



# PRH601

## Multi-frequency integrated reader solution

Rev. 3.3 — 10 March 2016  
219233

Product data sheet  
COMPANY PUBLIC

## 1. Introduction

---

The PRH601 is an integrated RF Identification reader module for contactless communication at 13.56 MHz and 125 kHz. It implements an additional 32-bit ARM CortexM0 microcontroller core.

The package contains three dies:

1. LPC1227FBD48/301
2. HTRC11001T/02EE
3. CLRC66301HN1

Not all pins of the LPC1227 specified in the data sheet are available at the reader module. Please refer to [Section 9 “Pinning information”](#).

The device does not implement any interconnection inside the package. This enables access to all signals during system development. The device can be replaced by a integrated reader module PRH601 if no 125 kHz functionality is required. A re-design of the PCB is not required in this case.

## 2. General description

---

### 2.1 HTRC110

The HITAG Reader Chip HTRC110 is intended for use with transponders, which are based on the HITAG silicon (HT11CS3002x or HT21CS2002x). In addition the IC supports other 125 kHz transponder types using amplitude modulation for the write operation and AM/PM for the read operation. The receiver parameters (gain factors, filter cutoff frequencies) can be optimized to system and transponder requirements.

The HTRC110 is designed for easy integration into RF-identification readers. State-of-the-art technology allows almost complete integration of the necessary building blocks. A powerful antenna driver/modulator together with a low-noise adaptive sampling time demodulator, programmable filters/amplifier and digitizer build the complete transceiver unit, required to design high-performance readers. A three-pin microcontroller interface is employed for programming the HTRC110 as well as for the bidirectional communication with the transponders. The three-wire interface can be changed into a two-wire interface by connecting the data input and the data output. Tolerance dependent zero amplitude modulation caused severe problems in envelope detector systems, resulting in the need of very low tolerance reader antennas. These problems are solved by the new Adaptive Sampling Time technique (AST).



## 2.2 CLRC663

The CLRC663 is a highly integrated transceiver IC for contactless communication at 13.56 MHz. This transceiver IC utilizes an outstanding modulation and demodulation concept completely integrated for different kinds of contactless communication methods and protocols at 13.56 MHz.

The CLRC663 transceiver ICs support following different operating modes:

- Reader/Writer mode supporting ISO/IEC 14443A/MIFARE
- Reader/Writer mode supporting ISO/IEC 14443B
- Reader/Writer mode supporting FeliCa scheme
- Reader/Writer mode supporting ISO/IEC 15693
- Reader/Writer mode supportingICODE EPC UID/ EPC OTP
- Reader/Writer mode supporting ISO/IEC 18000-3 Mode 3
- NFC P2P Initiator

The CLRC663 internal transmitter is able to drive a reader/writer antenna designed to communicate with ISO/IEC 14443A/MIFARE cards and transponders without additional active circuitry. The receiver module provides a robust and efficient implementation for demodulation and decoding signals from ISO 14443A/MIFARE compatible cards and transponders. The digital module manages the complete ISO 14443A framing and error detection (parity and CRC) functionality. The CLRC663 supports MIFARE 1K, MIFARE 4K, MIFARE Ultralight, MIFARE, Ultralight C, MIFARE PLUS and MIFARE DESFire products. The CLRC663 supports contactless communication and uses MIFARE higher transfer speeds up to 848 kBd in both directions.

The CLRC663 supports all layers of the ISO/IEC 14443B reader/writer communication scheme, given correct implementation of additional components, like oscillator, power supply, coil etc. and provided that standardized protocols, e.g. like ISO/IEC 14443-4 and/or ISO/IEC 14443B anticollision are correctly implemented.

Enabled in Reader/Writer mode for FeliCa, the CLRC663 transceiver IC supports the FeliCa communication scheme. The receiver part provides a robust and efficient implementation of the demodulation and decoding circuitry for FeliCa coded signals. The digital part handles the FeliCa framing and error detection like CRC. The CLRC663 supports contactless communication using FeliCa Higher transfer speeds up to 424 kbit/s in both directions. The CLRC663 supports vicinity protocol according to ISO/IEC15693, EPC UID and ISO/IEC 18000-3 mode 3. The complete vicinity product family of NXP is supported and enable a readability for mid-ranger reader applications.

