APPLICATION NOTE

Explaining the Difference between Atmel ATA5577 Types

ATAN0020

Features

- Atmel® ATA5577 types

Description

Many of our LF RFID devices are based of the same core IP and therefore start with the same base part number. We clarify distinctions in many ways but the first is a character designator. This character stand for the silicon version and starts for the RFID types with M. Following this is usually the chip type (1 number) plus the on-chip capacitance values and then packaging type. This document focuses on explaining what the different chip-type variants mean to the end customer.

1. Atmel ATA5577 Types

The Atmel® ATA5577 device is our current foundation device that is widely accepted by a broad customer base. This IC is the one that should be discussed first if the customer is unfamiliar with our products in general. It comes in three type configurations. The following table gives an overview of the basic differences.

Table 1-1. Atmel ATA5577 Types

Features	ATA5577			Datasheet Reference	
	M1	M2	M3	M1/M2	M3
Pad size	90 x 90µm	200 x 400µm	200 x 400µm	11	10
Pad bumps	none	25µm Au	25µm Au(5)		
Chip size [mm²]	1.15	1.36	1.36	11	10
Input capacitance	trimmed ±3%	trimmed ±3%	±12% over production, ±3% on wafer basis(1)	9.11	7.11
Delivery configuration	Manchester, RF/32	Manchester, RF/32	Manchester, RF/64	10.2	9
Styles of configuration register	Basic, extended	Basic, extended	Basic, extended, Q5	5.1	3.2
Start-up time [FC(2)]	192	192	128	5.5	3.3
Data content at delivery					
- Tracedata	Atmel Format(3)	Atmel Format(3)	Unique Format(4)	4.13	2.1
- Page 0, Block 1-2	0	0	fix tracedata in unique format (Lot: 35602#13, Die: 2334)	10.2	9
- Page 0, Block 6	0	0	Lot and wafer number, BCD coded	10.2	9
- AFE register (analog front end)	0 (standard)	0 (standard)	Softmod: 1 pulse weak, Clamp = Hi, Mod = Lo	10.2	9
Misc.			Page1 is always encoded in Manchester RF/64		2.1

Notes:
1. Average cap value of each wafer is printed on the lot travel card
2. FC = Field Clocks with a typical period of 8us (125kHz systems)
3. Atmel Format = Data structured according to Atmel format (description given in the datasheet)
4. Unique Format = Data structured according to industry defacto standard Unique Format with Row/Column parity bits
5. Gold Bumps on pads are optional, see ordering info in datasheet

2. Revision History

Please note that the following page numbers referred to in this section refer to the specific revision mentioned, not to this document.

Revision No.	History
9266B-RFID-03/15	• Put document in the latest template

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