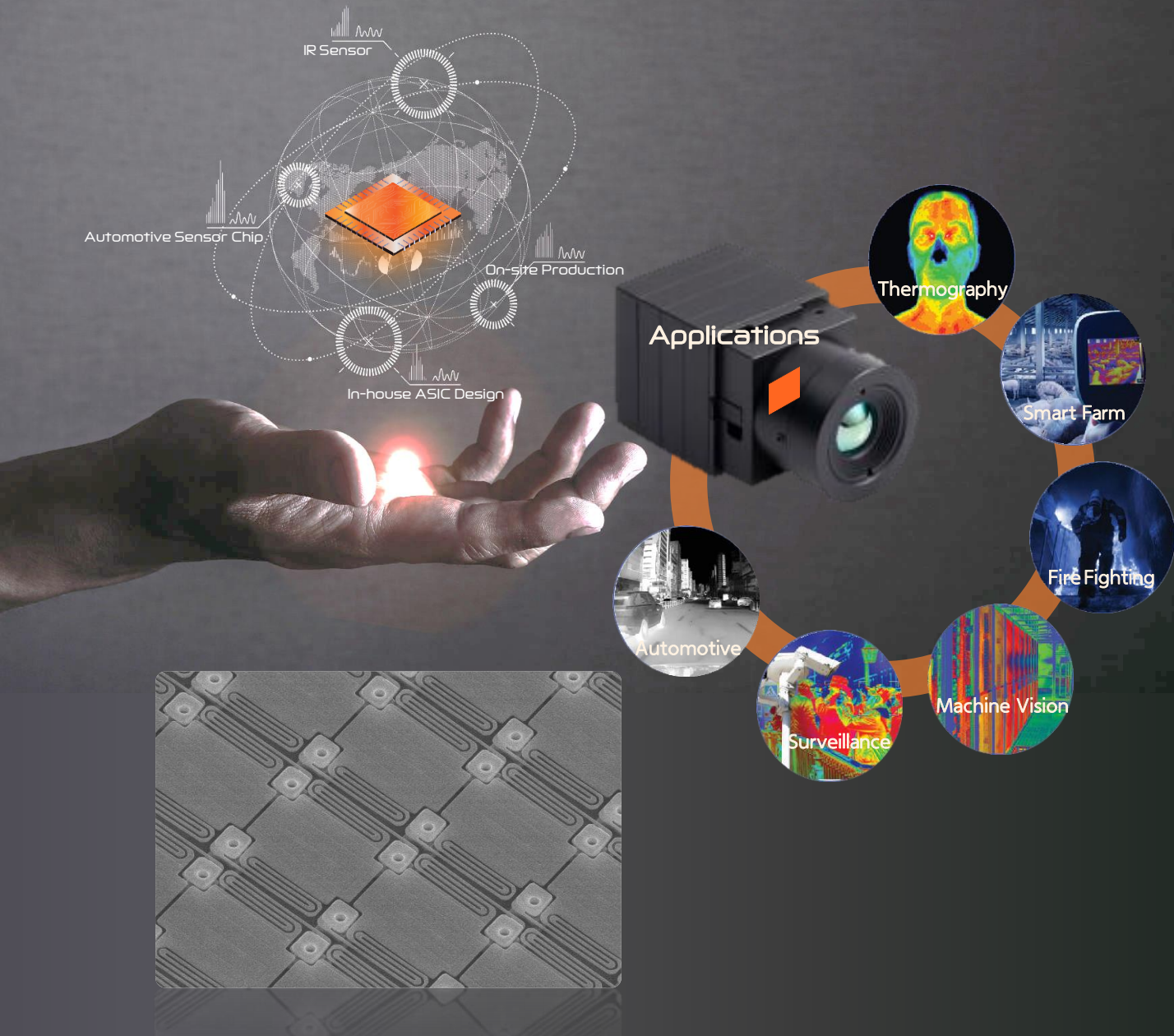




Hanwha Intelligence

About Us

Hanwha Intelligence was established in November 2021 as a joint venture between **Hanwha Systems**, which has advanced technologies in aerospace, defense and ICT industry, and **TRUWIN**, a company specializing in automotive sensors. Based on our advanced semiconductor facility, we have developed and supplied thermal image sensors and automotive sensor chips. With our overwhelming technical skills and production infrastructures, we are able to supply our sensors at a competitive price with best quality.



