

# MeGa

special materials

Russia, Moscow, Zelenograd

[www.epitaxy.ru](http://www.epitaxy.ru)

[megasm@mail.compnet.ru](mailto:megasm@mail.compnet.ru)

The major direction of activity of «MeGa SM» company is manufacture of PCHS heterostructures for NEA photocathodes, which are used in night vision devices of Gen. III<sup>+</sup>. For this purpose, the unique technology has been developed which can provide for high performance of end device key parameters, such as purity of vision field and photocathode luminous sensitivity.

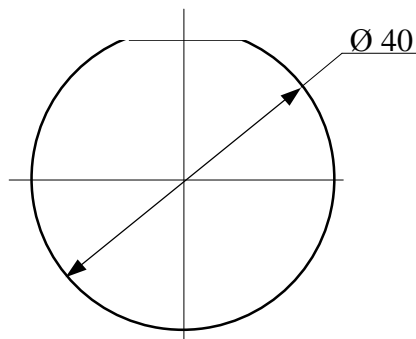
The company produces heterostructures both for standard photocathodes (PCHS type 1), and for photocathodes with sensitivity extended into short-wave part of spectrum (PCHS type 2). The structures are made as circular wafers with diameter 37-40 mm

Main parameters of PCHS heterostructures for NEA photocathodes are presented in the chart below.

## AlGaAs heterostructure PCHS for NEA-photocatodes

### Construction PCHS:

3. p-GaAlAs
2. p-GaAs
1. p-GaAlAs
p-GaAs ( substrate )



### Characteristics of epitaxial layer PCHS:

№ layer	Type layer	Thickness, $\mu\text{m}$	Mole-Fraction AlAs
1	Stopper	$4,5 \pm 1,0$	0,60 – 0,65
2	Active	$2,5 \pm 0,3$	0.00
3	Buffer	<b>PCHS1</b>	0,55 – 0,60
		<b>PCHS2</b>	0,80 – 0,85

Bandgap width < 1.416 eV