



Title of Change:	Update to PB22736XA – Adjust the Power Dissipation to new Logic datasheet standard.
Effective date:	16 August 2019
Contact information:	Contact your local ON Semiconductor Sales Office or < david.manley@onsemi.com >
Type of notification:	This Product Bulletin is for notification purposes only. ON Semiconductor will proceed with implementation of this change upon publication of this Product Bulletin.
Change Category:	☐ Wafer Fab ☐ Assembly Change ☐ Test Change ☒ Other <u>Datasheet Change</u>

Change Sub-Category(s):

- ☐ Manufacturing Site Addition
 ☐ Material Change
 ☒ Datasheet/Product Doc change
☐ Manufacturing Site Transfer
 ☐ Product specific change
 ☐ Shipping/Packaging/Marking
☐ Manufacturing Process Change
 ☐ Other: _____

Sites Affected:
 ON Semiconductor Sites:
None

 External Foundry/Subcon Sites:
None
Description and Purpose:

PB22736XA was previously issued to notify customers of the datasheet changes for the NC7SZ family per FPCN22057X and FPCN22090X.

This Update Notification announces the specific datasheet changes:

Provided here are comparison between the new and old datasheets regarding changing specifications and/or specification conditions.

- Areas of change are circled red.
- Items from the old datasheet that will be changed are highlighted red.
- The corresponding value on the new datasheet is highlighted in green.
- **Power Dissipation condition adjusted to new Logic datasheet standard.**

Existing datasheet

P_D	Power Dissipation at +85°C	SOT-23		200	mW
		SC70-5		150	
		MicroPak™-6		130	
		MicroPak2™-6		120	

New

P_D	Power Dissipation in Still Air	SC-74A		225	mW
		SC70-5		190	
		MicroPak-6		327	
		MicroPak2-6		327	

Absolute Maximum Ratings(Note 1)

Supply Voltage (V_{CC})	-0.5V to +6.5V
DC Input Voltage (V_{IN})	-0.5V to +6.5V
DC Output Voltage (V_{OUT})	-0.5V to +6.5V
DC Input Diode Current (I_{IK})	
@ $V_{IN} < -0.5V$	-50 mA
@ $V_{IN} > 6V$	+20 mA
DC Output Diode Current (I_{OK})	
@ $V_{OUT} < -0.5V$	-50 mA
@ $V_{OUT} > 6V$, $V_{CC} = GND$	+20 mA
DC Output Current (I_{OUT})	± 50 mA
DC V_{CC}/GND Current (I_{CC}/I_{GND})	± 50 mA
Storage Temperature (T_{STG})	-65°C to +150°C
Junction Temperature under Bias (T_J)	150°C
Junction Lead Temperature (T_J):	
(Soldering, 10 seconds)	260°C

Recommended Operating Conditions (Note 2)

Supply Voltage Operating (V_{CC})	1.65V to 5.5V
Supply Voltage Data Retention (V_{CC})	1.5V to 5.5V
Input Voltage (V_{IN})	0V to 5.5V
Output Voltage (V_{OUT})	0V to V_{CC}
Operating Temperature (T_A)	-40°C to +85°C
Input Rise and Fall Time (t_r , t_f)	
$V_{CC} @ 1.6V$, $2.5V \pm 0.2V$	0 ns/V to 20 ns/V
$V_{CC} @ 3.3V \pm 0.3V$	0 ns/V to 10 ns/V
$V_{CC} @ 5.0V \pm 0.5V$	0 ns/V to 5 ns/V
Thermal Resistance (θ_{JA})	
SC70-5	425°C/W

Note 1: Absolute maximum ratings are DC values beyond which the device may be damaged or have its useful life impaired. The datasheet specifications should be met, without exception, to ensure that the system design is reliable over its power supply, temperature, and output/input loading variables. Fairchild does not recommend operation outside datasheet specifications.

Note 2: Unused inputs must be held HIGH or LOW. They may not float.

Absolute Maximum Ratings(Note 1)

Supply Voltage (V_{CC})	-0.5V to +6.5V
DC Input Voltage (V_{IN})	-0.5V to +6.5V
DC Output Voltage (V_{OUT})	-0.5V to +6.5V
DC Input Diode Current (I_{IK})	
@ $V_{IN} < -0.5V$	-50 mA
@ $V_{IN} > 6V$	+20 mA
DC Output Diode Current (I_{OK})	
@ $V_{OUT} < -0.5V$	-50 mA
@ $V_{OUT} > 6V$, $V_{CC} = GND$	+20 mA
DC Output Current (I_{OUT})	± 50 mA
DC V_{CC}/GND Current (I_{CC}/I_{GND})	± 50 mA
Storage Temperature (T_{STG})	-65°C to +150°C
Junction Temperature under Bias (T_J)	150°C
Junction Lead Temperature (T_J):	
(Soldering, 10 seconds)	260°C