The following host interfaces are provided:

- Serial Peripheral Interface (SPI)
- Serial UART (similar to RS232 with voltage levels dependent on pin voltage supply)
- I<sup>2</sup>C-bus interface (two versions are implemented: I2C and I2CL)

### 2.3 LPC1227

The LPC1227 are ARM Cortex-M0 based microcontrollers for embedded applications featuring a high level of integration and low power consumption. The ARM Cortex-M0 is a next generation core that offers system enhancements such as enhanced debug features and a higher level of support block integration. In addition to the ARM Cortex-M0, the LPC1X features an event handler API to limit the interrupt load of the ARM Cortex-M0 CPU and to allow for additional power-savings by off-loading event handling from the main CPU.

The LPC1227 operates at CPU frequencies of up to 33 MHz and include up to 128 kB of flash memory and 8 kB of data memory.

Not all connections of the LPC1227 product are implemented by the PRH600.

## 3. Features and benefits

- The PRH601 is integrating multiple functions in a single small formfactor package.
- Reduced PCB size for development of systems with small physical dimensions
- Multi frequency reader support available in single package
- Integrated microcontroller allows implementation of customer firmware

## 4. Applications

- Small formfactor access systems
- Industrial devices with high RF performance requirements
- Multi frequency applications with 125 kHz and 13.56 MHz support

## 5. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
VDDL(PC1227)	supply voltage LPC1227		3.0	3.3	3.6	V
VDD(CLRC663)	supply voltage CLRC663		3.0	5.0	5.5	V
VDD(HTCRC110)	supply voltage HRTC110		4.5	5.0	5.5	V
T <sub>amb</sub>	ambient temperature		-25	+25	+70	°C

[1] Refer to the specification of integrated products for quick reference data details

## 6. Ordering information

Table 2. Ordering information

Type number	Package		Version
	Name	Description	
PRH601HL/C1	LQFP100	plastic low profile quad flat package; 100 leads; body 14 x 14 x 1.4 mm	SOT407-1

## 7. Marking

Table 3. Marking codes

Type number	Marking code
PR601HL/C1	
1st line	product type
2nd line	1st die diffusion number
3rd line	weekcode
4th line	2nd and 3rd die diffusion number
5th line (optional)	additional information

