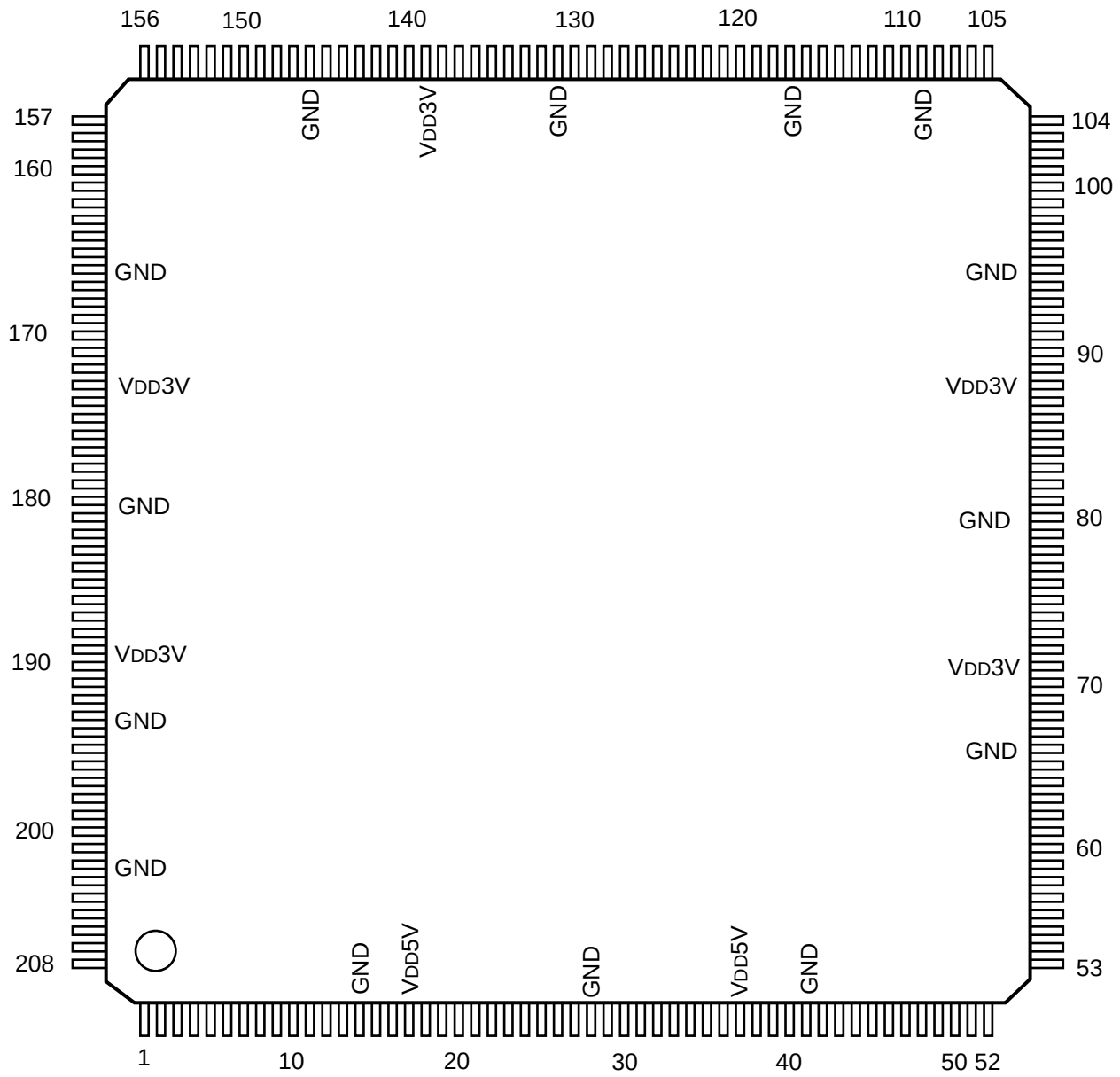

C-MOS SYSTEM CONTROLLER FOR 80486SX/DX

-TOP VIEW-



(Vdd3V = +3.3 to 5V, Vdd5V = +5V)

PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	O	AEN	46	I/O	MEMW	88	-	VDD3V	123	O	CAS11	166	-	GND
2	O	BALE	47	I/O	MEMR	89	I	BE2	124	O	CAS10	167	I/O	D9
3	O	SYSCLK	48	I/O	SA1		I	SXA1	125	I	ADS	168	I/O	D10
4	O	LOWMEG	49	I/O	SA0	90	I	BE1	126	I	W/R	169	I/O	D11
	O	SMEMR	50	O	MDEN		I	SXBHE	127	I	D/C	170	I/O	D12
5	I/O	SD15	51	O	MDIR	91	I	BE0	128	I	M/IO	171	I/O	D13
6	I/O	SD14	52	O	NMI		I	SXBLE	129	I	PDREF	172	I/O	D14
7	I/O	SD13	53	O	DRMWR	92	I	NPERR	130	I	LDS32	173	-	VDD3V
8	I/O	SD12	54	O	INTRQ		I	FERR	131	-	GND	174	I/O	D15
9	I/O	SD11	55	I/O	A31	93	O	BRDY486	132	I	PMCIN	175	I/O	D16
10	I/O	SD10		O	SXLOWEN	94	I	NPBUSY	133	I	SUSPA	176	I/O	D17
11	I/O	SD9	56	I/O	A29		O	GPREGWR		I	DFS RDY	177	I/O	D18
12	I/O	SD8		O	SUSP	95	-	GND	134	I	PCHK486	178	I/O	D19
13	I/O	SD7		O	STP REQ	96	I	3VBUFFER	135	I	BLAST	179	I/O	D20
14	-	GND		O	DFS REQ		O	ROMBA16	136	I/O	RA0/ED0	180	I/O	D21
15	I/O	SD6	57	I	A27	97	I	3VCORE	137	I/O	RA1/ED1	181	-	GND
16	I/O	SD5		O	SXSWPEN		O	ROMBA17	138	I/O	RA2/ED2	182	I/O	D22
17	-	VDD5V	58	I/O	A26	98	I	SXM	139	-	VDD3V	183	I/O	D23
18	I/O	SD4	59	I/O	A25		O	ROMBA18	140	O	RA3/CS3	184	I/O	D24
19	I/O	SD3	60	I/O	A24	99	O	CPURES	141	O	RA3B/CS4	185	I/O	D25
20	I/O	SD2	61	I/O	A23	100	O	NPRST	142	I/O	RA4/ED3	186	I/O	D26
21	I/O	SD1	62	I/O	A22	101	I	WTKMODE	143	I/O	RA5/ED4	187	I/O	D27
22	I/O	SD0	63	I/O	A21		O	SMIRDY	144	I/O	RA6/ED5	188	I/O	D28
23	I	CLK14	64	I/O	A20		O	FLUSH	145	I/O	RA7/ED6	189	I/O	D29
24	I	MASTER	65	I/O	A19	102	I/O	SMI	146	-	GND	190	-	VDD3V
25	I	IOCK	66	-	GND	103	I	MODE486	147	I/O	RA8/ED7	191	I/O	D30
26	I	IOCHRDY	67	I/O	A18		O	KEN	148	O	RA9/CS0	192	I/O	D31
27	I	ZEROWS	68	I/O	A17	104	I	BCLK2	149	O	RA10/CS1	193	I	IRQSET0
28	-	GND	69	I/O	A16	105	I	OSCIN	150	O	RA11/CS2	194	-	GND
29	I	MEMCS16	70	I/O	A15	106	O	CPUCLK	151	I	1X/2X	195	I	IRQSET1
30	I	IOCS16	71	-	VDD3V	107	O	LBCLK		O	A20GATE	196	I	SMIADS
31	I	DRQ7	72	I/O	A14	108	I	EXCOP	152	O	RDY486		I	SMIACT
32	I	DRQ6	73	I/O	A13		O	EADS	153	I	CLKTEST	197	I	HOLDA
33	I	DRQ5	74	I/O	A12	109	-	GND		O	CSEN	198	I	RSTIN
34	I	DRQ3	75	I/O	A11	110	O	RAS0		O	TC	199	O	HOLDR
35	I	DRQ2	76	I/O	A10	111	O	RAS1	154	O	MXCTL0	200	O	SPKR
36	I	DRQ1	77	I/O	A9	112	O	RAS2	155	O	MXCTL1	201	I/O	DP0
37	-	VDD5V	78	I/O	A8	113	O	RAS3	156	O	MXCTL2	202	-	GND
38	I	DRQ0	79	I/O	A7	114	O	RAS4	157	I/O	D0	203	I/O	DP1
39	I	WTKIRQ13	80	-	GND	115	O	CAS03	158	I/O	D1	204	I/O	DP2
	O	SMEMW	81	I/O	A6	116	O	CAS02	159	I/O	D2	205	I/O	DP3
40	I/O	REFRESH	82	I/O	A5	117	-	GND	160	I/O	D3	206	O	EXBUSY
41	-	GND	83	I/O	A4	118	O	CAS01	161	I/O	D4		O	GPREGRD
42	I/O	SBHE	84	I/O	A3	119	O	CAS00	162	I/O	D5	207	O	BS16
43	I/O	LA20	85	I/O	A2	120	-	VDD3V	163	I/O	D6	208	O	DACKEN
44	I/O	IOW	86	I	RDYIN	121	O	CAS13	164	I/O	D7			
45	I/O	IOR	87	I	BE3	122	O	CAS12	165	I/O	D8			

