nPM1100

Revision 2

Errata

v1.3

NORDIC® SEMICONDUCTOR

Contents

1 nPM1100 Revision 2 Errata

This Errata document contains anomalies and configurations for the nPM1100 chip, Revision 2 (CAAA-E00, CAAA-F00, CAAB-F00, QDAA-F00, QDAB-F00).

The document indicates which anomalies are fixed, inherited, or new compared to Revision 1.

2 Revision history

See the following list for an overview of changes from previous versions of this document.

Version	Date	Change
nPM1100 Revision 2 v1.3	24.05.2023	• Updated for CAAA-F00, CAAB-F00, QDAA-F00, and QDAB-F00
nPM1100 Revision 2 v1.2	25.10.2022	• Edited: No. 7. “CHARGER gets stuck with no VBAT capacitor”
nPM1100 Revision 2 v1.1	08.09.2022	• Added: No. 7. “CHARGER gets stuck with no VBAT capacitor” • Added: No. 8. “CHARGER gets stuck for certain types of PCM”
nPM1100 Revision 2 v1.0	31.05.2022	• Added: No. 4. “Inserting USB causes VSYS voltage to undershoot”

3 New and inherited anomalies

The following anomalies are present in Revision 2 of the nPM1100 chip.

ID	Module	Description	Inherited from Revision 1
4	BUCK, SYSREG	Inserting USB causes VSYS voltage to undershoot	X
7	Charger	CHARGER gets stuck with no VBAT capacitor	X
8	Charger	CHARGER gets stuck for certain types of PCM	X

Table 1: New and inherited anomalies

3.1 [4] BUCK, SYSREG: Inserting USB causes VSYS voltage to undershoot

This anomaly applies to Revision 2, build codes CAAA-E00, CAAA-F00, CAAB-F00, QDAA-F00, QDAB-F00.

It was inherited from the previous IC revision Revision 1.

Symptoms

Inserting USB causes VSYS voltage to undershoot and BUCK converter to reset.

Conditions

USB power source has slow VBUS rise time in the range of 1 V/ms, battery voltage is below 3.1 V, and system load is higher than 370 mA.

Consequences

BUCK converter resets.

Workaround

If the system cannot tolerate a reset, avoid operating under the described conditions.

3.2 [7] Charger: CHARGER gets stuck with no VBAT capacitor

This anomaly applies to Revision 2, build codes CAAA-E00, CAAA-F00, CAAB-F00, QDAA-F00, QDAB-F00.

It was inherited from the previous IC revision Revision 1.

Symptoms

Battery stops charging, and CHARGER gets stuck in error state.

Conditions

Battery pack's overdischarge protection is active when VBUS gets connected to a power source.

Consequences

Charging does not start, and CHARGER gets stuck in error state.

Workaround

Add a 1.0 µF capacitor to the VBAT pin as shown in the reference circuit in nPM1100 Product Specification v1.2 or later.

3.3 [8] Charger: CHARGER gets stuck for certain types of PCM

This anomaly applies to Revision 2, build codes CAAA-E00, CAAA-F00, CAAB-F00, QDAA-F00, QDAB-F00.

It was inherited from the previous IC revision Revision 1.

Symptoms

Battery stops charging, and CHARGER gets stuck in error state.

Conditions

VBAT voltage drops from above V_TRICKLEFAST to below V_TRICKLEFAST during charging.

Some battery Protection Circuit Modules (PCM) add a diode junction between the external battery terminals and the lithium cell when the overdischarge protection is active. This diode adds a voltage to the battery terminals during charging. When the protection is released, the diode junction is bypassed and the VBAT voltage drops.

Consequences

Charging stops when overdischarge protection is released, and the charging cannot be restarted.

Workaround

Use a battery with a PCM that does not cause this drop when overdischarge protection is released. Alternatively, use a battery with a PCM that drops to a voltage that is higher than V_TRICKLEFAST or drops from a voltage that is lower than V_TRICKLEFAST.

4 Fixed anomalies

The anomalies listed in this table are no longer present in the current chip version.

For a detailed description of the fixed anomalies, see the Errata for Revision 1.

ID	Module	Description
5	BUCK	VOUTB voltage overshoots during mode change through MODE pin
6	BUCK	BUCK converter shuts off unexpectedly

Table 2: Fixed anomalies