

AQTMC01

Multi-Channel Telemetry and Telecommand ASIC

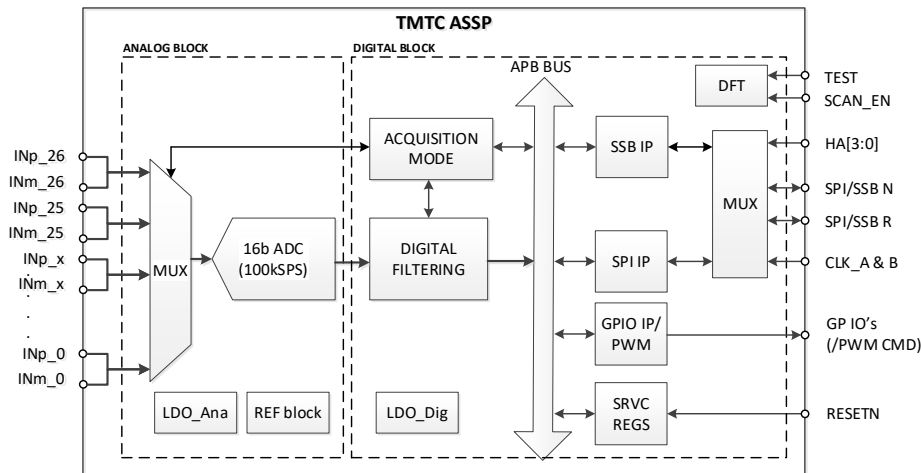
FEATURES

- 54 single-ended/ 27 differential configurable acquisition channels.
- 10µA / 100 µA / 1mA current biasing options
- Continuous / sweep acquisition modes.
- Input common mode control.
- 16-bit ADC resolution, 100kSPS (Nom).
- Built-in 50 kHz anti-alias filter.
- Configurable digital filter.
- LVC MOS/ LV TTL compatible.
- Dual SPI (N & R) up to 20MHz.
- Single system clock up to 20MHz.
- 3.3V power supply.
- Cold-spare operation allowed in all ports.
- 2kV ESD tolerance.
- TID above 50 krad(Si).
- SEE free above 37 MeV·cm²/mg.
- SEL immune.
- Space quality level
- CQFP-100 package

DESCRIPTION and APPLICATIONS

The AQTMC01 acquires 16-bit resolution telemetries from sensors and generates telecommands for actuators in spacecraft subsystems. To increase the voltage range of the analogue channels, telemetries can be acquired using external sensing networks biased with an internal control. Telecommands allow bi-level, single pulse, hysteresis, PWM, and voltage monitoring alarm functionalities with frequencies from 100Hz to 10MHz. Redundant SPI bus at 20MHz allows communications interface.

Telemetries acquisition and telecommands for space systems such as the propulsion, AOCS systems (altitude and orbit control) or SADE (Solar Array Drive Electronics). Targeted sensors and actuators are thermistors, gauges, sun sensors, magnetometers, star trackers, reaction wheels, control moment gyroscopes, magnetorquers, flow control and latch valves or catalytic bed heaters. The device provides higher integration than existing solutions for RIU/RTU and ICU.



AVAILABLE OPTIONS

PRODUCT ORDERING Nº	QUALITY LEVEL	PACKAGE (*1)	OPERATING TEMPERATURE	VARIANT DETAIL	TERMINAL MATERIAL AND FINISH (*2)	DELIVERY PACK
AQTMC01-E	EM (*3)	CQFP-100	-55°C to 125°C	NA	D2	
AQTMC01-S	FM (*4)	CQFP-100	-55°C to 125°C	NA	D2	

(*1) Other packaging options, including die format, are available under request.

(*2) In accordance with ESCC23500.

(*3) Electrically tested at 25°C only.

(*4) In accordance with ESCC9000.