INPUT	
1X/2X	: SINGLE/DOUBLE PHASE CPU CLOCK
3VBUFFER	: 3VOLT BUFFER
3VCORE	: 3VOLT CORE
A27	: PROCESSOR ADDRESS BUS (80486 AND 80386DX MODE)
ADS	: ADDRESS STATUS
BCLK2	: BUS CLOCK
BE0-3	: BYTE ENABLE 0-3 (80386DX OR 80486 MODE)
BLAST	: BLAST (80486 MODE)
CLK14	: CLOCK 14 (14.318MHz)
CLKTEST	: CLOCK TEST
D/C	: DATA CONTROL
DFS RDY	: DFS READY FOR IBM CPUS
DRQ0-3,5-7	: DRQ
EXCOP	: EXTERNAL 80387 CO-PROCESSOR
FERR	: FLOATING POINT ERROR (80486 MODE)
HOLDA	: HOLD ACKNOWLEDGE
IOCHRDY	: I/O CHANNEL READY
IOCK	: I/O CHANNEL CHECK
IOCS16	: 16-BIT I/O CYCLE
IRQSET0,1	: INTERRUPT REQUEST SET0,1
LDS32	: LOCAL DATA SIZE 32
M/IO	: MEMORY OR I/O
MASTER	: MASTER
MEMCS16	: 16-BIT MEMORY CYCLE
MODE486	: 80386/80486 MODE
NPBUSY	: NUMERIC PROCESSOR BUSY
NPERR	: NUMERIC PROCESSOR ERROR (80386 MODE)
OSCIN	: OSCILLATOR IN
PCHK486	: PARITY CHECK 80486
PDREF	: POWER DOWN REFRESH
PMCIN	: POWER MANAGEMENT CONTROL
RDYIN	: PROCESSOR READY IN
RSTIN	: SYSTEM RESET
SMIACT	: SYSTEM MANAGEMENT INTERRUPT ACTIVE FOR INTEL CPU
SMIADS	: SYSTEM MANAGEMENT INTERRUPT ADDRESS STROBE FOR AMD AND SYRIX CPU
SUSPA	: SUSPEND ACKNOWLEDGE FOR CYRIX CPUS
SXA1	: SX PROCESSOR ADDRESS BIT 1 (80386SX MODE)
SXBHE	: SX BUS HIGH ENABLE (80386SX MODE)
SXBLE	: SX BUS LOW ENABLE (80386SX MODE)
SXM	: 80386SX OR 386/486 MODE SELECT
W/R	: WRITE OR READ
WTKIRQ13	: WEITEK IRQ13 (IN WEITEK MODE)
WTKMODE	: WEITEK MODE
ZEROWS	: ZERO WAIT STATE

