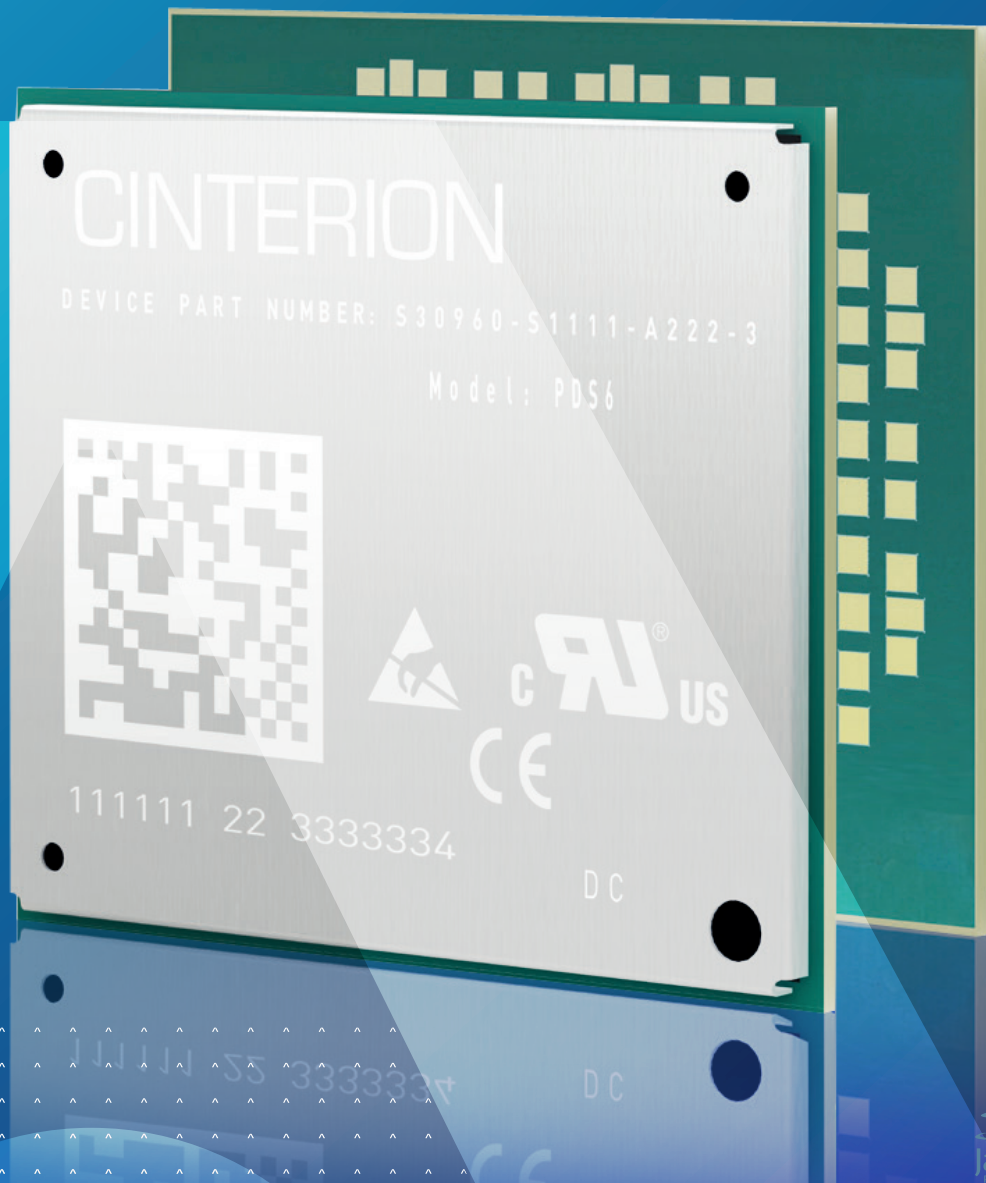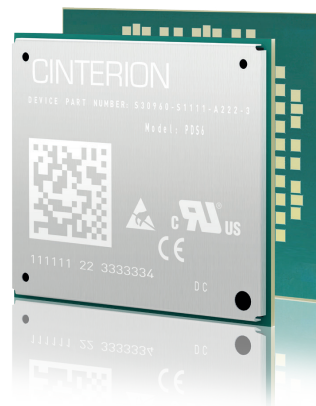THALES

