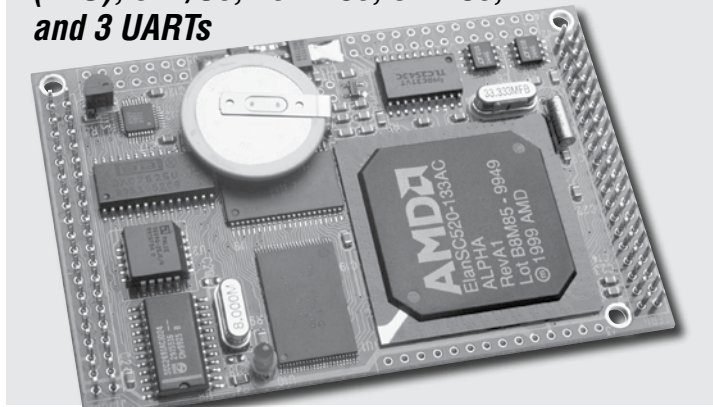


586-Engine™ (5E)

133 MHz, Floating Point Unit

High Performance, C/C++ programmable, Low Cost 32-bit 586 CPU with Floating Point Unit (FPU), 32 I/Os, 19 ADCs, 8 DACs, and 3 UARTs



Features:

- 3.6 x 2.3 x 0.3", 440 mA@5V, Battery
- 133 MHz, 32-bit AMD SC520, program in C/C++
- High performance hardware floating point coprocessor
- 256 KW SRAM*, 256 KW Flash, 114 byte internal RAM
- 32 PIOs, 7 timers, 15 interrupts, 1 Sync and 2 UARTs
- 19 ADCs, 8 DACs, Real-time clock, 3rd UART*

*Optional

The **586-Engine™ (5E)** is a C/C++ programmable controller based on the 32-bit 133 MHz AMD Elan SC520. The SC520 integrates an Am586 CPU and a high performance ANSI/IEEE 754 compliant hardware floating point unit (FPU). The FPU provides arithmetic instructions to handle numeric data and transcendental functions for sine, tangent, logarithms, etc, useful for intensive computational applications. It is estimated to be 10-50 times faster than an 8/16-bit controller without a FPU.

The **586-Engine™** supports up to 15 external interrupts. There are a total of seven timers including one programmable interval timer (PIT) that provides three 16-bit PIT timers, three 16-bit GP timers, and a software timer. These timers can also be used to count external events. The software timer provides a very efficient hardware time base with microsecond resolution. A real-time clock (RTC) provides time-of-day, 100-year calendar and 114 bytes of battery backed RAM.

Two industrial-standard 16550-compatible UARTs support baud rates up to 1.152 M baud. One synchronous serial interface (SSI) supports full-duplex bi-directional communication. One optional UART (SCC2691) can be installed as the 3rd serial port.

The **586-Engine™** boots from the on-board 256KW 16-bit ACTF Flash. By default, 256KW low power 55 ns SRAM is installed to allow longer battery backup lifetime; this requires slower 2 wait state access to memory. Optionally, if battery backup is not required, a high speed 20 ns SRAM can be installed to allow higher performance zero wait state operation.

The SC520 supports 32 programmable multifunctional TTL-level I/O lines (PIO) that can be used as general I/O. Two supervisor chips monitor 5V and 3.3V and provide power failure detection, watchdog and system reset. The 2.5V is used for the SC520 core and 3.3V for the I/O operation. Signal lines on headers are 3.3V output, and 5V maximum input. All components are soldered on board for highest

reliability. Repair support is not available due to the 388 pin BGA package of the SC520.

The **586-Engine™** can be powered with a single regulated 5V using the on-board 3.3V and 2.5V regulators. It also can be powered by external regulated 5V, 3.3V, and 2.5V.

A total of 19 analog inputs are supported with a serial ADC (TLC2543, 11 inputs, 20KHz sample rate, 12-bit, 0-REF+) and a parallel ADC (AD7852, 8 inputs, 100KHz sample rate, 12-bit, 0-5V). Two serial DACs (LTC1446, 2 channels, 0-4.095V) and a parallel 12-bit DAC (DA7625, 4 channels, 0-2.5V) can be installed to provide a total of 8 analog outputs.

The **586-Engine™** works with TERN expansion boards including the **P50, P100, P300, MCS/MC/MCP, MMB**, and **FC-0**.

Ordering Information

586-Engine™(5E) \$199/\$175/\$149/\$99 Qty 1/50/100/1K+

Includes 133 MHz SC520 with FPU, 256KW Flash, 64KW SRAM, 2 UARTs, 3 timers, RTC, Battery, and 32 I/Os.

NOT including add-on options. OEM option discounts available.

EV-P or DV-P kit (Software & 586-Engine) \$349/\$799

Add-on Options:

- 1) High speed SRAM 64KW/256KW \$20/\$40
- 2) 3rd UART(SCC2691) \$20
- 3) 11 ch. 12-bit ADC(TLC2543) \$20
- 4) 8 ch. 12-bit ADC(ADS7852), 300KHz \$20
- 5) 2 ch. 12-bit DAC (LT1446) up to 2 \$20x2
- 6) 4 ch. 12-bit DAC (DA7625), 200 KHz..... \$40

Typical Order Example: 586-Engine™, 256KW SRAM

5E + 1 = \$199 + \$40 = \$239

J1 Signal

Function	Pin#	Pin#	Function
VCC.....	1	2	GND
MPO.....	3	4	CLKT
RxD.....	5	6	GND
TxD.....	7	8	D0
VOFF.....	9	10	D1
/BHE.....	11	12	D2
D15.....	13	14	D3
/RST.....	15	16	D4
RST.....	17	18	D5
/CS1.....	19	20	D6
D14.....	21	22	D7
D13.....	23	24	GND
.....	25	26	A7
D12.....	27	28	A6
/WR.....	29	30	A5
/RD.....	31	32	A4
D11.....	33	34	A3
D10.....	35	36	A2
D9.....	37	38	A1
D8.....	39	40	A0

J2 Signal

Function	Pin#	Pin#	Function
GND.....	40	39	VCC
P31.....	38	37	P27
P28.....	36	35	P29
TxD0.....	34	33	P23
RxD0.....	32	31	/RTS1
P30.....	30	29	P26
TxD1.....	28	27	/RTS0
RxD1.....	26	25	P25
P24.....	24	23	P22
/CTS1.....	22	21	P21
P19.....	20	19	P20
P17.....	18	17	P18
P15.....	16	15	P16
P11.....	14	13	P12
P9.....	12	11	P10
P7.....	10	9	P8
P13.....	8	7	P6
P14.....	6	5	P5
P2.....	4	3	P4
GND.....	2	1	P3



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