ON Semiconductor

Product Bulletin

Document # : PB21484X
Issue Date: 4 October 2016

Title of Change:	NCN8025/A Datasheet update to align with EMV 4.3 standard
Effective date:	4 October 2016
Contact information:	Contact your local ON Semiconductor Sales Office or <Shannon.riggs@onsemi.com>
Type of notification:	ON Semiconductor will consider this change accepted.
Change category:	☐ Wafer Fab Change ☐ Assembly Change ☐ Test Change ☒ Other Datasheet revision only

Change Sub-Category(s):
☐ Manufacturing Site Change/Addition
☐ Manufacturing Process Change
☐ Material Change
☐ Product specific change
☒ Datasheet/Product Doc change
☐ Shipping/Packaging/Marking
☐ Other: _____

Sites Affected:
☐ All site(s) ☒ not applicable ☐ ON Semiconductor site(s) : ☐ External Foundry/Subcon site(s)

Description and Purpose:

Datasheet NCN8025/D has been revised to align with the latest EMV standard, 4.3 (www.EMVco.com). For the affected devices, the Card I/O specifications (VOH, VOL, VIH, & VIL) have been revised in accordance with EMV 4.3, as shown below. The product characterization has been compared with the new standards and all parameters are capable to the new requirements. Manufacturing test programs have been revised and will be released effective W40, 2016 to ensure product adheres to the revised requirements.

The following changes have been made.

- CI/O VIH min @ 1.8 V mode changes from 1.2 V to 1.0 V
- CI/O VIL max @ 5.0 V mode changes from 0.8 V to 1.0 V
- CI/O VOH min changes from 0.75*CVCC to 0.8*CVCC
- CI/O VOL min @ 1.8 V mode changes from 0.3 V to 0.27 V

	CAUX1, CAUX2, CI/O @ CVCC = 1.8 V, 3.0 V, 5.0 V				
V_{IH}	Input Voltage High Level				
	1.8 V Mode	1.0	–	CVCC + 0.3	V
	3.0 V Mode	1.6	–	CVCC + 0.3	V
	5.0 V Mode	2.3	–	CVCC + 0.3	V
V_{IL}	Input Voltage Low Level				
	1.8 V mode	−0.30	–	0.50	V
	3.0 V mode	−0.30	–	0.80	V
	5.0 V mode	−0.30		1.00	V
$\|I_{IL}\|$	Low Level Input current V_{IL} = 0 V	–		600	µA
$\|I_{IH}\|$	High Level Input current V_{IH} = CVCC	–		10	µA
V_{OH}	Output V_{OH}				
	@ I_{OH} = −40 µA for CVCC = 3.0 V and 5.0 V	0.8 * CVCC	–	CVCC + 0.1	V
	@ I_{OH} = −20 µA for CVCC = 1.8 V	0.8 * CVCC	–	CVCC + 0.1	V
V_{OL}	Output V_{OL}				
	@ I_{OL} = 1 mA, V_{IL} = 0 V for CVCC = 1.8 V	0	–	0.27	V
	@ I_{OL} = 1 mA, V_{IL} = 0 V for CVCC = 3.0 V and 5.0 V	0		0.30	V
$t_{Ri / Fi}$	Input Rising/Falling times (Note 9)	–	–	1.2	µs
$t_{Ro / Fo}$	Output Rising/Falling times / C_{out} = 80 pF (Note 9)	–	–	0.1	µs

This is a datasheet update to align with the EMV standard; there are NO product changes (die design or manufacturing BOM) occurring as a result of this change.

List of affected Standard Parts:

NCN8025AMNTXG
NCN8025MTTBG