## 8. Block diagram

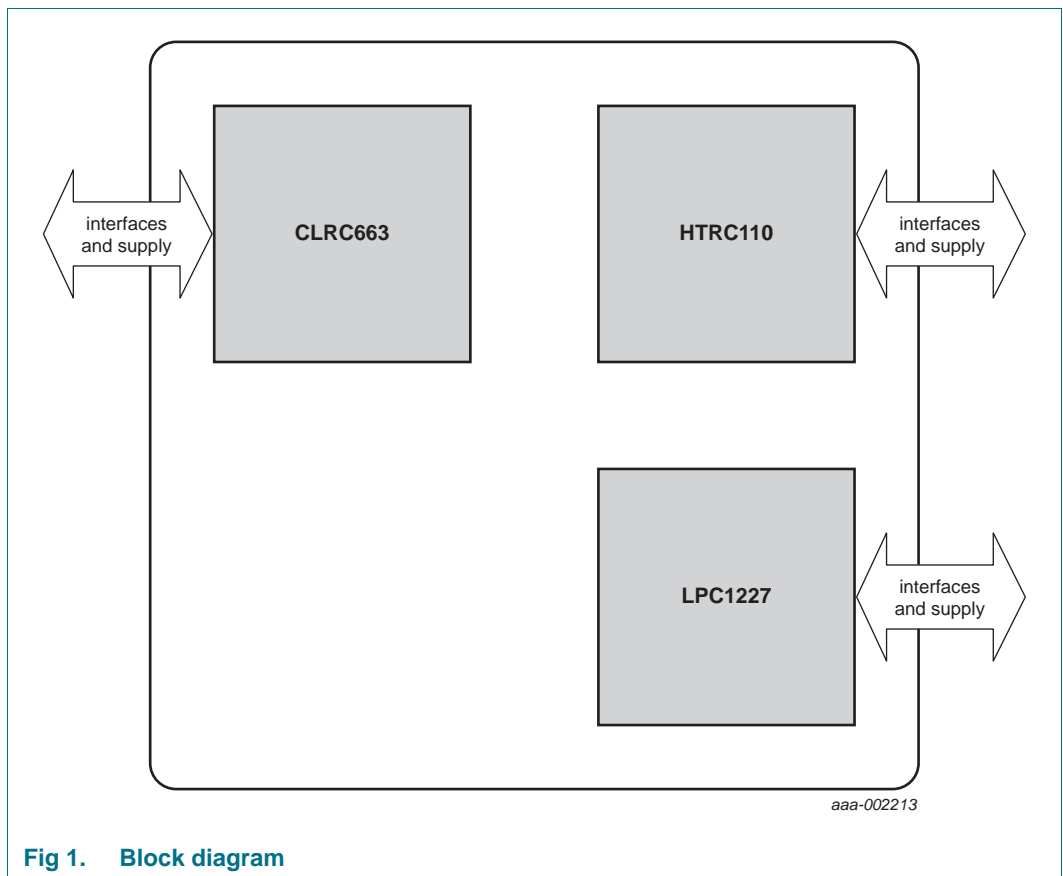


Fig 1. Block diagram

## 9. Pinning information

### 9.1 Pinning

Table 4. Pin allocation table

Pin	Symbol	Connection
1	PIO0_10	LPC1227
2	PIO0_11	LPC1227
3	PIO0_12	LPC1227
4	nRESET/PIO0_13	LPC1227
5	PIO0_14	LPC1227
6	PIO0_15	LPC1227
7	PIO0_16	LPC1227
8	PIO0_17	LPC1227
9	PIO0_18	LPC1227
10	PIO0_30	LPC1227
11	PIO0_31	LPC1227
12	PIO1_0	LPC1227
13	PIO1_1	LPC1227
14	GND	all
15	PIO1_2	LPC1227
16	PIO1_3/WAKEUP	LPC1227
17	PIO1_4	LPC1227
18	PIO1_5	LPC1227
19	PIO1_6	LPC1227
20	VSS	LPC1227
21	VDD(3V3)	LPC1227
22	RTCXOUT	LPC1227
23	RTCXIN	LPC1227
24	VDDIO	LPC1227
25	VSSIO	LPC1227
26	CEXT	HTRC110
27	DGND	HTRC110
28	RX	HTRC110
29	VSS	HTRC110
30	TX2	HTRC110
31	VDD	HTRC110
32	TX1	HTRC110
33	MODE	HTRC110
34	AVDD	CLRC663
35	AUX1	CLRC663
36	AUX2	CLRC663
37	RXP	CLRC663

Table 4. Pin allocation table ...continued

Pin	Symbol	Connection
38	RXN	CLRC663
39	VMID	CLRC663
40	TX2	CLRC663
41	TVSS	CLRC663
42	GND	CLRC663
43	TX1	CLRC663
44	TVDD	CLRC663
45	XTAL1	CLRC663
46	n.c.	-
47	XTAL2	CLRC663
48	n.c.	-
49	PD	CLRC663
50	n.c.	-
51	CLKOUT	CLRC663
52	SCL	CLRC663
53	SDA	CLRC663
54	PVDD	CLRC663
55	IFSEL0	CLRC663
56	IFSEL1	CLRC663
57	IF0	CLRC663
58	IF1	CLRC663
59	IF2	CLRC663
60	IF3	CLRC663
61	IRQ	CLRC663
62	GND	CLRC663
63	TDO	CLRC663
64	TDI	CLRC663
65	TMS	CLRC663
66	TCK	CLRC663
67	SIGIN	CLRC663
68	SIGOUT	CLRC663
69	DVDD	CLRC663
70	VDDS	CLRC663
71	XTAL1	HTRC110
72	XTAL2	HTRC110
73	SCLK	HTRC110
74	DIN	HTRC110
75	DOUT	HTRC110
76	XTALIN	LPC1227
77	XTALOUT	LPC1227
78	VREF_COMP	LPC1227

