

APPLICATION NOTE

ABN 700 DF DESIGN

Provides outstanding Uniformity

MBE49 Production System

AlGaInP quaternary alloy, due to its wavelength emitting range (630-690 nm), is a key material for the growth of CD and DVD laser diodes.

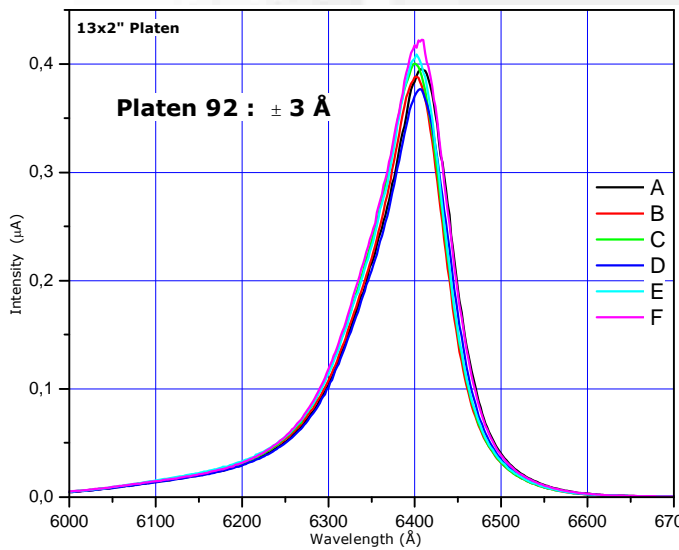
Growth and structure characterization were performed by the Riber Application Laboratory, using the Riber MBE49 system, with ABN700DF effusion cells (Ga, Al, In) and the KPC1200 phosphorus valved cracker cell.

Results

The AlGaInP/InGaP multi-quantum wells were grown on 2", GaAs(Si) substrates.

Based on photoluminescence measurements over the entire 13x2" platen, the structure demonstrates:

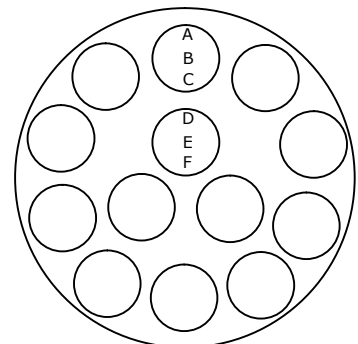
An excellent wavelength uniformity, $\Delta\lambda = \pm 0.06\%$, showing that ABN700DF effusion cells exhibit excellent uniformity fluxes over the entire platen.



Platen position	Wavelength (Å)
15	6404
32.5	6402
47	6402
70	6408
88	6402
102	6406

Distance from center to edge

Ga _{0.515} In _{0.485} P	
(Al _{0.7} Ga _{0.3}) _{0.515} In _{0.485} P	Q.0.7
Q.0.5 → Q.0.7 gradual layer	
AlGaInP Q.0.5	
AlGaInP	Barrier
GaInP	Strained QW
AlGaInP	Barrier
GaInP	Strained QW
AlGaInP	Barrier
GaInP	Strained QW
AlGaInP	Barrier
GaInP	Strained QW
AlGaInP	Q.0.5
Q.0.7 → Q.0.5 gradual layer	
(Al _{0.7} Ga _{0.3}) _{0.515} In _{0.485} P	Q.0.7
GaAs	
GaAs(Si)	



13x2" platen

For more information please contact info@riber.com