

## AllInGaP EPITAXIAL WAFER TECHNOLOGY

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### ■ FEATURES AND BENEFITS:

- MULTIPLE QUANTUM WELL STRUCTURE
- HIGH REFLECTIVITY EMBEDDED DISTRIBUTIVE BRAGG REFLECTOR
- EXCELLENT WAVELENGTH AND BRIGHTNESS UNIFORMITY
- NARROW SPECTRAL BANDWIDTH, SUPERIOR UNIFORMITY
- OUTSTANDING PERFORMANCE OVER TEMPERATURE

### ■ WAFER CHARACTERISTICS:

- WAFER DIAMETER: 76.2mm ±
- WAFER THICKNESS: 375 ±25 microns (Unthinned)
- WAFER SUBSTRATE: GaAs (n-Type)
- EPITAXIAL TOP LAYER: GaP

### Electro-Optical Characteristics @ 25° C, 20 mA DC

Parameter	UAEP3590-						UAEP3618-					
	-0B2		-0G2		-0K2		-0B2		-0G2		-0K2	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Luminous Intensity (I <sub>v</sub> /mcd)	90	120	100	150	180	190	90	100	140	150	180	190
Dom. Wavelength (λ <sub>d</sub> /nm)	621	631	621	631	618	623	613	618	613	623	613	623
Peak Wavelength (λ <sub>p</sub> /nm)	633		633		625		625		625		625	
Spectral Width (Δλ/nm)	18		18		18		18		18		18	
Forward Voltage (V <sub>EV</sub> )	2.0	2.4	2.0	2.4	2.0	2.4	2.0	2.4	2.0	2.4	2.0	2.4

Parameter	UAEP3626-						UAEP3650-					
	-0B2		-0G2		-0K2		-0D2		-0G2		-0L2	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Luminous Intensity (I <sub>v</sub> /mcd)	90	120	100	150	180	190	25	40	40	55	55	70
Dom. Wavelength (λ <sub>d</sub> /nm)	621	631	621	631	618	623	640	650	640	660	640	660
Peak Wavelength (λ <sub>p</sub> /nm)	633		633		625		657		657		657	
Spectral Width (Δλ/nm)	18		18		18		18		18		18	
Forward Voltage (V <sub>EV</sub> )	2.0	2.4	2.0	2.4	2.0	2.4	2.0	2.4	2.0	2.4	2.0	2.4
Optical Power (mW)	n/a		n/a		n/a		1.0		1.6		2.6	

**NOTES:** 1) Electro-Optical Characteristics are measured using die from other EPI wafers in the same lot mounted on TO-46 headers however, as fabrication conditions will influence the final performance of the LED, the electrical and optical characteristics of chips and bare die manufactured from UOE wafers is not guaranteed. 2) Optical power is measured with die on TO-46 headers using an integrating sphere. An index matching encapsulant is not used. 3) A tolerance of ± 15% on brightness level, and ± 2 nm on chromaticity, due to measuring variations applies. 4) Typical values are provided for information only but are within the range of average values of acceptable sample sizes. 5) Maximum ratings are package dependent. The forward currents are not limited by the die but by the effect of the package. 6) Design and construction on the junction temperature of the LED. 7) Forward voltage can be affected by the metals technology used in the fabrication of the die. 8) The Electro-Optical characteristics are based on a typical die dimension of 0.012 X 0.012 X 0.0015 with a 100 um contact diameter. 10) The Dominant wavelength measurement is calculated from the 1931 2° CIE Chromaticity Diagram.