

SPACECRAFT SYSTEMS

Quad-Core SoC2012 32-bit Space Application On-Chip System

The SoC2012 is the first domestically developed high-performance quad-core SoC designed for satellite onboard computing. It integrates four SPARC V8 cores with a total processing performance exceeding 300 MIPS @ 100 MHz. With a power consumption below 1 W, the SoC2012 outperforms comparable European and American products, achieving world-class performance levels for satellite applications.

TECHNICAL SPECIFICATIONS

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Process Technology	0.13 μm
Dimensions (mm)	37 × 37 × 3
Weight (g)	12
Operating Temperature (°C)	-55 to +125
Storage Temperature (°C)	-65 to +150
Communication Interface	1553B / RS-422
Package Type	CQFP256
Quality Grade	CAST C

Quick Overview

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Key Features

- High functional integration with four V8 processor cores, floating-point unit, and 1553B bus controller.
- High computational performance exceeding 300 MIPS @ 100 MHz.
- Excellent radiation tolerance with triple modular redundancy and radiation-hardened units.
- Independently developed and fully controllable technology.

Applications

- Microsatellites and embedded electronic systems requiring high-performance onboard computing, first flight in 2015.

Documentation & Resources

- [Technical Specifications](#)
- [Applications](#)