

Light Avenue Premium Edition LED series is designed for high performance consumer applications. Remarkable light extraction is reached by a particular top emitting design with vertical chip structure. As this die can be driven at very high currents compared to the chip size, an outstanding cost vs. performance ratio can be obtained.



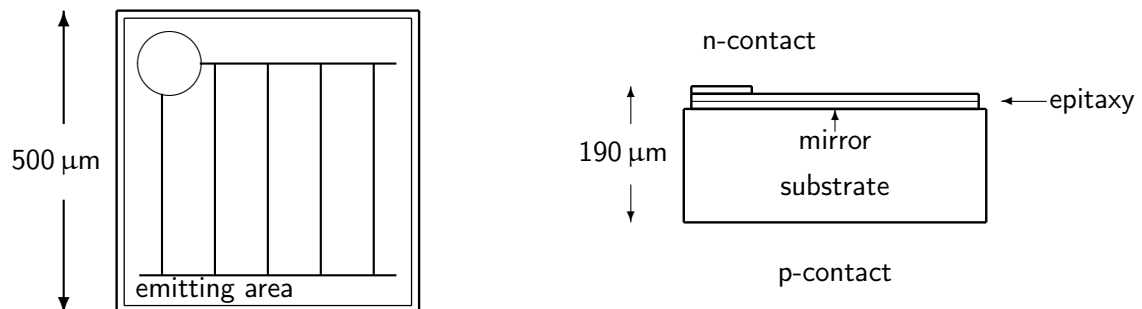
### Features

- Top emitting device
- Lambertian radiation
- Optimized for SMT applications
- Grouping: luminous intensity, wavelength
- Highest brightness AlInGaP chip

### Applications

- Solid state lighting
- LCD backlighting
- Displays
- Light indicators

### Delineation



### Mechanical characteristics

DESCRIPTION	MINIMUM	TYPICAL <sup>1</sup>	MAXIMUM
Chip size (µm)	450	500	550
Chip height (µm)	170	190	210
Bond pad diameter (µm)	90	110	130
Top contact	Cathode (n), gold		
Bottom contact	Anode (p), gold alloy		
Die attach	Epoxy bonding		

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

PARAMETER	SYMBOL	CONDITION	MIN.	TYP. <sup>1</sup>	MAX.	UNIT
Forward voltage	$V_F$	$I_F = 140\text{ mA}$	1.80		2.60	V
Reverse voltage	$V_R$	$I_R = 10\ \mu\text{A}$	5.0			V
Dominant wavelength	$\lambda_{dom}$	$I_F = 140\text{ mA}$	580		597.5	nm
Luminous intensity	$I_v$	$I_F = 140\text{ mA}$	1250	2500		mcd

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

PARAMETER	SYMBOL	VALUE	UNIT
Operating temperature range	$T_{op}$	-40...+85	°C
Forward current	$I_F$	200	mA
LED junction temperature	$T_j$	125	°C

Binning ( $I_F = 140\text{ mA}$ )<sup>4</sup>

		WAVELENGTH (NM)					
		580-585	582.5-587.5	585-590	587.5-592.5	590-595	592.5-597.5
Luminous intensity (mcd)	> 1250	A38	AM38	B38	BM38	C38	CM38
	> 1600	A39	AM39	B39	BM39	C39	CM39
	> 2000	A40	AM40	B40	BM40	C40	CM40
	> 2500	A41	AM41	B41	BM41	C41	CM41
	> 3200	A42	AM42	B42	BM42	C42	CM42
	> 4000	A43	AM43	B43	BM43	C43	CM43

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°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.

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

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

<sup>3</sup>Maximum 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.

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