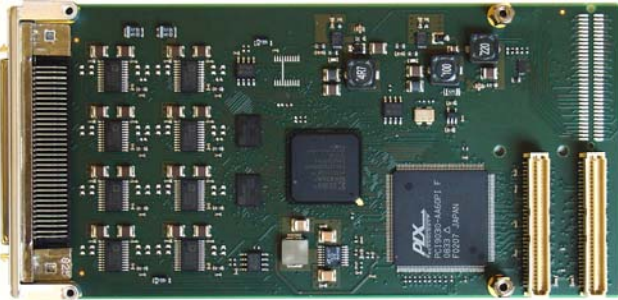# TPMC554   32 / 16 Channels of 16 bit D/A with memory

Application Information

The TPMC554 is a standard single-wide 32 bit PMC module and provides 32/16 channels of 16 bit analog outputs. All signals are accessible through a HD68 SCSI-3 type front I/O connector.

The software selectable output voltage ranges are 0V-5V, 0V-10V, 0V-10.8V, ±5V, ±10V and ±10.8V. The output voltage range can be set individually per channel. The conversion time is typ. 10µs and the DAC outputs are capable to drive a load of 2kΩ, with a capacitance up to 4000pF.

Besides of an individual channel update, the double buffered DACs allow simultaneous update of all channels. Additionally a sequencer on the TPMC554 allows updating enabled channels periodically with a sequence timer range that extends from 10µs to 11.93h.

In addition to the double buffered distributed RAM inside the FPGA the TPMC554 provides 2 M x 16 bit external SRAM to store values that are known in advance. This feature can also be used to periodically output any kind of waveform or bit pattern. The size of the FIFO for each DAC channel is adjustable.

Each TPMC554 is factory calibrated. The calibration information is stored in an on board serial EEPROM unique to each PMC module.

For First-Time-Buyers the engineering documentation TPMC554-ED is recommended. The engineering documentation includes TPMC554-DOC, schematics and data sheets of the TPMC554.

Technical Information

- Form Factor: Standard single-width 32 bit PMC module conforming to IEEE P1386.1
  - Board size: 149 mm x 74 mm
  - Target Chip: PCI9030 (PLX Technology)
  - PCI 2.1 compliant interface
  - PCI I/O signaling voltage 5V or 3.3V
- 32/16 channels single-ended 16 bit analog output
  - Programmable output voltage: 0V-5V, 0V-10V, 0V-10.8V, ±5V, ±10V, ±10.8V
  - Conversion time: typ.10µs
  - Up to 2kΩ resistive, 4000pF capacitive load
  - Overcurrent protection
  - Individual channel update, simultaneous update of all channels or sequencer mode
- 2 M x 16 bit SRAM to store voltage values
- Factory calibration data stored in EEPROM
- Operating temperature -40°C to +85°C
- MTBF (MIL-HDBK217F/FN2 G_B 20°C):
  - TPMC554-10R: 665000 h
  - TPMC554-11R: 678000 h
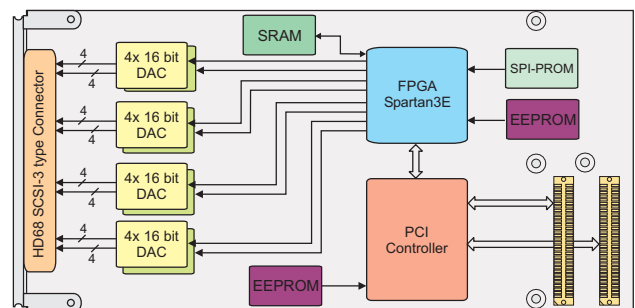
Order Information

RoHS Compliant

TPMC554-10R 32 Channels of 16 bit D/A (RoHS compliant version)

TPMC554-11R 16 Channels of 16 bit D/A (RoHS compliant version)

Documentation

TPMC554-DOC User Manual

TPMC554-ED Engineering documentation (TPMC554-DOC, Schematics, Assembly Drawing, Data Sheets)

Software

TPMC554-SW-25 Integrity Software Support

TPMC554-SW-42 VxWorks Software Support (Legacy and VxBus-Enabled Software Support)

TPMC554-SW-65 Windows XP/XPE/2000 Software Support

TPMC554-SW-72 LynxOS Software Support

TPMC554-SW-82 LiNUX Software Support

TPMC554-SW-95 QNX 6 Software Support

For other operating systems please contact TEWS.

Related Products

TA304 Cable Kit for modules with HD68 connector RoHS compliant version

TPIM002 PIM I/O Module with HD68 SCSI-3 type connector (RoHS compliant version)