3G
Cinterion® PDS6 Wireless Module
Global 3G with Java™ embedded

Cinterion® PDS6
Wireless Module
Global 3G with Java™ Embedded

PDS6

Five Band 3G HSPA

Multi Design Capability (LGA)

USB 2.0 High Speed Compatible

Embedded TCP/IP Stack

FOTA Configurable & Free of Charge

Java Embedded

Advanced Temperature Management

RLS Monitoring (Jamming Detection)

The flagship Cinterion® PDS6 is the 5th generation of Thales M2M's Java embedded machine-to-machine (M2M) modules, which have simplified highly efficient, end-to-end industrial communication for the last decade. Thales's Java strategy enables customers and partners to leverage the massive Java ecosystem by offering a powerful ARM11 architecture to reduce complexity and speed application integration. The tiny PDS6 module offers the latest Java ME 3.2 client runtime platform optimized for resource-constrained M2M applications. It significantly reduces total cost of ownership (TCO) and time to market by sharing internal resources such as memory, a large existing code base and proven software building blocks.

The improved Java concept uses Multi MIDlet Java execution to simultaneously host and run multiple applications and protocols. An extended security concept with the latest TLS/SSL engine provides secure and reliable TCP/IP connectivity while an enriched internal flash file system enables royalty free firmware updates over-the-air (FOTA) when required. Sophisticated sandbox modeling and layered architectures simplify device management (DM) and separate mobile network operator approvals from application code development, allowing simultaneous progress of both phases for a shorter time to market.

Providing the capability for multiple designs from one solution, the the latest addition to Thales M2M's Industrial Plus platform, is an ideal module for M2M applications migrating across 1xRTT, CDMA, Multimode and LTE, that require cost efficiency along with global connectivity. PDS6 offers five band HSPA to support high bandwidth connectivity, enabling speeds up to 7.2 Mbps in downlink and 5.7 Mbps in uplink.

PDS6 comes in Thales M2M's unique Land Grid Array (LGA) package perfectly suited to the manufacturing needs of small, high-volume M2M devices with a focus on reliable and efficient processes. The compact hardware design incorporates minimal power consumption, optimized heat dissipation even under harsh operating conditions and an extended product lifecycle to guarantee long product availability. PDS6 supports common industrial interfaces such as USB, serial interfaces, I²C and various GPIO's to be connected with the Java engine.

Global 3G with Java™ Embedded

33 mm   2,3 mm

29 mm
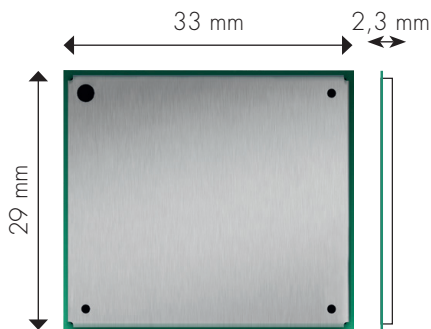
BIP (Bearer Independent Protocol)

BIP secures broadband speed to eUICC (MIM / classic) to enable On-Demand Provision Service (OPS) and Remote Application Management by direct communication between eUICC and network based on internal TCP/ IP stack. As a result it enables instant data connectivity on 1st use of a device, as well as a flexible mobile subscription throughout the lifecycle and a reduced number of customer device variants.

Analog Audio

The PDS6 platform incorporates a variant supporting high quality digital and analog audio, ideally fitted for remote alarm systems.

Java™

Java offers easy and fast application development, a broad choice of tools, high code reusability, easy maintenance, a proven security concept, on-device debugging as well as multi-threading programming and program execution.

Thales M2M Support includes:

▌ Personal design-in consulting for hardware and software

▌ Extensive RF test capabilities

▌ GCF/PTCRB conform pretests to validate approval readiness

▌ Regular training workshops

Local engineers, a competent helpdesk, a dedicated team of R&D specialists and an advanced development center are the hallmarks of our leading support offer.

