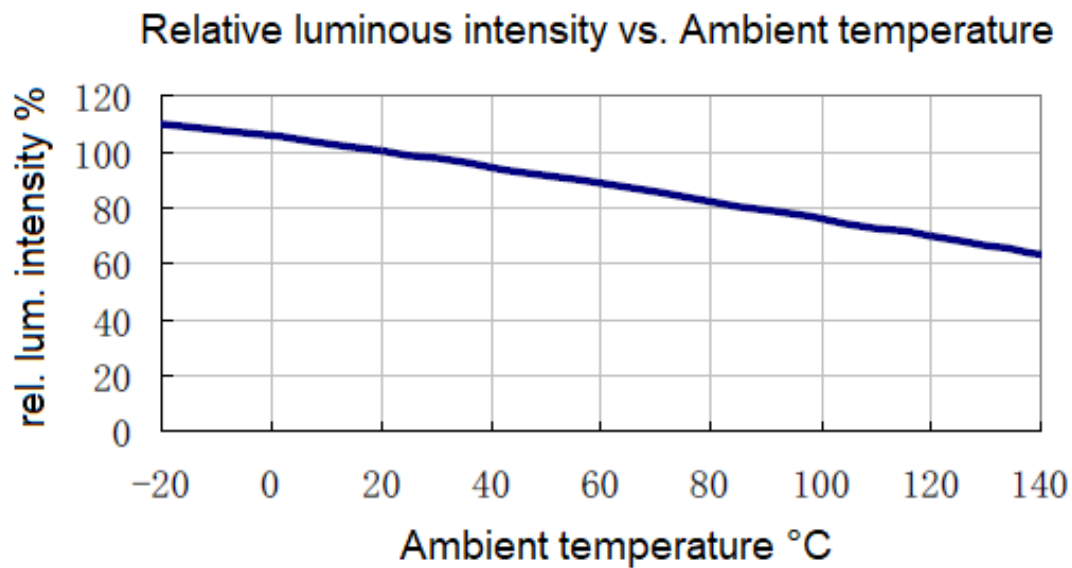
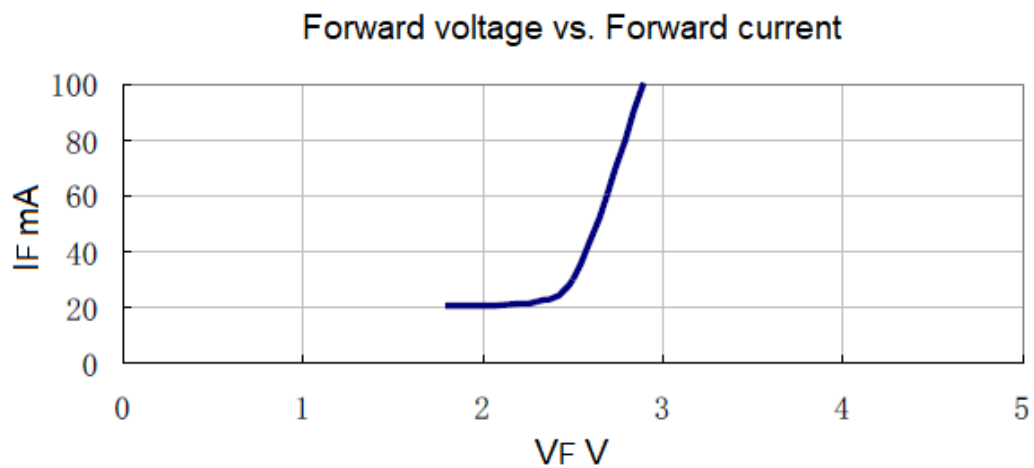
IF vs. relative luminous intensity



