LiGHT AVENUE®

LA HB28WP4

Premium Edition Hyper Blue 28 mil

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.

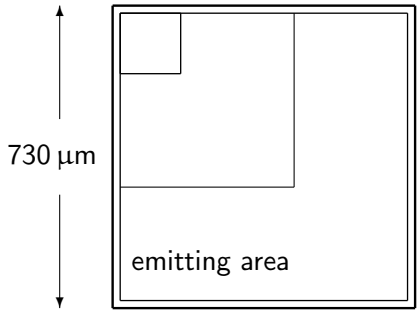
Features

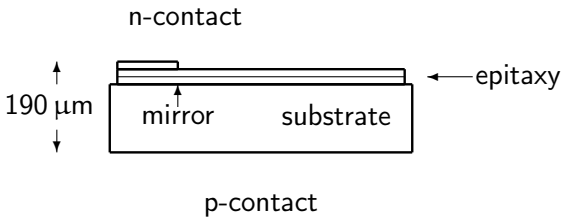
- Highest brightness InGaN chip
- Top emitting device
- Lambertian radiation
- Optimized for SMT applications
- Grouping: radiant power, wavelength

Applications

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

Delineation





Mechanical characteristics

Description		Minimum	Typical[1]	Maximum
Chip size	(µm)	680	730	780
Chip height	(µm)	170	190	210
Bond pad diameter	(µm)	160	180	200
Top contact		Cathode (n), gold		
Bottom contact		Anode (p), gold alloy		
Die attach		Epoxy bonding		

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Electro-optical characteristics ($T_A = 25°C$)[2]

Parameter	Symbol	Condition	Min.	Typ.[1]	Max.	Unit
Forward voltage	V_F	$I_F = 350\,mA$	2.70		3.80	V
Reverse voltage	V_R	$I_R = 10\,\mu A$	5.0			V
Dominant wavelength	λ_{dom}	$I_F = 350\,mA$	435		457.5	nm
Radiant power	Φ_e	$I_F = 350\,mA$	160	400		mW

Maximum ratings ($T_A = 25°C$)[3]

Parameter	Symbol	Value	Unit
Operating temperature range	T_{op}	-40...+85	°C
Forward current	I_F	350	mA
LED junction temperature	T_j	125	°C

Binning ($I_F = 350\,mA$)[4]

		Wavelength (nm)							
		435-440	437.5-442.5	440-445	442.5-447.5	445-450	447.5-452.5	450-455	452.5-457.5
Radiant power (mW)	> 160	W29	WM29	X29	XM29	Y29	YM29	Z29	ZM29
	> 200	W30	WM30	X30	XM30	Y30	YM30	Z30	ZM30
	> 250	W31	WM31	X31	XM31	Y31	YM31	Z31	ZM31
	> 320	W32	WM32	X32	XM32	Y32	YM32	Z32	ZM32
	> 400	W33	WM33	X33	XM33	Y33	YM33	Z33	ZM33
	> 500	W34	WM34	X34	XM34	Y34	YM34	Z34	ZM34

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 performes 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.

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

[2]Measurements are done with an accuracy of ±15%. Correlation to customer's equipment and products is required.

[3]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.

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