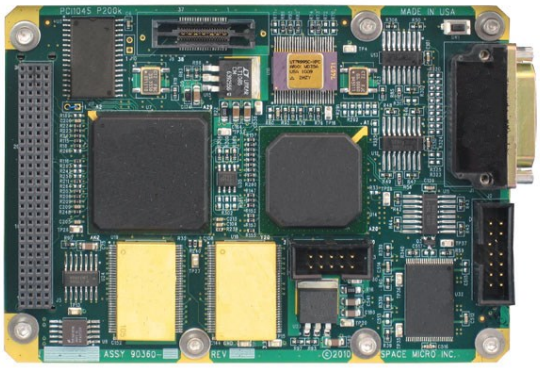
Proton200k™ DSP Processor Board

SPACE MICRO



FEATURES

- Radiation hardening utilizes Space Micro's patented mitigation technologies
- Optimized Processing Speed of 4,000 MIPS or 900 MFLOPS
- Industry Standard, upwardly compatible DSP Processor
- Applications include C&DH, Payload electronics, custom missions
- On-board Digital Signal Processing (DSP) of sensor data for speedy and efficient transfer to ground.
- Capacity, speed and power requirements suitable to be sole computer for micro- and nano-satellites handling both housekeeping and payloads.

SPECIFICATIONS

Radiation Tolerance	
SEL	> 63 LET (MeV-cm2/mg)
SEU	< 1 per 1,000 days (1.0 E-4, 90% W.C. GEO, Orbit dependent) TTMR™ technology for SEU detection/mitigation.
TID	100krad (Si), Orbit dependent
SEFI	100% recoverable Patented H-Core™ technology for SEFI detection/mitigation
Performance	DSP processor (4,000 MIPS or 900 MFLOPS)
Memory	128 MB TO 32 MB SDRAM w/EDAC (256 MB or 64 MB without EDAC) 1 Mbyte EEPROM to 8 Mbyte (option) 32Gb RH Flash (option)
Power	2.3 to 5 Watts

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Fixed Point Version:	8,000 MIPS native 4,000 MIPS at 1E-4 unrecoverable errors /day L1 32KB (16/16KB) Program/data Cache L2 1MB (Cache/Mapped RAM, flexible allocation) Timers, 32-bit (three)
Floating Point Version:	200 MHz, 1,800 GFLOPS native 900 MFLOPS/ 1,200 MIPS at 1E-4 unrecoverable errors/day L1 8 KB (4/4KB) Program/ Data Cache L2 256KB (64KB Cache/Mapped +192KB Mapped RAM) Timers: 32-bit (two)
Interfaces	32bit, 33 MHz I/O bus
cPCI	I/O Voltage
3.3V	4-channel buffered
UART	8 Asynchronous w/ RS422, 1 RS-485
IC GPIO	Prog. General-purpose I/O
Mechanical Options	3U, 100x160 mm [3.74 x 6.3”] 6U, 233x160mm [9.2 x 6”] (option) PCI-104 stretch [3.6 x 5"] (option) Other custom sizes (option)
Operating System and Software Support	TI Code Composer Studio
Parts Level Options	Commercial Space, NASA Levels I, II, III, Commercial Space
Environmental	
Operating Temp	-24 to +61˚C
Random Vibe	>10 Grms, 3-Axis
MTBF	> 6.6 Million Hours (+55C, space flight)
Hardware Models	Software Development Unit (SDU) Engineering Model Flight (Conduction cooled)

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