- ◆ INFRARED MICROBOLOMETER SENSOR
- ◆ Cost-Effective
- ◆ Compact & Low Power consumption



 Hanwha Systems **TRUWIN**



Main Business Areas IR Sensor
(Micro-bolometer) Automotive
Sensor Chip

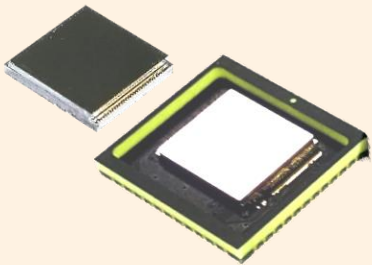


Company Location
Daejeon, Republic of Korea

QQQVGA - HS

Performance

Sensor Technology	Micro-Bolometer
Array Format	QQQVGA(80 x 60)
Pixel Pitch	35um
Spectral Range	LWIR 8~14um
Thermal Sensitivity(NETD)	<100mK
Frame Rate	Max 60Hz
Array Operability	≥99.7%



Mechanical

Packaging Type	Wafer Level Vacuum Package
Size(mm)	8.5(W) x 8.5(D) x 2.1(H)
Camera Module I/F	PBA(FPN) 32 pins
Weight	≒0.3g

Electrical

Input Voltage	3V(Analog) / 1.8V(Digital Core) / 3V or 1.8V(Digital IO)
Power Consumption	≤ 100mW
Interface	I ² C serial link / Analog Output (Differential)

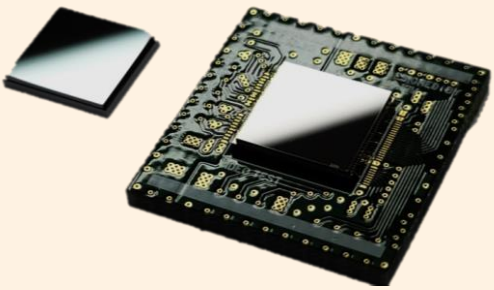
Enviromental

Operating Temp.	-40℃ ~ +80℃
Storage Temp.	-40℃ ~ +85℃

QVGA - HQ5812

Performance

Sensor Technology	Micro-Bolometer
Array Format	QVGA(320 x 240)
Pixel Pitch	17um
Spectral Range	LWIR 8~14um
Thermal Sensitivity(NETD)	<70mK
Frame Rate	Max 60Hz
Array Operability	≥99.7%



Mechanical

Packaging Type	Wafer Level Vacuum Package
Size(mm)	20.0(W) x 20.0(D) x 7.5(H) / Chip on Board - including connector
Camera Module I/F	PBA Module Interface Connector model : LB240-G20X-B1R / LB240-G28X-B1R
Weight	≒2.6g

Electrical

Input Voltage	3V(Analog) / 1.8V(Digital Core) / 3V or 1.8V(Digital IO)
Power Consumption	≤ 100mW
Interface	I ² C serial link / Digital Parallel 14 Bit

Enviromental

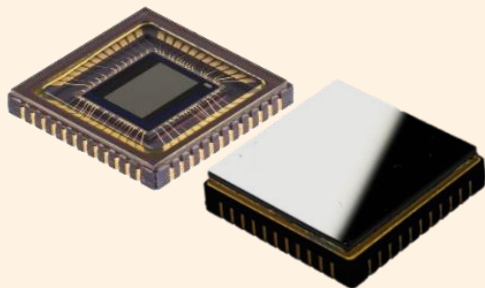
Operating Temp.	-40℃ ~ +80℃
Storage Temp.	-40℃ ~ +85℃



VGA - HV (25.09)

Performance

Sensor Technology	Micro-Bolometer
Array Format	VGA(640 x 480)
Pixel Pitch	12um
Spectral Range	LWIR 8~14um
Thermal Sensitivity(NETD)	<70mK
Frame Rate	Max 60Hz
Array Operability	≥99.7%



Mechanical

Packaging Type	Wafer Level Vacuum Package Ceramic Vacuum Package
Size(mm)	17.0(W) x 17.0(D) x 4.1(H)
Camera Module I/F	CLCC 44 pins
Weight	≒2.8g

Electrical

Input Voltage	3V(Analog) / 1.2V(Digital Core) / 1.8V(Digital IO)
Power Consumption	≤ 150mW
Interface	I ² C serial link / Digital Parallel 14 Bit

Enviromental

Operating Temp.	-40℃ ~ +80℃
Storage Temp.	-40℃ ~ +85℃