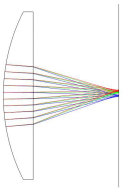
SUNSTAR传感与控制 http://www.sensor-ic.com/ TEL:0755-83376549 FAX:0755-83376182E-MAIL: szss20@163.com



HEIMANN Sensor
HEIMANN SENSOR GMBH

# HTPA Series Standard Optics

Heimann Sensor offers several kind of standard optics. We offer high performance dual germanium lens optics, as well as low cost uncoated, single silicon lenses. Naturally, it is possible to create new solutions, which fit to the individual needs of the customer.

| Possible Combinations | | | | | | |
|---|---|---|---|---|---|---|
| Lens | HTPA8x8 TO39 | HTPA8x8 TO8 | HTPA16x16 | HTPA32x31 | HTPA64x62 | Remarks |
| L3 | X | X | X | - | - | f/<1.0 Ge ARC |
| L3.6 | X | X | X | - | - | f/<1.0 Si uncoated |
| L4.7 | - | - | - | X | X | f/0.9 Dual Ge ARC |
| L5.5 | X | - | - | - | - | f/1.0 Si uncoated |
| L7/1.2 | X | - | - | - | - | f/1.2 Si ARC |
| L7.5 | - | X | - | X | X | |
| L10/0.8 | - | X | X | X | X | f/0.8 Dual Ge ARC |
| L10/1.0 | - | X | X | X | X | f/1.0 Dual Ge ARC |
| L20/0.95 | - | X | X | X | X | f/0.95 Dual Ge ARC |

| Resulting Field of View [°] | | | | |
|---|---|---|---|---|
| Lens | HTPA8x8 | HTPA16x16 | HTPA32x31 | HTPA64x62 |
| L3 | 43.6 | 60.8 | - | - |
| L3.6 | 36.9 | 52.1 | - | - |
| L4.7 | - | - | 91.0 | 91.0 |
| L5.5 | 24.6 | - | - | - |
| L7 | 19.5 | - | - | - |
| L7.5 | 18.2 | - | 50.3 | 50.3 |
| L10 | 13.7 | 20.0 | 38.8 | 38.8 |
| L20 | 6.9 | 10.1 | 20.0 | 20.0 |

**Grey marked columns:**

8x8(TO8): Non-Standard product. Only for special purposes.

16x16: actual under redesign.

The FOV can be easily calculated, according to the ray law (not true for L4.7):

$$FOV = 2 \cdot \arctan\left(\frac{N_{Col/Row} \cdot P}{2 \cdot f}\right)$$

f= focal length of the lens

P=Pitch of the sensitive elements

$N_{Col/Row}$=Number of elements in Column or Row, depending if the FOV in horizontal or vertical direction should be calculated

Likewise, if the FOV is given, the needed focal length can be calculated by:

$$f = \frac{N_{Col/Row} \cdot P}{2 \cdot \tan\left(\frac{FOV}{2}\right)}$$

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**HEIMANN Sensor GmbH**
Grenzstr. 22
D-01109 Dresden, Germany

**Contact / Customer Support**
Phone 49 (0) 6123 60 50 30
Fax 49 (0) 6123 60 50 39

**Internet**
www.heimannsensor.com
e-mail: info@heimannsensor.com

SUNSTAR自动化 http://www.sensor-ic.com/ TEL: 0755-83376489 FAX:0755-83376182 E-MAIL: szss20@163.com