Table 4. Pin allocation table ...continued

Pin	Symbol	Connection
79	PIO0_19	LPC1227
80	PIO0_20	LPC1227
81	PIO0_21	LPC1227
82	PIO0_22	LPC1227
83	PIO0_23	LPC1227
84	PIO0_24	LPC1227
85	PIO0_25	LPC1227
86	PIO0_26	LPC1227
87	PIO0_27	LPC1227
88	GND	all
89	PIO0_28	LPC1227
90	PIO0_29	LPC1227
91	PIO0_0	LPC1227
92	PIO0_1	LPC1227
93	PIO0_2	LPC1227
94	PIO0_3	LPC1227
95	PIO0_4	LPC1227
96	PIO0_5	LPC1227
97	PIO0_6	LPC1227
98	PIO0_7	LPC1227
99	PIO0_8	LPC1227
100	PIO0_9	LPC1227

## 9.2 Pin description

For a description of the detailed pin functionality refer to the relevant product data sheet.

VSS and GND refer to the same signal and need all be connected.

## 10. Functional description

The functionality of this device is defined by the functionality of the three chips CLRC663, HTRC110 and LPC1227. No internal connection of the devices had been implemented except for the GND signal. All external available GND signals need to be connected. A design making use of this device shall consider a sufficient low thermal resistance between package and environment. All pins are recommended to be connected to defined signal levels. A PCB design using the PRH600 shall make use of state of the art design practices to ensure a sufficient heat dissipation. For a detailed functionality refer to the latest product specifications of the CLRC663, HTRC110 and LPC1227.

## 11. Limiting values

**Table 5. Limiting values**

*In accordance with the Absolute Maximum Rating System (IEC 60134).*

Symbol	Parameter	Conditions	Min	Max	Unit
$P_{\text{tot}}$	total power dissipation	ambient temperature 25 °C	-	2.0	W
VESD	electrostatic discharge voltage	human body model; all pins	1500	-	V

## 12. Characteristics

**Table 6. Characteristics [1]**

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$V_{\text{DD(LPC)}}$	supply voltage of LPC1227die		3.0	3.3	3.6	V
$V_{\text{DD(CLRC)}}$	supply voltage of CLRC663 die		3.0	5.0	5.5	V
$T_{\text{amb}}$	ambient temperature		-25	+25	+70	°C
$I_{\text{DD(TVDD)}}$	TVDD supply current	CLRC663 die transmitter supply current	-	100	200	mA

[1] For a detailed information of the characteristics refer to the data sheets of the packaged products



