

A-285-MQ Fingerprint Sensor

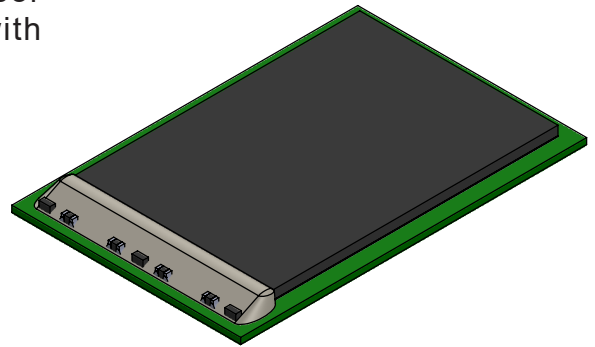
ByNew Technologies Inc.
Rev. 004



The A-285-MQ fingerprint sensor is a fingerprint scanner in an LGA-Style package. The sensor is based on capacitive-contact technology with hardened surface and enhanced ESD immunity.

FEATURES

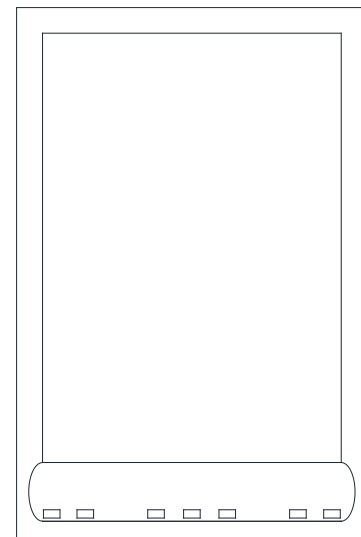
- 2D capacitive fingerprint area sensor
- sensor array of 288x208 pixels
- 508 DPI spatial resolution
- 8-bit pixel value / 256 gray levels
- 14.4 mm x 10.4 mm active sensing area
- High speed SPI interface
- Image capture speed up to 4 MPixel/sec
- ESD protection : + / - 15kV (Air mode)
- Low power : Normal and Stand-by modes
- > 30 million finger placements¹
- LGA-Style package



SPECIFICATION

Parameter	Value	Unit
Dimensions	19.30 x 12.70 x 1.13	mm
Dimensions (sensor)	14.4 x 10.4	mm
ESD (IEC61000-4-2, level X, air discharge)	+ / - 15	kV
Operating temperature	-20 ~ 80	°C
Extended humidity range	< 90	%
Operating voltage range	2.7~3.3	V
IO pin voltage range	1.8~3.3	V
Normal mode current	3.5	mA
Stand-by mode current	50	uA
Interface	SPI	

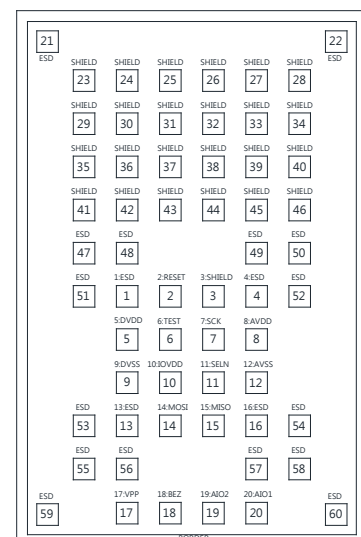
Table 1



Top View



Front View



Top View (see through)

¹ Read Table 3 for more information



INTERFACE

The A-285-MQ sensor provides a set of pads for SMT assembly.

PAD NO.	PAD Name	Description
1	ESD	ESD pad of the sensor chip
2	RESET	Sensor Reset signal
3	SHIELD	connected to system chassis as ESD discharge path
4	ESD	ESD pad of the sensor chip
5	DVDD	2.7 to 3.3V Digital Power Input
6	TEST	Sensor test signal
7	SCK	SPI CLOCK
8	AVDD	2.7 to 3.3V Analog Power Input
9	DVSS	Digital Ground
10	IOVDD	2.7 to 3.3V IO Power Input
11	SELN	Active low signal to select the device
12	AVSS	Analog Ground
13	ESD	ESD pad of the sensor chip
14	MOSI	SPI MOSI
15	MISO	SPI MISO
16	ESD	ESD pad of the sensor chip
17	VPP	OTP proگرامing voltage (6.5V)
18	BEZ	connected to the metal bezel
19	AIO2	test signal
20	AIO1	test signal
21~22	ESD	ESD pad of the sensor chip
23~46	SHIELD	connected to system chassis as ESD discharge path
47~60	ESD	ESD pad of the sensor chip
	BORDER	The seal ring of the underside of the sensor

Table 2

A-285-MQ Fingerprint Sensor

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Ordering information

To order the A-285-MQ sensor line of fingerprint scanner, refer to Table below.

