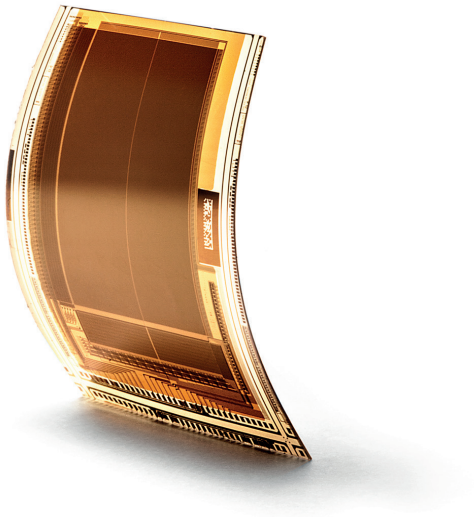
NEXT BIOMETRICS CHIPSET

NB-0610-S2



The NEXT Biometrics NB-0610-S2 chipset
is a flexible sensor chipset. It consists of two components: the NEXT Biometrics fingerprint area sensor NB-S620-P2 on a flexible substrate plus the NEXT Biometrics NB-A510-S Data Capture ASIC. The sensor is based on the patented NEXT Active Thermal™ principle. The ASIC converts the sensor data into a digital output image. The NB-0610-S2 is designed for integration into fully flexible, ISO/IEC 7810:2003 ID-1 compliant smart cards. Cards with NB-0610-S2 chipset can survive dynamic and torsional bending as per ISO/IEC 10373-1:2006.

A MANDATORY REQUIREMENT...

A large area sensor format is an absolute requirement for biometric smart cards targeting both security and convenience for its users. Biometric smart cards do not have on-card PIN entry, so a fallback authentication option may not be available. With an active area of just over 200 mm², the NB-0620-S conveniently exceeds the requirement of 169 mm² specified in ISO/IEC 17839-2: 2015 (Biometric System-on-Card: physical characteristics).

The large sensor format allows to reliably overcome real life complexities like low feature density fingers, skewed finger placements, worn fingers, damaged fingers, dirty, dry, and wet fingers. The large sensor format facilitates consistent and correct finger placement even among "problem users".

NB-0610-S2 is available for select customers in high volumes. Integration support is included.

Available from third quarter, 2017.

APPLICATION:
- Smart Cards

TECHNICAL SPECIFICATIONS

Sensor technology	NEXT Active Thermal™ sensing (patented)
Total dimensions in mm	25.0 x 19.0 x 0.3 (sensor die, including flexible carrier) 2.75 x 2.75 (ASIC die)
Delivery format sensor	On polyethylene terephthalate (PET) substrate, cut into individual sensors
Delivery format ASIC	Die on wafer, 270 µm, thinning to 150µm recommended
Active sensing area in mm	11.9 x 16.9
Pixels	180 x 256
Resolution	385 ppi (pixel size 66 µm * 66 µm)
Gray scale levels	256
Image scan time	0.7s (partial scan), 1.0s (full scan)
Finger-on detection	Hardware-assisted, low power
Power supply	3.3 V (digital), 5V (analog), 10V (sensor)
Typical current during scan	< 40 mA
Standby current consumption	30 µA
Communication Interface	SPI with 2-3 MBit/s
ESD protection - Sensor	±8 kV contact discharge, ±15 kV air discharge, according to IEC 61000-4-2
ESD protection – ASIC (chip level)	±2 kV
EMI	Shielded design (full sensor area)
Mechanical durability	2 million touches @ 2.45N
Scratch resistance	Durable lifetime coating, hardness > 9H
Chemical resistance	Resistance against 21 chemical agents
Operating conditions	-10° C to +60° C at 95% RH (non condensing)
Storage conditions	-20° C to + 70° C at 95% RH (non condensing)

PRELIMINARY

NEXT BIOMETRICS

www.nextbiometrics.com

Copyright© 2016 NEXT BIOMETRICS GROUP ASA, all rights reserved. Specifications are subject to change without notice. The NEXT Biometrics logo and NEXT Active Thermal are trademarks of NEXT BIOMETRICS GROUP ASA in Norway and other countries. All other brand and product names are trademarks or registered trademarks of their respective owners.

Document version: V1.2