### 13. Package outline

LQFP100: plastic low profile quad flat package; 100 leads; body 14 x 14 x 1.4 mm

SOT407-1

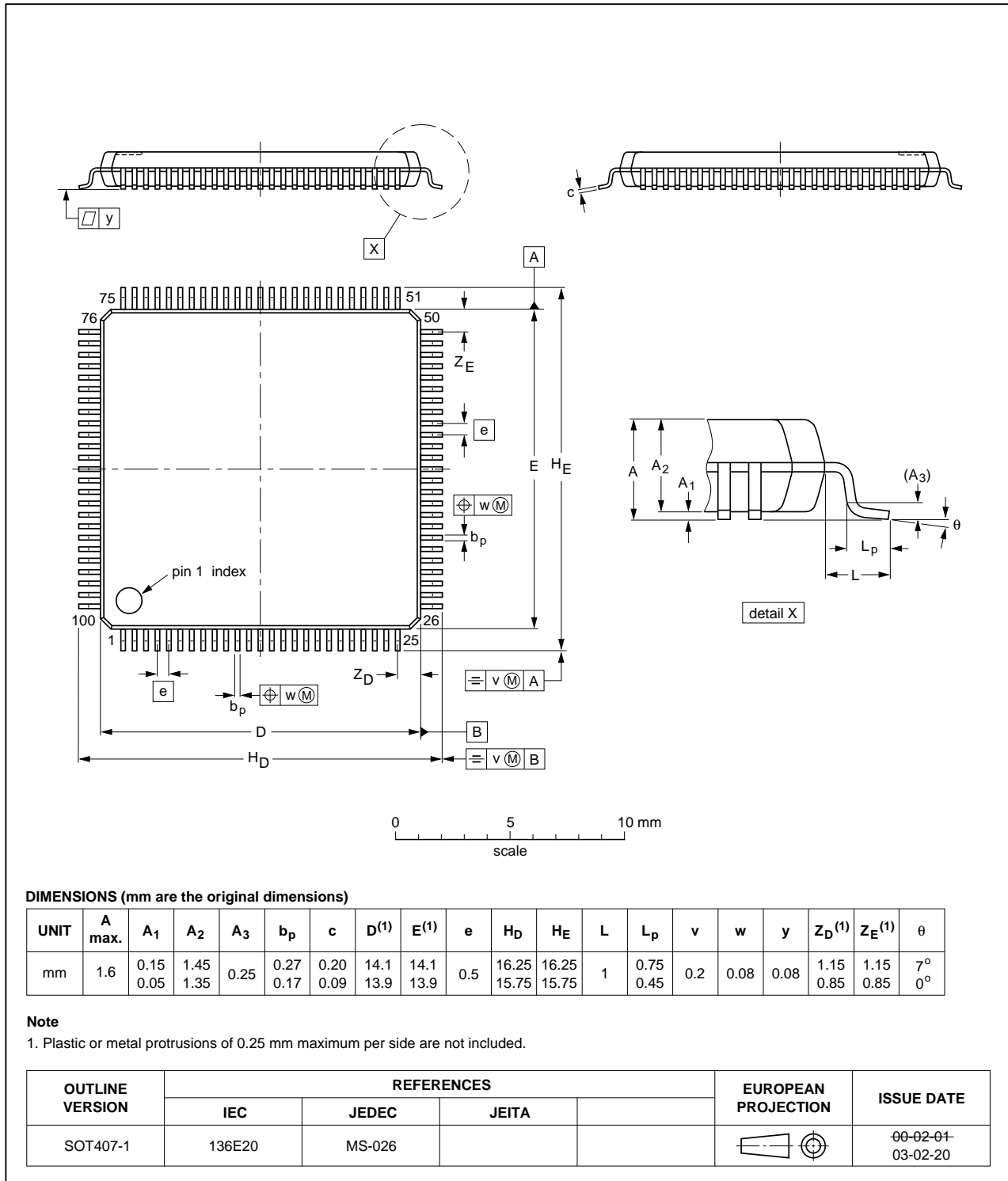


Fig 2. Package outline LQFP100 (SOT407-1)

