

Light Avenue Premium Edition LED series is designed for high performance consumer applications. As this die can be driven at very high currents compared to the chip size, an outstanding cost vs. performance ratio can be obtained. Furthermore this volume emitting chip can withstand ESD voltage up to 1kV.



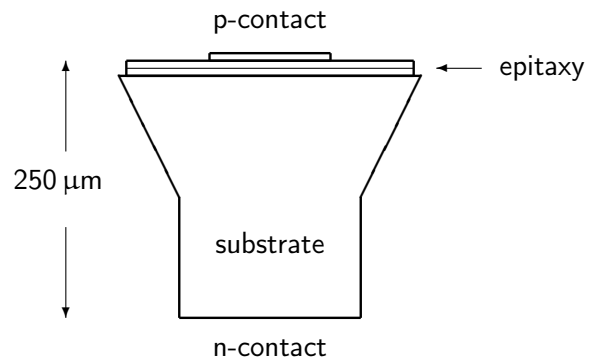
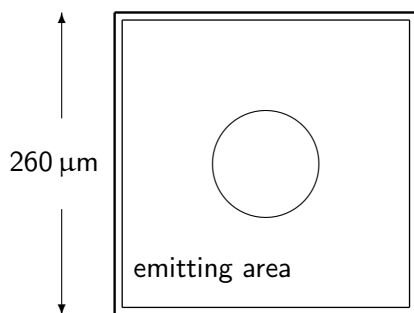
Features

- High brightness InGaN chip
- Volume emitting device
- Optimized for lamp applications
- Grouping: radiant power, wavelength
- ESD withstand voltage up to 1kV

Applications

- Solid state lighting
- Lamps
- Displays
- Light indicators

Delineation



Mechanical characteristics

DESCRIPTION	MINIMUM	TYPICAL ¹	MAXIMUM
Chip size (μm)	275	300	325
Chip height (μm)	230	250	270
Bond pad diameter (μm)	100	120	140
Top contact	Anode (p), gold		
Bottom contact	Cathode (n), gold alloy		
Die attach	Epoxy bonding		

Electro-optical characteristics ($T_A = 25^\circ\text{C}$)²

PARAMETER	SYMBOL	CONDITION	MIN.	TYP. ¹	MAX.	UNIT
Forward voltage	V_F	$I_F = 20\text{ mA}$	2.70		4.00	V
Reverse voltage	V_R	$I_R = 10\ \mu\text{A}$	5.0			V
Dominant wavelength	λ_{dom}	$I_F = 20\text{ mA}$	515		537.5	nm
Radiant power	Φ_e	$I_F = 20\text{ mA}$	1.0	2.0		mW

Maximum ratings ($T_A = 25^\circ\text{C}$)³

PARAMETER	SYMBOL	VALUE	UNIT
Operating temperature range	T_{op}	-40...+85	$^\circ\text{C}$
Forward current	I_F	50	mA
LED junction temperature	T_j	125	$^\circ\text{C}$

Binning ($I_F = 20\text{ mA}$)⁴

		WAVELENGTH (NM)							
		515-520	517.5-522.5	520-525	522.5-527.5	525-530	527.5-532.5	530-535	532.5-537.5
Radiant power (mW)	> 1	W7	WM7	X7	XM7	Y7	YM7	Z7	ZM7
	> 1.25	W8	WM8	X8	XM8	Y8	YM8	Z8	ZM8
	> 1.6	W9	WM9	X9	XM9	Y9	YM9	Z9	ZM9
	> 2	W10	WM10	X10	XM10	Y10	YM10	Z10	ZM10
	> 2.5	W11	WM11	X11	XM11	Y11	YM11	Z11	ZM11
	> 3.2	W12	WM12	X12	XM12	Y12	YM12	Z12	ZM12

Notes:

- The usage of LEDs in life-support devices or systems has to be expressly and written authorized by the supplier!
- Dice are sensitive to ESD.
- Dice are shipped on blue foil with or without frame and have therefore to be stored between 15 and 30 $^\circ\text{C}$ and below 60% relative humidity.
- Lead free product - RoHS compliant.
- The information in this document is subject to change without notice and describes the die generally. It shall not be considered as assured characteristics or detailed specification.

- The quality level of the final visual inspection shall comply to an AQL of 1.0 (according to MIL-STD-105E, level II), if the customer performs an incoming visual inspection of a shipment.
- All chips are checked according to the "Failure Catalog of Light Avenue dice" dated 2009-11-14. If this document is not familiar to you, please request it at your next sales office.

¹Typical (Typ) data are defined as long-term production mean values. These values are not specified and only given for information.

²Measurements are done with an accuracy of $\pm 15\%$. Correlation to customer's equipment and products is required.

³Maximum ratings are package dependent and may differ between packages. The forward current is not limited by the die but by the effect of the LED junction temperature on the package. If you need more information on pulsed operation, please contact your next sales office about possible driving conditions. If not otherwise specified the maximum pulse current may not exceed the maximum current in continuous mode.

⁴There may be more than one bin on one single foil. Single bins cannot be ordered.