Part Number	Coating		
	Color	RCA	Hardness
A-285-MQ-K05	Black Matte	> 700	7H

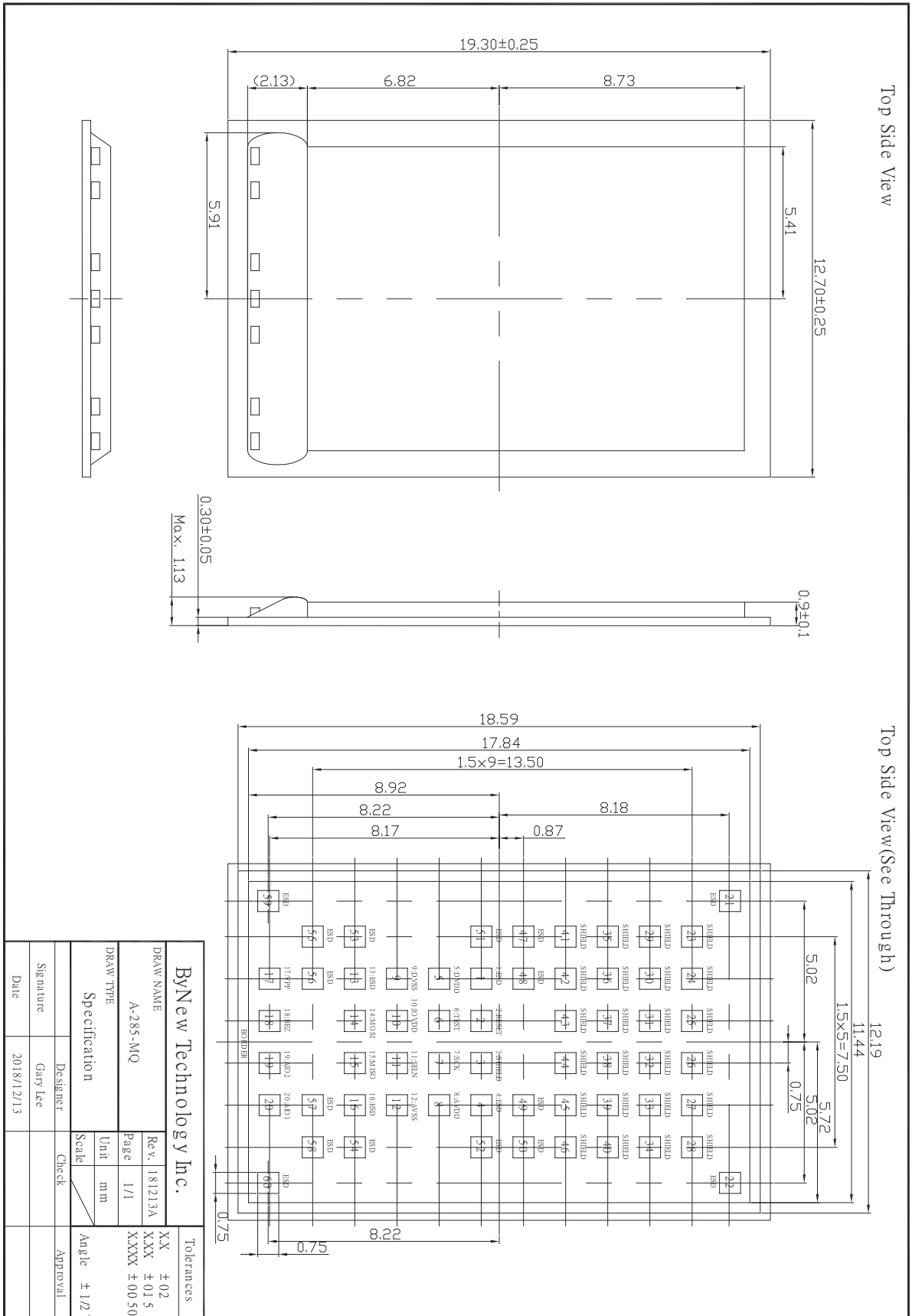
Table 3



ByNew Technologies Inc.
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MECHANICAL DIMENSION





Revision History

Revision	Date	Modification Description
001	2018/09/13	Preliminary Release
002	2018/10/12	Initial release.
003	2019/01/22	update Mechanical Drawing
004	2019/05/14	update RCA information