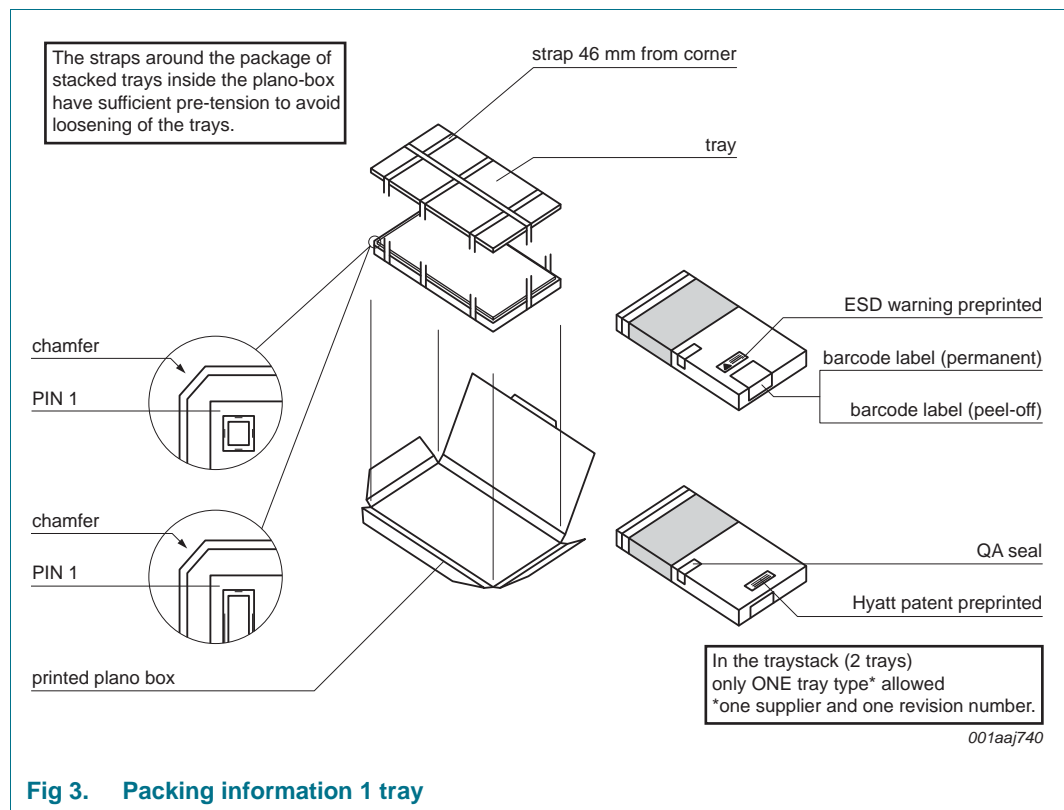
## 14. Handling information

Moisture Sensitivity Level (MSL) evaluation has been performed according to *SNW-FQ-225B rev.04/07/07 (JEDEC J-STD-020C)*. MSL for this package is level 2 which means 260 °C convection reflow temperature.

Dry pack is required.

1 year out-of-pack floor life at maximum ambient temperature 30 °C/ 85 % RH.

## 15. Packing information



## 16. Abbreviations

**Table 7. Abbreviations**

Acronym	Description
AST	Adaptive Sampling Time technique
EPC	Electronic Product Code
OTP	One Time Programmable
SPI	Serial Peripheral Interface
UID	Unique IDentification

## 17. Glossary

---

**Die** — unpackaged chip of a product

## 18. References

---

- [1] **Data sheet** — *CLRC663, Contactless reader IC*, BU-ID Document number 1711\*\*<sup>1</sup>
- [2] **Data sheet** — *HTRC110, HITAG reader chip*, BU-ID Document number 0370\*\*
- [3] **Data sheet** — *LPC122x, 32-bit ARM Cortex-M0 microcontroller; up to 128 kB flash and 8 kB SRAM*

---

1. \*\* .. document version number

## 19. Revision history

**Table 8. Revision history**

Document ID	Release date	Data sheet status	Change notice	Supersedes
PRH601 v. 3.3	20160310	Product data sheet	-	PRH601 v. 3.2
Modifications:	<ul style="list-style-type: none"> <li><a href="#">Table 6 "Characteristics [1]":</a> TVDD supply current values added</li> </ul>			
PRH601 v. 3.2	20160111	Product data sheet	-	PRH601 v. 3.1
Modifications:	<ul style="list-style-type: none"> <li><a href="#">Section 2.2 "CLRC663":</a> License statement updated</li> </ul>			
PRH601 v. 3.1	20151006	Product data sheet	-	PRH601 v. 3.0
Modifications:	<ul style="list-style-type: none"> <li>Descriptive title changed</li> <li>Pin names 13 and 15 corrected</li> <li><a href="#">Section 20.4 "Licenses":</a> updated</li> </ul>			
PRH601 v. 3.0	20121112	Product data sheet	-	PRH601 v. 1.1
Modifications:	<ul style="list-style-type: none"> <li><a href="#">Figure 1 "Block diagram":</a> corrected from LPC1127 into LPC1227</li> <li>Data sheet status changed to "Product data sheet"</li> </ul>			
PRH601 v.1.1	20121024	Objective data sheet	-	PRH601 v.1.0
Modifications:	<ul style="list-style-type: none"> <li>General update</li> </ul>			
PRH601 v.1.0	20120315	Objective data sheet	-	-

## 20. Legal information

### 20.1 Data sheet status

Document status <sup>[1][2]</sup>	Product status <sup>[3]</sup>	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

[3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL <http://www.nxp.com>.

### 20.2 Definitions

**Draft** — The document is a draft version only. The content is still under internal review and subject to formal approval, which may result in modifications or additions. NXP Semiconductors does not give any representations or warranties as to the accuracy or completeness of information included herein and shall have no liability for the consequences of use of such information.

**Short data sheet** — A short data sheet is an extract from a full data sheet with the same product type number(s) and title. A short data sheet is intended for quick reference only and should not be relied upon to contain detailed and full information. For detailed and full information see the relevant full data sheet, which is available on request via the local NXP Semiconductors sales office. In case of any inconsistency or conflict with the short data sheet, the full data sheet shall prevail.