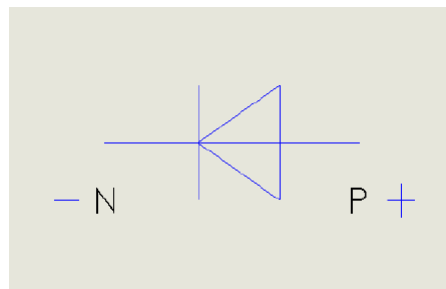
ambient temperature vs. max. IF



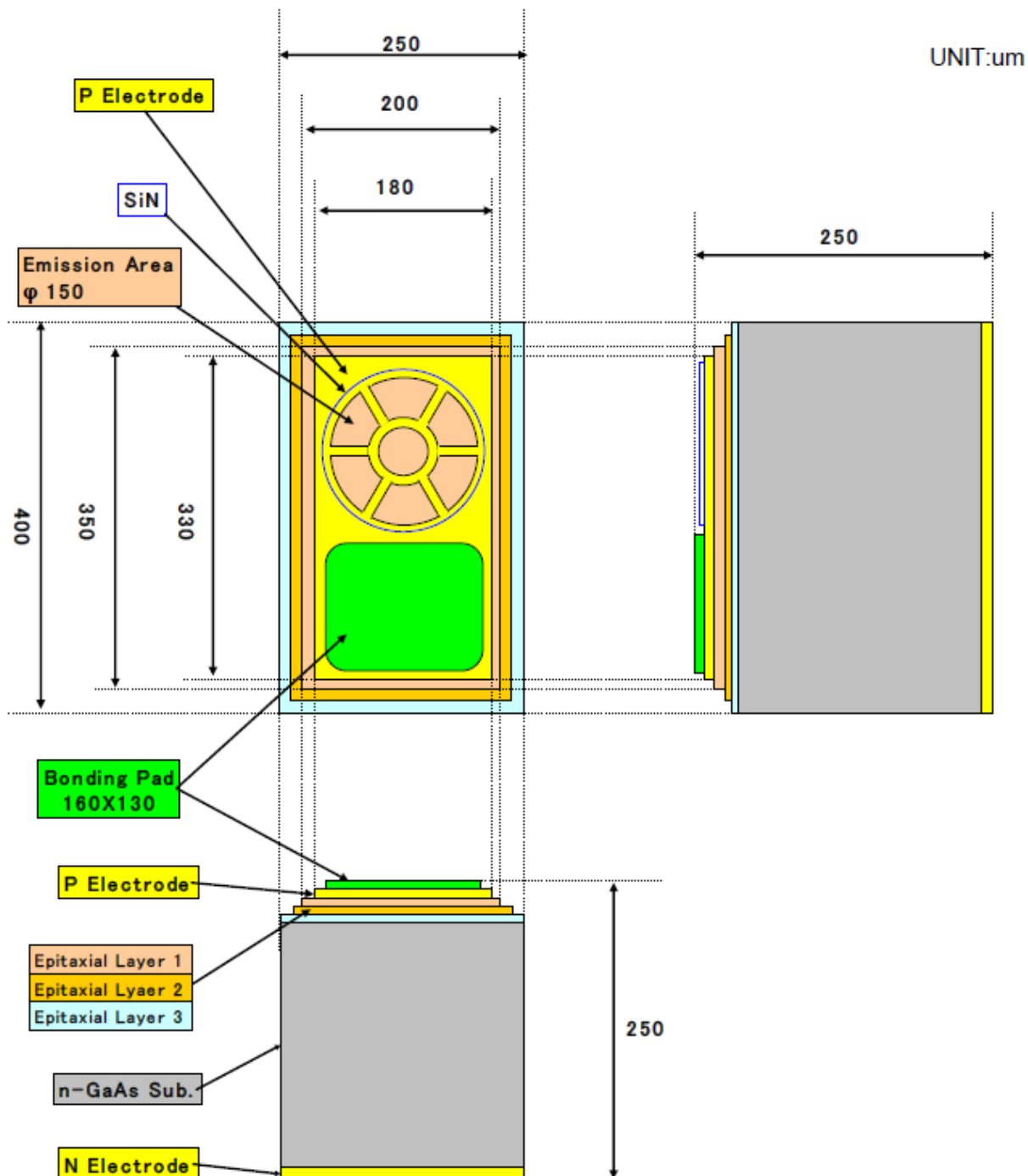
Figures



Connection Diagram

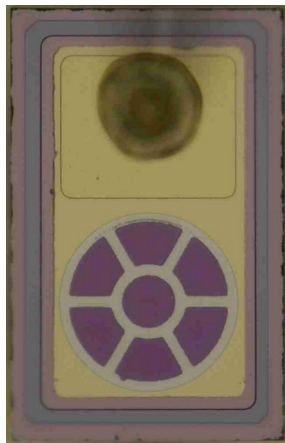


Physical Dimensions (Chip only):

