



**The NEXT Biometrics
NB-0610-S2 product**

is a flexible sensor chipset. It consists of two components: the NEXT Biometrics fingerprint area sensor NB-S610-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 the NB 0610-S2 chipset can survive dynamic and torsional bend as per ISO/IEC 10373-1:2006.

Large Area Sensor

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 over 200 mm², the NB-0610-S2 conveniently exceeds the requirement of 169 mm² specified in ISO/IEC 17839-2:2015 (Biometric System-on-Card: physical characteristics).

The large sensor format reliably handles real life complexities like low feature density fingers, skewed finger placements, worn fingers, damaged fingers, dirty, dry, and wet fingers. The large area facilitates correct and consistent finger placement even amongst inexperienced users.

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

APPLICATION EXAMPLES:

- Smart Cards

T E C H N I C A L S P E C I F I C A T I O N S

Sensor technology	NEXT Active Thermal™ sensing (patented)
Total dimensions	25.0 x 19.0 x 0.25 mm ³ (sensor die) 2.06 x 2.68 mm ² (ASIC die)
Sensor delivery format	Diced on tray
ASIC delivery format	Die on wafer, 660 μm thickness (contact us for thinning details/recommendations if needed)
Active sensing area	11.9 x 16.9 mm ²
Pixels	180 x 256
Resolution	385 ppi (pixel size 66 μm * 66 μm)
Gray scale levels	256
Image scan time	0.75 s (partial scan), 1.02 s (full scan)
Finger detection	Hardware-assisted finger-on detection
Power supply	3.0 V or 3.3 V (depending on reference design)
Scan mode current draw	< 33 mA (typical)
Standby mode current draw	30 μA (typical)
Logical Interface	SPI with 2-3 MHz
ESD protection – sensor	±8 kV air discharge per IEC 61000-4-2
EMI	Shielded design (full sensor area)
Scratch resistance	Durable lifetime coating, hardness > 6H
Operating conditions	-10 °C to +60 °C at 85% RH (non-condensing)
Storage conditions	-20 °C to +70 °C at 85% RH (non-condensing)



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Document version: V1.4