Recommended Operating Conditions (Note 2)

Supply Voltage Operating (V_{CC})	1.65V to 5.5V
Supply Voltage Data Retention (V_{CC})	1.5V to 5.5V
Input Voltage (V_{IN})	0V to 5.5V
Output Voltage (V_{OUT})	0V to V_{CC}
Operating Temperature (T_A)	-40°C to +85°C
Input Rise and Fall Time (t_r , t_f)	
$V_{CC} @ 1.6V$, $2.5V \pm 0.2V$	0 ns/V to 20 ns/V
$V_{CC} @ 3.3V \pm 0.3V$	0 ns/V to 10 ns/V
$V_{CC} @ 5.0V \pm 0.5V$	0 ns to 5 ns/V
Thermal Resistance (θ_{JA})	
SC70-5	659°C/W
MicroPak	382°C/W

Note 1: Absolute maximum ratings are DC values beyond which the device may be damaged or have its useful life impaired. The datasheet specifications should be met, without exception, to ensure that the system design is reliable over its power supply, temperature, and output/input loading variables. Fairchild does not recommend operation outside datasheet specifications.

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**List of Affected Parts:**

Note: Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the **PCN Customized Portal**.

NC7SZ04M5X
NC7SZ08M5X
NC7SZ125M5X
NC7SZ126M5X
NC7SZU04M5X
NC7SZ14M5X
NC7SZ32M5X
NC7SZ00M5X
NC7SZ02M5X
NC7SZ86M5X
NC7SZ05M5X
NC7SZ38M5X

Japanese translation of the notification starts here.
通知の日本語訳はここから始まります。

Note: *The Japanese version is for reference only. In case of any differences between the English and Japanese version, the English version shall control.*

注：日本語版は参照用です。英語版と日本語版の違いがある場合は、英語版が優先されます。



変更件名:	PB22736XA の更新 - 消費電力の新しいロジックデータシート標準仕様への調整	
発効日:	16 August 2019	
連絡先情報:	現地のオン・セミコンダクター営業所または <david.manley@onsemi.com> にお問い合わせください。	
通知種別:	本製品速報は通知目的のみのものです。オン・セミコンダクターは本製品速報の発行により本変更を実行します。	
変更カテゴリ:	☐ ウェハファブの変更 ☐ アセンブリの変更 ☐ 試験の変更 ☒ その他 <u>データシートの変更</u>	
変更サブカテゴリ:	☐ 製造拠点の追加 ☐ 製造拠点の移転 ☐ 製造プロセスの変更 ☐ 材料の変更 ☐ 製品仕様の変更 ☒ データシート/製品資料の変更 ☐ 出荷/パッケージング/表記 ☐ その他: _____	
影響を受ける拠点:	オン・セミコンダクター拠点: None	外部製造工場 / 下請業者拠点: None

説明および目的:

PB22736XA は、FPCN22057X および FPCN22090X による NC7SZ ファミリーのデータシート変更をお客様にお知らせするために先に発行されました。

この更新通知は、特定にデータシート変更をお知らせするものです。

仕様および/または仕様条件の変更に関する新旧データシート間での比較を以下に示します。

- 変更箇所は赤色の丸で囲まれています。
- 旧データシートから変更される項目は赤色でハイライトされています。
- 新データシートで対応する値は緑色でハイライトされています。
- 新しいロジックデータシート標準仕様に調整された消費電力。

Existing datasheet

P_D	Power Dissipation at +85°C	SOT-23	200	mW
		SC70-5	150	
		MicroPak™-6	130	
		MicroPak2™-6	120	

New

P_D	Power Dissipation in Still Air	SC-74A	225	mW
		SC70-5	190	
		MicroPak-6	327	
		MicroPak2-6	327	

Absolute Maximum Ratings (Note 1)

Supply Voltage (V_{CC})	-0.5V to +6.5V
DC Input Voltage (V_{IN})	-0.5V to +6.5V
DC Output Voltage (V_{OUT})	-0.5V to +6.5V
DC Input Diode Current (I_{IK})	
@ $V_{IN} < -0.5V$	-50 mA
@ $V_{IN} > 6V$	+20 mA
DC Output Diode Current (I_{OK})	
@ $V_{OUT} < -0.5V$	-50 mA
@ $V_{OUT} > 6V, V_{CC} = GND$	+20 mA
DC Output Current (I_{OUT})	±50 mA
DC V_{CC}/GND Current (I_{CC}/I_{GND})	±50 mA
Storage Temperature (T_{STG})	-65°C to +150°C
Junction Temperature under Bias (T_J)	150°C
Junction Lead Temperature (T_L):	
(Soldering, 10 seconds)	260°C