Cinterion® PDS6 Features

General Features

▌ 3GPP Rel.7 Compliant Protocol Stack

▌ Five Bands UMTS (WCDMA/FDD)
Bands: 800, 850, 900, 1900 and 2100 MHz

▌ Quad-Band GSM
Bands: 850, 900, 1800 and 1900 MHz

▌ SIM Application Toolkit, letter class "b", "c", "e"

▌ Control via standardized and extended ATcommands (Hayes, TS 27.007 and 27.005)

▌ TCP/IP stack access via AT command and transparent TCP services

▌ Secure Connection for client IP services

▌ Internet Services TCP/UDP server/client, DNS, Ping, FTP client, HTTP client

▌ Supply voltage range 3.3 - 4.5 V, highly optimized for minimal power consumption

▌ Dimension: 29 x 33 x 2.3 mm

▌ Weight: 5 g

▌ Operating Temperature: -40 °C to +90 °C

Specifications

▌ HSDPA Cat.8 / HSUPA Cat.6 data rates
DL: max. 7.2 Mbps, UL: max. 5.76 Mbps

▌ EDGE Class 12 data rates
DL: max. 237 kbps, UL: max. 237 kbps

▌ GPRS Class 12 data rates
DL: max. 85.6 kbps, UL: max. 85.6 kbps

▌ CSD data transmission up to 9.6 kbps, V.110, non-transparent

▌ SMS text and PDU mode support

▌ High quality voice support for handset, headset and hands-free operation

▌ Integrated TTY modem

▌ Speech codec: FR, HR, EFR and AMR

Special Features

▌ USB interface supports multiple composite modes and a Linux-/Mac- compliant mode

▌ Firmware update via USB and serial interface

▌ Real time clock with alarm functionality

▌ Multiplexer according 3GPP TS 27.010

▌ RLS Monitoring (Jamming detection)

▌ Informal Network Scan

▌ Customer IMEI/SIM-Lock as variant

▌ Integrated FOTA, configurable and free of charge

Java Open Platform

- Java™ ME 3.2
- Secure data transmission with HTTPS/SSL
- Multi-Threading programming and Multi-Application execution
- 10 MB RAM and 10 MB Flash File System

Interfaces (LGA Pads)

- Pad for GSM/WCDMA Antenna
- USB 2.0 HS interface up to 480 Mbps
- High speed serial modem interface ASC0
- HSIC HS interface up to 480 Mbps
- 16 GPIO lines shared with DSR, DTR, DCD (all ASC0), ASC1 (RXD, TXD, RTS, CTS), SPI, Fast-Shutdown, Network-Status-Indication, PWM and Pulse-Counter lines
- ADC and I²C interface
- 4-wire high speed serial interfaces ASC1
- Digital and analog audio interface
- UICC and U/SIM card interface 1.8 V / 3 V
- Lines for Module-On and Reset

Drivers

- USB, MUX driver for Microsoft® Windows XP™, Vista™ and 7™
- RIL, USB driver for Microsoft® Windows Embedded Handheld™ >= 6.x
- USB, MUX driver for Microsoft® Windows Embedded Compact™ >= 5.x

Approvals

- R&TTE, GCF, CE, FCC, PTCRB, IC, UL
- AT&T and other local approvals and provider certifications
- EuP, RoHS and REACH compliant

Thales in IoT:
Driving digital transformation with the power of the IoT

Thales delivers innovative IoT technology that simplifies and speeds enterprise digital transformation. For more than 20 years, our customers – in a wide range of industries - trust our IoT solutions to seamlessly connect and secure their IoT devices, maximise field insights, and accelerate their global business success.

Thales solutions:

- **Connect** assets to wireless networks and cloud platforms
- **Manage** the long lifecycle of IoT solutions
- **Secure** devices and their data
- **Analyse** real-time data transforming it into business intelligence that improves decision making

Our 360° approach provides the essential building blocks needed to simplify design, streamline development and accelerate time-to-market.

For more information, please visit **www.thalesgroup.com/IoT** or follow **@ThalesIoT on Twitter**

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