PMC424
Digital I/O
(Differential & TTL)
and Counter/Timers

The PMC424 digital I/O module provides 24 differential input/outputs, 16 TTL input/output channels, and four 16-bit multi-function counter/timers.

The 16 TTL input/output channels can be programmed as an input or an output on a channel basis. The 24 differential input/output channels are programmed as inputs or outputs on a 4-channel port basis. All input channels can be enabled for change of state, low, or high level transition interrupts.

Four 16-bit multifunction counters/timers can be configured for pulse width modulated output, watchdog timer, event counter, frequency measurement, pulse width measurement, period measurement, or one shot pulse output. The four 16-bit counters can also be configured into two 32-bit counter/timers.

Features

Digital I/O
- 40 digital input/output channels:
  - 24 differential input/outputs
  - 16 TTL input/output channels (15 ch. for 434R)
- Programmable change of state/level interrupts
- Input signal filtering debounce logic

Counter/Timer
- Four 16-bit or two 32-bit counter/timer channels
  (control lines shared with 16 TTL I/O channels)
- Six operating modes:
  - Pulse width modulation
  - Watchdog timer
  - Event counter
  - Frequency measurement
  - Pulse width or period measurement
  - One-shot and repetitive one-shot
- TTL-compatible thresholds
- Power-up and system reset are failsafe

Specifications

Differential Digital I/O
I/O channel configuration: 24 bidirectional non-isolated RS485/422A differential signals. Direction is controlled as a 4-channel group.

Differential driver output voltage with 50 ohm load:
- 2V minimum, 5V maximum.

Common mode output voltage: 3V maximum.

Minimum input resistance: 12K ohms.

Termination resistors: 120 ohm termination resistor networks are installed in sockets.

TTL Digital I/O
I/O channel configuration: 16 bidirectional TTL (15 for 424R) transceivers with direction controlled independently (shared as counter/timer control signals).

Reset/power-up condition: All channels default to input.

Digital Input
Input voltage range: 0 to 5V DC.

Input signal threshold, low to high: 3.5V typical.

Input signal threshold, high to low: 1.5V typical.

Input response time: 10 nanoseconds, typical.

TTL output is used for waveform output, watchdog active indicator, or 1.6µS pulse upon counter function completion.

Programmable as active high or low.

Clock frequencies: Selectable for 20MHz, 10MHz, 5MHz, 2.5MHz, 1.25MHz or external up to 8MHz.

Minimum I/P event: 100nS (debounce disabled).

Minimum pulse measurement: 100nS (debounce disabled).

Minimum period measurement: 200nS (debounce disabled).

Minimum gate/trigger pulse: 100nS (debounce disabled).

Board crystal oscillator: 20MHz.

PMC Compliance
Conforms to PCI Local Bus Specification, Revision 2.2 and CMC/PMC Specification, P1386.1.

4K Memory Space Required: One Base Address Register.

Signaling: 5V Compliant, 3.3V Tolerant.

Environmental
Operating temperature: 0 to 70°C (PMC424) or -40 to 85°C (PMC424E)

Storage temperature: -55 to 105°C.

Relative humidity: 5 to 95% non-condensing.


Power: 216mA at +5V, typical.

Ordering Information

PMC424: Digital I/O and counter/timer module

PMC424E: Same as PMC424 plus extended temp range

PMC424R: Digital I/O and counter/timer module with rear I/O connector

PMC424RE: Same as PMC424R plus extended temp range

Software

PMCSW-API-UNIX: VxWorks® software support package

PCISW-API-QNX: QNX® software support package

PCISW-API-WIN: Windows® DLL software support

PCISW-LINUX: Linux® support (website download only)

Accessories

5028-432: Cable, shielded, SCSI-3 connector both ends