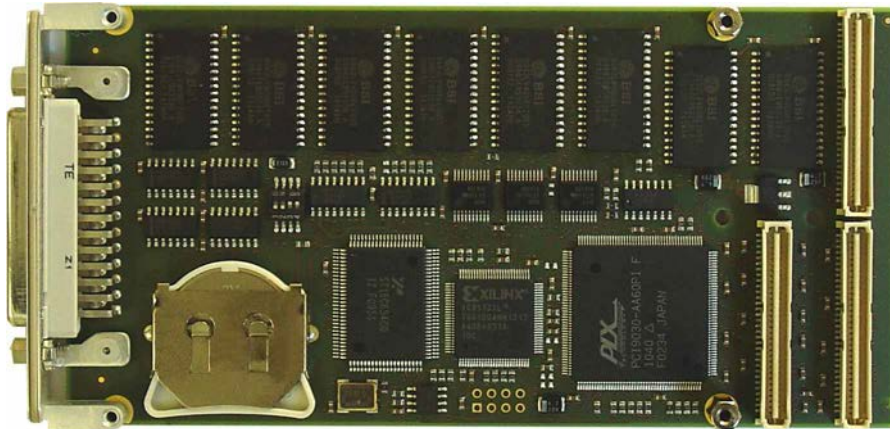# TPMC917   4MB SRAM with Battery Backup and 4 Channel RS232

Application Information

The TPMC917 is a standard single-width 32bit PMC module providing 4MByte of SRAM with battery backup by an on board lithium cell and four ESD protected RS232 channels (TPMC917-10R only).

The 4MByte of NV-SRAM are organized in two banks, each providing 512K x 32bit of memory. During normal operation (standard 5V supply applied to the SRAM) the capacity of the lithium cell is monitored every 24 hours by a battery monitor device and an interrupt can be generated if the battery voltage is too low.

The monitor device switches the power supply of the SRAM from the standard 5V to the battery if the 5V supply drops below the battery monitor device threshold level. Any active access to the SRAM at this point is executed correctly within 1.5µs. After this time any further accesses to the SRAM are not possible.

A miniature DIP switch allows the selection of the battery backup source either from the on board lithium cell or from an external battery via the P14 I/O connector.

The TPMC917-10R provides four RS232 channels. Each channel has a programmable baud rate up to 115.2Kbaud. The 4 channel UART provides a 64Byte transmit FIFO and a 64Byte receive FIFO for each channel to significantly reduce the overhead required to provide data to and get data from the transmitter and the receiver. The FIFO trigger levels are programmable. The channels are ESD protected up to +/-15kV according to the human body model and IEC1000-4-2.

For applications which do not need the UARTs of the TPMC917-10R, the TPMC917-20R provides 4MByte of NV-SRAM without any UARTs.
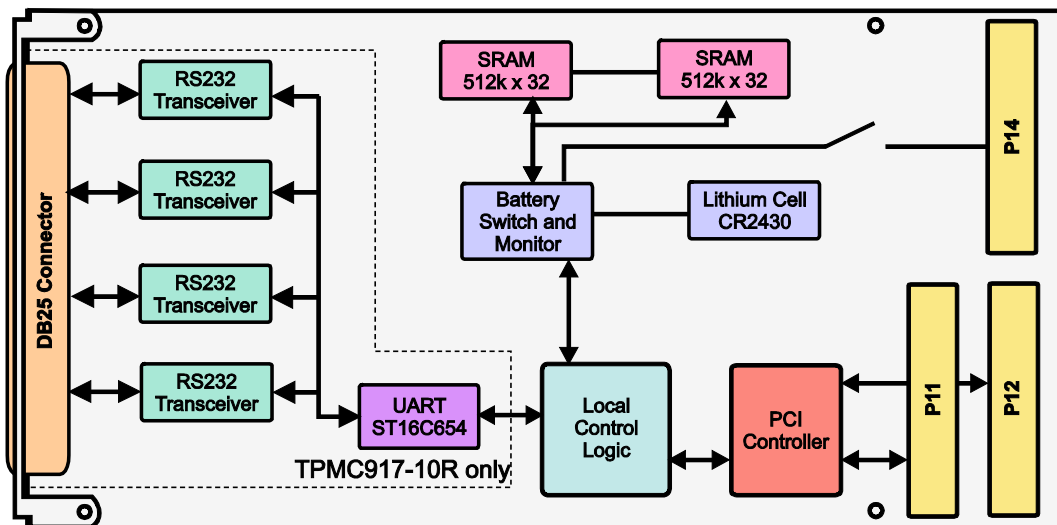
The TPMC917-21R has a reduced memory size. It provides 2MByte of NV-SRAM and has no UARTs.

Software Support (TPMC917-SW-xx) for different operating systems is available.

Technical Information

- ❍ Form Factor: Standard single-width 32 bit PMC module conforming to IEEE P1386.1
  - ❍ Board size: 149mm x 74mm
- ❍ PCI 2.1 compliant interface
- ❍ 3.3V and 5V PCI Signaling Voltage
- ❍ 4MByte of NV-SRAM (TPMC917-10R/-20R) or 2MByte of NV-SRAM (TPMC917-21R) with battery backup by an on board lithium cell
  - ❍ Battery capacity is monitored every 24 hours
  - ❍ Interrupt can be generated to control battery voltage

- ❍ 4 channel asynchronous serial RS232 interface, ESD protected (TPMC917-10R only):
  - ❍ 64Byte transmit FIFO per channel, 64Byte receive FIFO per channel
  - ❍ Programmable baud rates up to 115.2Kbaud
- ❍ Operating temperature 0°C to +70°C
- ❍ MTBF (MIL-HDBK217F/FN2 G_B 20°C)
  TPMC917-10R: 346000 h
  TPMC917-20R: 380000 h
  TPMC917-21R: 560000 h

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Order Information

RoHS Compliant
TPMC917-10R   4MB SRAM with Battery Backup, 4 Channel RS232, DB25
TPMC917-20R   4MB SRAM with Battery Backup
TPMC917-21R   2MB SRAM with Battery Backup

For the availability of non-RoHS compliant (leaded solder) products please contact TEWS.

Documentation
TPMC917-DOC   User Manual

Software
TPMC917-SW-25 Integrity Software Support
TPMC917-SW-42 VxWorks Software Support (Legacy and VxBus-Enabled Software Support)
TPMC917-SW-65 Windows Software Support
TPMC917-SW-72 LynxOS Software Support
TPMC917-SW-82 Linux Software Support
TPMC917-SW-95 QNX Software Support

For other operating systems please contact TEWS.

Related Products
TA303   Cable Kit for Modules with DB25 Female Connector
TPIM001   PIM I/O Module, HD50 connector

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