EPSON

E0C332F128

32-bit Single Chip Microcomputer

Preliminary

- High-speed 32-bit RISC Core
- Multiply Accumulation
- 10-bit ADC
- Built-in RAM
- High-speed DMA, Intelligent DMA
- Twin-clock Oscillator
- Built-in Flash Memory

■ DESCRIPTION

The E0C332F128 is a CMOS 32-bit microcomputer composed of a CMOS 32-bit RISC core, Flash, RAM, DMA, timers, SIO, PLL and other circuits. The E0C332F128 can be operated with high speed and spend little current. With the ADC, PWM and the MAC function, the E0C332F128 is suitable for voice applications, PDAs and OA products such as printers.

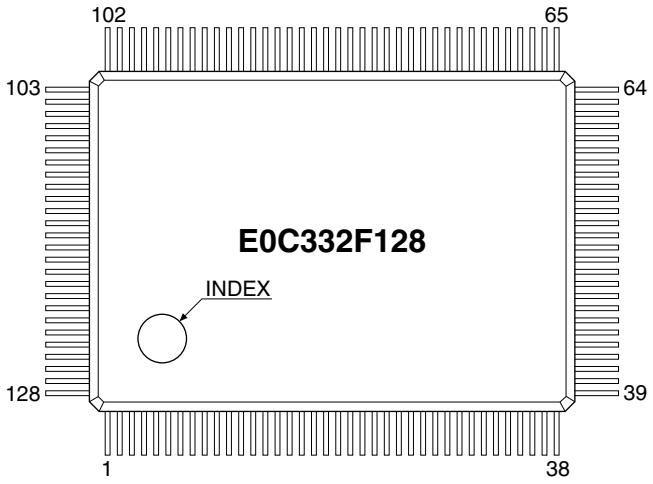
■ FEATURES

- CMOS LSI 32-bit parallel processing ..... E0C33000 RISC core
- Main clock ..... 50MHz (Max., up to 15MHz external clock input)
- Sub clock ..... 32.768kHz (Typ., crystal)
- Instruction set ..... 16-bit fixed length, 105 instructions
  (MAC instruction is included, 2 cycles)
- Internal RAM size ..... 8,192 bytes
- Internal Flash memory size ..... 131,072 bytes (Accessible with 0 wait states for up to 20MHz)
- Clock timer ..... 1 channel
- Programmable timer ..... 8 bits × 4 channels and 16 bits × 6 channels
- PWM timer ..... Realized with a 16-bit programmable timer
- Watchdog timer ..... Realized with a 16-bit programmable timer
- Serial interface ..... 2 channels
  Clock synchronization type and asynchronization type are selectable. Usable as an infrared ray (IrDA) interface.
- 10-bit A/D converter ..... Successive approximation type, 8 input channels
- High-speed DMA ..... 4 channels
- Intelligent DMA ..... 128 channels
- I/O port ..... Input port : 13 bits
  I/O port : 29 bits
  Pins are shared with the inputs and outputs of built-in peripheral circuits.
- Interrupt controller ..... External interrupts : 10 types
  Internal interrupts : 29 types
- External bus interface ..... 24-bit address bus, 16-bit data bus, 7 chip enable pins
  DRAM and burst ROM may be connected directly.
- Shipping form QFP5-128pin
- Supply voltage ..... Core voltage : 2.7 to 3.6V
  I/O voltage : 2.7 to 5.5V
- Power consumption ..... HALT state : TBD (3.3V, 32.768kHz)
  RUN state : TBD (3.3V, 50MHz)

∗ This model is under development, therefore the contents of the above specifications may be revised at final.

■ PIN LAYOUT

QFP5-128pin



No.	Pin name	No.	Pin name	No.	Pin name	No.	Pin name
1	P24/TM2	33	K65/AD5	65	#RESET	97	A16
2	VSS	34	K50/#DMAREQ0	66	#NMI	98	ICEMD
3	P25/TM3	35	K64/AD4	67	A0/#BSL	99	A17
4	P26/TM4	36	K63/AD3	68	A1	100	A18
5	P15/EXCL4/#DMAEND0	37	K62/AD2	69	P34/#BUSREQ/#CE6	101	A19
6	P27/TM5	38	AVDDE	70	VSS	102	P04/SIN1/#DMAACK2
7	BCLK	39	K61/AD1	71	A2	103	P05/SOUT1/#DMAEND2
8	P00/SIN0	40	K60/AD0	72	A3	104	P06/#SCLK1/DMAACK3
9	P01/SOUT0	41	D6	73	A4	105	VSS
10	D15	42	VSS	74	A5	106	PLLC
11	VDD	43	D5	75	A6	107	VSS
12	P03/#SRDY0	44	D4	76	#CE10IN	108	PLLS1
13	D14	45	D3	77	VDD	109	PLLS0
14	P31/#BUSGET/#GARD	46	D2	78	#EMEMRD	110	P07/#SRDY1/#DMAEND3
15	D13	47	D1	79	A7	111	#X2SPD
16	P32/#DMAACK0	48	D0	80	#HCAS	112	EA10MD0
17	D12	49	P35/#BUSACK	81	A8	113	EA10MD1
18	P33/#DMAACK1	50	VDDE	82	#LCAS	114	VDD
19	D11	51	#CE9/#CE17	83	A9	115	EA10MD2
20	K54/#DMAREQ3	52	OSC2	84	P16/EXCL5/#DMAEND1	116	OSC4
21	D10	53	#CE7/#RAS0/#CE13/#RAS2	85	A10	117	P20/#DRD
22	K53/#DMAREQ2	54	OSC1	86	A20	118	OSC3
23	D9	55	#CE6	87	A11	119	P21/#DWE/#GAAS
24	K52/#ADTRG	56	#RD	88	A21	120	#CE3
25	VSS	57	VSS	89	A12	121	P22/TM0
26	K51/#DMAREQ1	58	#WRL/#WR/#WE	90	A22	122	P23/TM1
27	P02/#SCLK0	59	#WRH/#BSH	91	A13	123	DSIO
28	D8	60	#CE10EX	92	A23	124	P10/EXCL0/T8UF0/DST0
29	D7	61	#CE8/#RAS1/#CE14/#RAS3	93	VSS	125	P11/EXCL1/T8UF1/DST1
30	VDDE	62	#CE5/#CE15	94	A14	126	P12/EXCL2/T8UF2/DST2
31	K67/AD7	63	#CE4/#CE11	95	A15	127	P13/EXCL3/T8UF3/DPCO
32	K66/AD6	64	P30/#WAIT/#CE4&5	96	VDDE	128	P14/FOSC1/DCLK