

SONY®

CXA1082BQ/BS

Servo Signal Processor for CD Player

For the availability of this product, please contact the sales office.

Description

CXA1082BQ/BS is a bipolar IC designed for the servo control of the compact disc player. The only difference from CXA1082AQ/AS is the FZC threshold.

Features

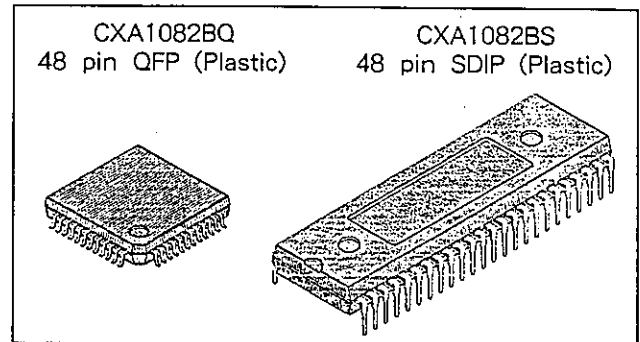
- Single power supply, 5 V
- Dual power supply, ± 5 V
- Low power consumption (165 mW Typ.: ± 5 V, 100 mW, 5 V)
- Servo functions same as the CX20108 (focus, tracking, and sled servo)
- Built-in auto sequencer
- Built-in LPF for spindle servo
- Built-in loop filter and VCO for EFM clock reproduction PLL
- Fewer external parts
- Built-in circuit for preventing sled runaway
- Built-in circuit for disc defects
- Built-in anti-shock circuit
- High-speed access using a linear motor
- Sharing of the serial data bus of the microcomputer with the CX23035 or CXD1135Q
- Compatible in the upward with the CX20108 for microcomputer software
- The peaks of focus search, track jump, and sled kick pulse can be set with external resistors.

Functions

- Focus servo control
- Tracking servo control
- Sled servo control
- Spindle servo
 - LPF, drive amplifier
- EFM clock reproduction PLL
 - Loop filter, 8.64 MHz VCO
- Auto sequencer
 - Built-in RAM

Structure

Bipolar silicon monolithic IC



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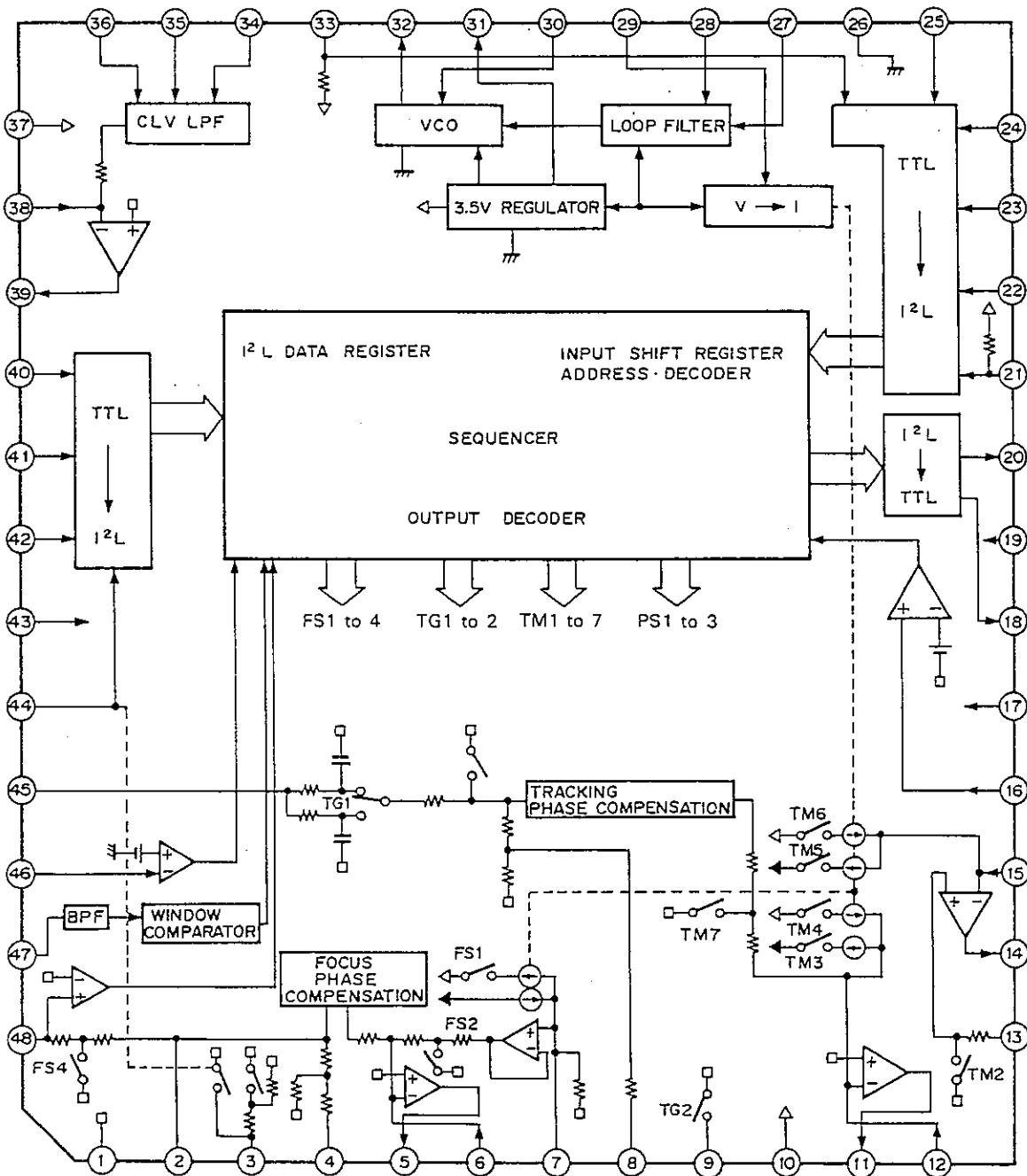
Absolute Maximum Ratings (Ta = 25°C)