**Product specification** — The information and data provided in a Product data sheet shall define the specification of the product as agreed between NXP Semiconductors and its customer, unless NXP Semiconductors and customer have explicitly agreed otherwise in writing. In no event however, shall an agreement be valid in which the NXP Semiconductors product is deemed to offer functions and qualities beyond those described in the Product data sheet.

### 20.3 Disclaimers

**Limited warranty and liability** — Information in this document is believed to be accurate and reliable. However, NXP Semiconductors does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information. NXP Semiconductors takes no responsibility for the content in this document if provided by an information source outside of NXP Semiconductors.

In no event shall NXP Semiconductors be liable for any indirect, incidental, punitive, special or consequential damages (including - without limitation - lost profits, lost savings, business interruption, costs related to the removal or replacement of any products or rework charges) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory.

Notwithstanding any damages that customer might incur for any reason whatsoever, NXP Semiconductors' aggregate and cumulative liability towards customer for the products described herein shall be limited in accordance with the *Terms and conditions of commercial sale* of NXP Semiconductors.

**Right to make changes** — NXP Semiconductors reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.

**Suitability for use** — NXP Semiconductors products are not designed, authorized or warranted to be suitable for use in life support, life-critical or safety-critical systems or equipment, nor in applications where failure or malfunction of an NXP Semiconductors product can reasonably be expected to result in personal injury, death or severe property or environmental damage. NXP Semiconductors and its suppliers accept no liability for inclusion and/or use of NXP Semiconductors products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

**Applications** — Applications that are described herein for any of these products are for illustrative purposes only. NXP Semiconductors makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

Customers are responsible for the design and operation of their applications and products using NXP Semiconductors products, and NXP Semiconductors accepts no liability for any assistance with applications or customer product design. It is customer's sole responsibility to determine whether the NXP Semiconductors product is suitable and fit for the customer's applications and products planned, as well as for the planned application and use of customer's third party customer(s). Customers should provide appropriate design and operating safeguards to minimize the risks associated with their applications and products.

NXP Semiconductors does not accept any liability related to any default, damage, costs or problem which is based on any weakness or default in the customer's applications or products, or the application or use by customer's third party customer(s). Customer is responsible for doing all necessary testing for the customer's applications and products using NXP Semiconductors products in order to avoid a default of the applications and the products or of the application or use by customer's third party customer(s). NXP does not accept any liability in this respect.

**Limiting values** — Stress above one or more limiting values (as defined in the Absolute Maximum Ratings System of IEC 60134) will cause permanent damage to the device. Limiting values are stress ratings only and (proper) operation of the device at these or any other conditions above those given in the Recommended operating conditions section (if present) or the Characteristics sections of this document is not warranted. Constant or repeated exposure to limiting values will permanently and irreversibly affect the quality and reliability of the device.

**Terms and conditions of commercial sale** — NXP Semiconductors products are sold subject to the general terms and conditions of commercial sale, as published at <http://www.nxp.com/profile/terms>, unless otherwise agreed in a valid written individual agreement. In case an individual agreement is concluded only the terms and conditions of the respective agreement shall apply. NXP Semiconductors hereby expressly objects to applying the customer's general terms and conditions with regard to the purchase of NXP Semiconductors products by customer.

**No offer to sell or license** — Nothing in this document may be interpreted or construed as an offer to sell products that is open for acceptance or the grant, conveyance or implication of any license under any copyrights, patents or other industrial or intellectual property rights.

**Export control** — This document as well as the item(s) described herein may be subject to export control regulations. Export might require a prior authorization from competent authorities.

**Quick reference data** — The Quick reference data is an extract of the product data given in the Limiting values and Characteristics sections of this document, and as such is not complete, exhaustive or legally binding.

**Non-automotive qualified products** — Unless this data sheet expressly states that this specific NXP Semiconductors product is automotive qualified, the product is not suitable for automotive use. It is neither qualified nor tested in accordance with automotive testing or application requirements. NXP Semiconductors accepts no liability for inclusion and/or use of non-automotive qualified products in automotive equipment or applications.

In the event that customer uses the product for design-in and use in automotive applications to automotive specifications and standards, customer (a) shall use the product without NXP Semiconductors' warranty of the product for such automotive applications, use and specifications, and (b) whenever customer uses the product for automotive applications beyond NXP Semiconductors' specifications such use shall be solely at customer's own risk, and (c) customer fully indemnifies NXP Semiconductors for any liability, damages or failed product claims resulting from customer design and use of the product for automotive applications beyond NXP Semiconductors' standard warranty and NXP Semiconductors' product specifications.