Power Dissipation (P_D) @ +85°C

Recommended Operating Conditions (Note 2)

Supply Voltage Operating (V_{CC})	1.65V to 5.5V
Supply Voltage Data Retention (V_{CC})	1.5V to 5.5V
Input Voltage (V_{IN})	0V to 5.5V
Output Voltage (V_{OUT})	0V to V_{CC}
Operating Temperature (T_A)	-40°C to +85°C
Input Rise and Fall Time (t_r, t_f)	
$V_{CC} @ 1.8V, 2.5V \pm 0.2V$	0 ns/V to 20 ns/V
$V_{CC} @ 3.3V \pm 0.3V$	0 ns/V to 10 ns/V
$V_{CC} @ 5.0V \pm 0.5V$	0 ns/V to 5 ns/V
Thermal Resistance (θ_{JA})	
SC70-5	425°C/W

Note 1: Absolute maximum ratings are DC values beyond which the device may be damaged or have its useful life impaired. The datasheet specifications should be met, without exception, to ensure that the system design is reliable over its power supply, temperature, and output/input loading variables. Fairchild does not recommend operation outside datasheet specifications.

Note 2: Unused inputs must be held HIGH or LOW. They may not float.

Absolute Maximum Ratings (Note 1)

Supply Voltage (V_{CC})	-0.5V to +6.5V
DC Input Voltage (V_{IN})	-0.5V to +6.5V
DC Output Voltage (V_{OUT})	-0.5V to +6.5V
DC Input Diode Current (I_{IK})	
@ $V_{IN} < -0.5V$	-50 mA
@ $V_{IN} > 6V$	+20 mA
DC Output Diode Current (I_{OK})	
@ $V_{OUT} < -0.5V$	-50 mA
@ $V_{OUT} > 6V, V_{CC} = GND$	+20 mA
DC Output Current (I_{OUT})	±50 mA
DC V_{CC}/GND Current (I_{CC}/I_{GND})	±50 mA
Storage Temperature (T_{STG})	-65°C to +150°C
Junction Temperature under Bias (T_J)	150°C
Junction Lead Temperature (T_L):	
(Soldering, 10 seconds)	260°C

Power Dissipation (P_D) in Still Air

Recommended Operating Conditions (Note 2)

Supply Voltage Operating (V_{CC})	1.65V to 5.5V
Supply Voltage Data Retention (V_{CC})	1.5V to 5.5V
Input Voltage (V_{IN})	0V to 5.5V
Output Voltage (V_{OUT})	0V to V_{CC}
Operating Temperature (T_A)	-40°C to +85°C
Input Rise and Fall Time (t_r, t_f)	
$V_{CC} @ 1.8V, 2.5V \pm 0.2V$	0 ns/V to 20 ns/V
$V_{CC} @ 3.3V \pm 0.3V$	0 ns/V to 10 ns/V
$V_{CC} @ 5.0V \pm 0.5V$	0 ns to 5 ns/V
Thermal Resistance (θ_{JA})	
SC70-5	659°C/W
MicroPak	382°C/W

Note 1: Absolute maximum ratings are DC values beyond which the device may be damaged or have its useful life impaired. The datasheet specifications should be met, without exception, to ensure that the system design is reliable over its power supply, temperature, and output/input loading variables. Fairchild does not recommend operation outside datasheet specifications.

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**影響を受ける部品の一覧:**

注: 標準の部品番号(既製品)のみが部品一覧に記載されます。本 PCN に影響を受けるカスタム 部品は、PCN メールのお客様の特定の PCN の付属文書、または PCN カスタマイズポータルに記載されています。

NC7SZ04M5X
NC7SZ08M5X
NC7SZ125M5X
NC7SZ126M5X
NC7SZU04M5X
NC7SZ14M5X
NC7SZ32M5X
NC7SZ00M5X
NC7SZ02M5X
NC7SZ86M5X
NC7SZ05M5X
NC7SZ38M5X



Appendix A: Changed Products

Product	Customer Part Number
NC7SZ00M5X	
NC7SZ02M5X	
NC7SZ04M5X	
NC7SZ05M5X	
NC7SZ08M5X	
NC7SZ125M5X	
NC7SZ126M5X	
NC7SZ14M5X	
NC7SZ32M5X	
NC7SZ38M5X	
NC7SZ86M5X	
NC7SZU04M5X	