

Purpose: This Product Change Notification (PCN) is to provide notification to PHYTEC customers of component, process or other relevant engineering changes on a PHYTEC hardware subassembly. Impact, qualification, validation and approval of this change shall be documented on the corresponding Customer-Specific Modification (KSM/KSP) form for the PHYTEC hardware subassembly

| Product affected / Release Date | |
|---|--------------------------------|
| Notice Date: September 17, 2014 | LPN #: LPN-134e_2 |
| Date of Change: | New Product Version: |
| PHYTEC Subassembly: | phyCORE MPC5121e/3 tiny |
| PHYTEC Subassembly Part #: PCM-046 with 1 GByte NAND | |
| New PHYTEC Part #: | |

| Engineering Change (Component, Firmware, Process, other) | | |
|---|-------------------------------|------------------|
| Current Part | | New Part |
| IM657 H600670 | PHYTEC Internal Part # | IM769 H600670 |
| Samsung | Manufacturer | Samsung |
| K9K8G08U0D-SIB0 | Manufacturer Part # | K9K8G08U0E-SIB0 |
| 8Gbit Nand Flash | Description | 8Gbit Nand Flash |

| Engineering Change Details |
|---|
| Reason for Component Change: EOL at Samsung |
| Referenced Component Documents: Samsung EOL K9F8G08U0D Notification |

Impact of Change

- (1) Flash: No Impact in fit and form, but differences in function
- (2) Replacement Part do not support Subpage Write
- (3)

Measures taken by PHYTEC

- (1) Datasheet Check
- (2) Successful Tests with Linux BSP PD10.1.1 (Linux Version 2.6.33-rt2x-ptx-pcm046-3) in Climatic Chamber
- (3)

Recommended Measures for Customer

- (1) For the NAND K9K8G08U0E UBIFS is advised to use.

Technical Differences

| Parameter | Original K9K8G08U0D-SIB0 | Replacement K9K8G08U0E-SIB0 | Assess- ment ¹ |
|---|------------------------------------|---------------------------------------|------------------------------|
| Device ID | 0xEC 0xD3 0x11 0x95 0x58 | 0xEC 0xD3 0x51 0x95 0x59 | 1 |
| Programm Time t_{PROG} | Typ: 250 us Max: 750 us | Typ: 400 us Max: 900 us | 4, 2 |
| Number of Partial Program Cycles NOP | 4 cycles Subpage Write:yes | 1 cycles Subpage Write: no | 4, 1 |
| Block Erase Time t_{BERS} | Typ: 2 ms Max: 10 ms | Typ: 4,5 ms Max: 16 ms | 4, 2 |
| Data Transfer from Cell to Register t_{R} | Max. 25 us | Max. 40 us | 4, 2 |
| | | | |

¹ Assessments:

- 1: Effects are to be expected
- 2: No negative effects are to be expected
- 3: Better than before
- 4: Worse than before

| Technical Similarities | | |
|----------------------------|------------------------------------|---------------------------------------|
| Parameter | Original K9K8G08U0D-SIB0 | Replacement K9K8G08U0E-SIB0 |
| Supply Voltage | VCC: 2.7 V to 3.6 V | |
| V _{IL} undershoot | -0,4 V at pulse width 20 ns | |
| Temperature | -40 °C to 85 °C | |
| Package Pitch, Form | TSOP T 48-P1220-0.50, 0.5 mm Pitch | |
| Device Width | 8 bit | |
| Read\Write Cycle Time | 25 ns | |
| Page Size | 2kByte + 64 Bytes | |
| | | |

Note:

Technical differences and similarities in the tables above may not be complete. Please refer to the manufacture datasheets for a complete comparison.

Please contact our support if you need any further information.

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|---|---|
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