**Translations** — A non-English (translated) version of a document is for reference only. The English version shall prevail in case of any discrepancy between the translated and English versions.

## 20.4 Licenses

### Purchase of NXP ICs with NFC technology

Purchase of an NXP Semiconductors IC that complies with one of the Near Field Communication (NFC) standards ISO/IEC 18092 and ISO/IEC 21481 does not convey an implied license under any patent right infringed by implementation of any of those standards. Purchase of NXP Semiconductors IC does not include a license to any NXP patent (or other IP right) covering combinations of those products with other products, whether hardware or software.

### Purchase of NXP ICs with ISO/IEC 14443 type B functionality



This NXP Semiconductors IC is ISO/IEC 14443 Type B software enabled and is licensed under Innovatron's Contactless Card patents license for ISO/IEC 14443 B.

The license includes the right to use the IC in systems and/or end-user equipment.

### RATP/Innovatron Technology

## 20.5 Trademarks

Notice: All referenced brands, product names, service names and trademarks are the property of their respective owners.

**MIFARE** — is a trademark of NXP B.V.

**ICODE and I-CODE** — are trademarks of NXP B.V.

**MIFARE Plus** — is a trademark of NXP B.V.

**MIFARE Ultralight** — is a trademark of NXP B.V.

**DESFire** — is a trademark of NXP Semiconductors N.V.

**I<sup>2</sup>C-bus** — logo is a trademark of NXP B.V.

**HITAG** — is a trademark of NXP B.V.

## 21. Contact information

For more information, please visit: <http://www.nxp.com>

For sales office addresses, please send an email to: [salesaddresses@nxp.com](mailto:salesaddresses@nxp.com)

## 22. Contents

<b>1</b>	<b>Introduction</b> .....	<b>1</b>
<b>2</b>	<b>General description</b> .....	<b>1</b>
2.1	HTRC110 .....	1
2.2	CLRC663 .....	2
2.3	LPC1227 .....	3
<b>3</b>	<b>Features and benefits</b> .....	<b>3</b>
<b>4</b>	<b>Applications</b> .....	<b>3</b>
<b>5</b>	<b>Quick reference data</b> .....	<b>3</b>
<b>6</b>	<b>Ordering information</b> .....	<b>3</b>
<b>7</b>	<b>Marking</b> .....	<b>4</b>
<b>8</b>	<b>Block diagram</b> .....	<b>4</b>
<b>9</b>	<b>Pinning information</b> .....	<b>5</b>
9.1	Pinning .....	5
9.2	Pin description .....	7
<b>10</b>	<b>Functional description</b> .....	<b>7</b>
<b>11</b>	<b>Limiting values</b> .....	<b>8</b>
<b>12</b>	<b>Characteristics</b> .....	<b>8</b>
<b>13</b>	<b>Package outline</b> .....	<b>9</b>
<b>14</b>	<b>Handling information</b> .....	<b>10</b>
<b>15</b>	<b>Packing information</b> .....	<b>10</b>
<b>16</b>	<b>Abbreviations</b> .....	<b>10</b>
<b>17</b>	<b>Glossary</b> .....	<b>11</b>
<b>18</b>	<b>References</b> .....	<b>11</b>
<b>19</b>	<b>Revision history</b> .....	<b>12</b>
<b>20</b>	<b>Legal information</b> .....	<b>13</b>
20.1	Data sheet status .....	13
20.2	Definitions .....	13
20.3	Disclaimers .....	13
20.4	Licenses .....	14
20.5	Trademarks .....	14
<b>21</b>	<b>Contact information</b> .....	<b>14</b>
<b>22</b>	<b>Contents</b> .....	<b>15</b>

Please be aware that important notices concerning this document and the product(s) described herein, have been included in section 'Legal information'.

© NXP Semiconductors N.V. 2016.

All rights reserved.

For more information, please visit: <http://www.nxp.com>

For sales office addresses, please send an email to: [salesaddresses@nxp.com](mailto:salesaddresses@nxp.com)

Date of release: 10 March 2016  
219233

## Данный компонент на территории Российской Федерации

### Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9