OUTPUT

A20GATE ; A20 GATE
 AEN ; ADDRESS ENABLE
 BALE ; AT BUS ADDRESS LATCH ENABLE
 BRDY486 ; BURST READY 80486
 BS16 ; BUS SIZE 16
 CAS00-03 ; COLUMN ADDRESS SELECT 0
 CAS10-13 ; COLUMN ADDRESS SELECT 1
 CPUCLK ; 386/486 CPU CLOCK
 CPURES ; CPU RESET
 CSEN ; CHIP SELECT ENABLE
 DACKEN ; DACK ENABLE
 DFS REQ ; DYNAMIC FREQUENCY SHIFT REQUEST FOR IBM BL CPU (NOT IN WEITEK MODE)
 DRMWR ; DRAM WRITE
 EADS ; EXTERNAL ADDRESS VALID
 EXBUSY ; EXTENDED COPROCESSOR BUSY (EXTERNAL COPROCESSOR MODE)
 FLUSH ; FLUSH CACHE
 GPREGRD ; GENERAL PURPOSE REGISTER IO READ
 ; (NOT IN EXTERNAL COPROCESSOR MODE)
 GPREGWR ; GENERAL PURPOSE REGISTER IO WRITE
 HOLDR ; HOLD REQUEST
 INTRQ ; INTERRUPT REQUEST
 KEN ; CACHE ENABLE
 LBCLK ; LOCAL BUS CLOCK
 LOWMEG ; FIRST MEGABYTE (IN WEITEK MODE)
 MDEN ; MEMORY DATA ENABLE
 MDIR ; MEMORY DIRECTION
 MXCTL0-2 ; MULTIPLEXER CONTROL
 NMI ; NON-MASKABLE INTERRUPT
 NPRST ; NUMERIC PROCESSOR RESET
 RA9-11,3A,3B/CS0-4 ; DRAM ADDRESS BITS/ CHIP SELECT BITS
 RAS0-4 ; ROW ADDRESS SELECT
 RDY486 ; READY 80486
 ROMBA16-18 ; ROM BANK SWITCH
 SMEMR ; S MEMORY READ (NOT IN WEITEK MODE)
 SMEMW ; S MEMORY WRITE (NOT IN WEITEK MODE)
 SMIRDY ; SYSTEM MANAGEMENT INTERRUPT READY
 SPKR ; SPEAKER
 STP REQ ; STOP CLOCK REQUEST FOR INTEL CPUS (NOT IN WEITEK MODE)
 SUSP ; SUSPEND FOR CYRIX CPUS (NOT IN WEITEK MODE)
 SXLOWEN ; SXLOWEN (80386SX MODE)
 SXSWPEN ; SXSWPEN (80386SX MODE)
 SYSCCLK ; SYSTEM CLOCK
 TC ; TERMINAL COUNT

INPUT/OUTPUT

A2-26,29,31 ; PROCESSOR ADDRESS BUS
 D0-31 ; DATA BUS
 DP0-3 ; DATA PARITY
 IOR ; I/O READ
 IOW ; I/O WRITE
 LA20 ; EARLY ADDRESS 20
 MEMR ; MEMORY READ
 MEMW ; MEMORY WRITE
 RA0-2,4-8/ED0-7 ; DRAM ADDRESS BITS/ EDATA BITS
 REFRESH ; REFRESH
 SA0,1 ; SYSTEM ADDRESS 0,1
 SBHE ; SYSTEM BUS HIGH ENABLE
 SD0-15 ; AT DATA BUS
 SMI ; SYSTEM MANAGEMENT INTERRUPT