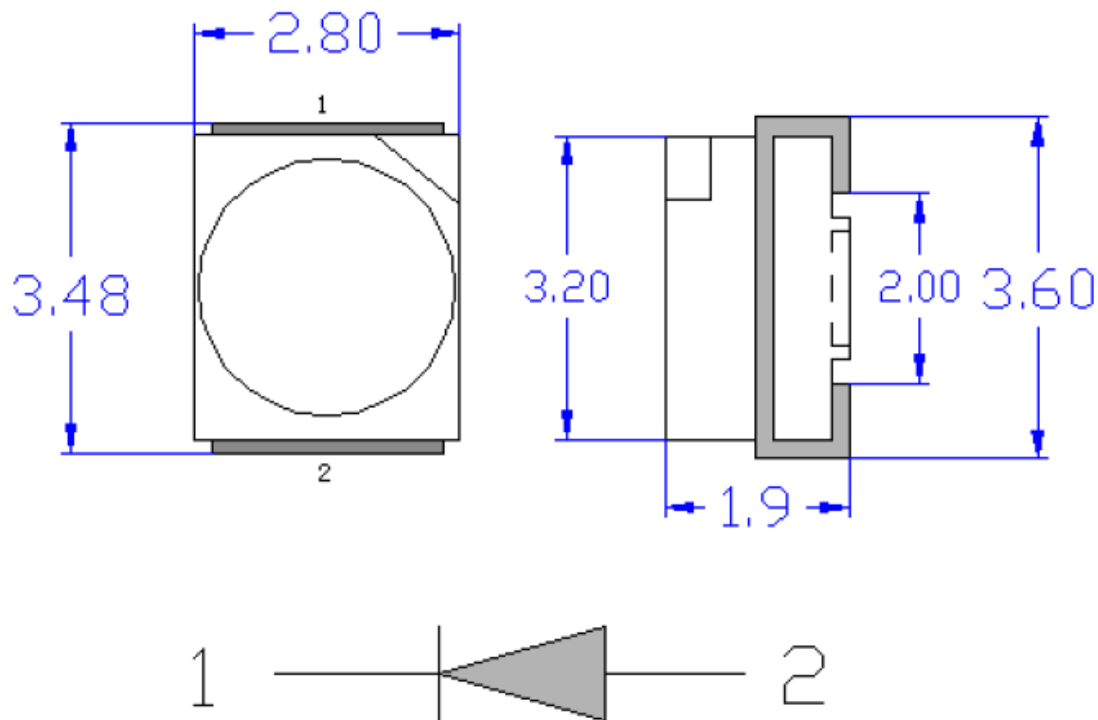


Remark: This specification is for reference purpose only, and subject to change without prior notice.
Approved specification shall be obtained for the regular purchase.

High Resolution Picture of the Chip:



Physical Dimensions (PLCC2 Package):



(Note:)

1. All dimensions are in millimeters.
2. The dimensional tolerance of the lead is $\pm 0.5\text{mm}$, the colloid width tolerance is $\pm 0.05\text{mm}$, and the remaining dimensional tolerance is $\pm 0.2\text{mm}$.

Precautions:

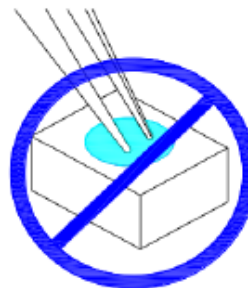
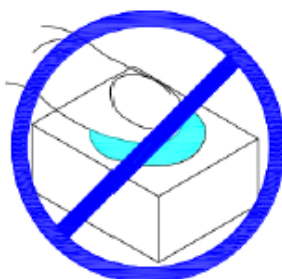
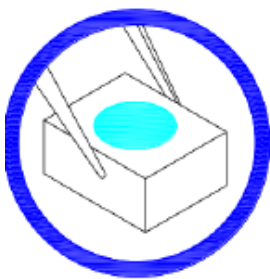
1. The material structure of SMD LED is very easy to absorb moisture in the air. The moisture absorption of the product is easy to cause the quality of the product to deteriorate. The product is not bright when it is energized, or the part is bright or energized, but the aging and attenuation are strong until it is not bright. Non-uniform reflows soldering at too high a temperature will cause great stress damage.
2. The product is stored in an anti-static aluminum foil bag after being sealed at 5-30° C, humidity <60%RH, storage period is 3 months, when more than 3 months need to be re-baked before reopening, the baking condition is 70 ±5℃, 6H. The bulk product has been disassembled (not on the carrier tape or disc), the baking conditions are 150 °C ± 5 °C, 3H.
3. The product must be used within 24 hours after unpacking the sealed packaging bag. The unused products should be stored in a dry box or an oven at 70℃.
4. The product is a static sensitive device. Static electricity and surge can easily damage the SMD LED device. Anti-static protection should be paid attention to during use.
5. High brightness will hurt people's eyes, pay attention to avoid direct light emitting devices into people's eyes.
6. Welding conditions

Item	Welding temperature	Welding time	Welding power
Soldering iron	≤310℃	≤2sec	≤25W

Reflow soldering setting reference:

Temperature zone 1	Temperature zone 2	Temperature zone 3	Temperature zone 4	Temperature zone 5	Temperature zone 6	Temperature zone 7	Temperature zone 8
130℃/45S	150℃/45S	170℃/45S	190℃/45S	220℃/45S	235℃/45S	180℃/45S	150℃/45S

7. Use appropriate tools to grab from the side of the material. Do not directly press the surface of the colloid with your hands or sharp metal. It may damage the internal circuit.



Disclaimer

The information in this document is provided in connection with AMC HighTech products. No license, express or implied, by estoppel or otherwise, to any intellectual property right is granted by this document or in connection with the sale of AMC products. Except as set forth in AMC HighTechs terms and conditions of sale located on www.amc-hightech.com, AMC HighTech assumes no liability whatsoever and disclaims any express, implied or statutory. Warranty related to its products including, but not limited to, the implied warranty of merchantability, fitness for a particular purpose, or non-infringement. In no event shall AMC HighTech be liable for any direct, indirect consequential punitive, special or incidental damages (including, without limitation, damages for loss of profits or business interruption) arising out of the use this document, even if a has been of the possibility of such damages. , AMC HighTech makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Atmel does not make any commitment to update the information contained herein. Unless specifically provided otherwise, AMC HighTech products are not suitable for, and shall not be used in, automotive applications. AMC HighTech products are not intended, authorized, or warranted for use as components in applications intended to support or sustain life.