• Supply voltage	Vcc - VEE	12	V
• Operating temperature	Topr	-20 to +75	°C
• Storage temperature	Tstg	-55 to +150	°C
• Allowable power dissipation	PD CXA1082BQ	833	mW
	CXA1082BS	1330	mW

Recommended Operating Conditions

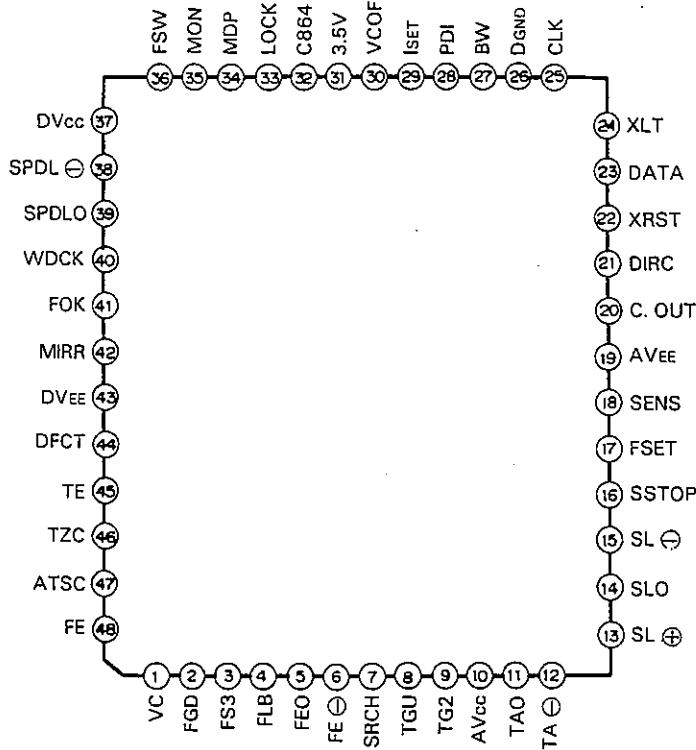
• Supply voltage	Vcc - VEE	4 to 11	V
	Vcc - DGND	4 to 5.5	V

Block Diagram

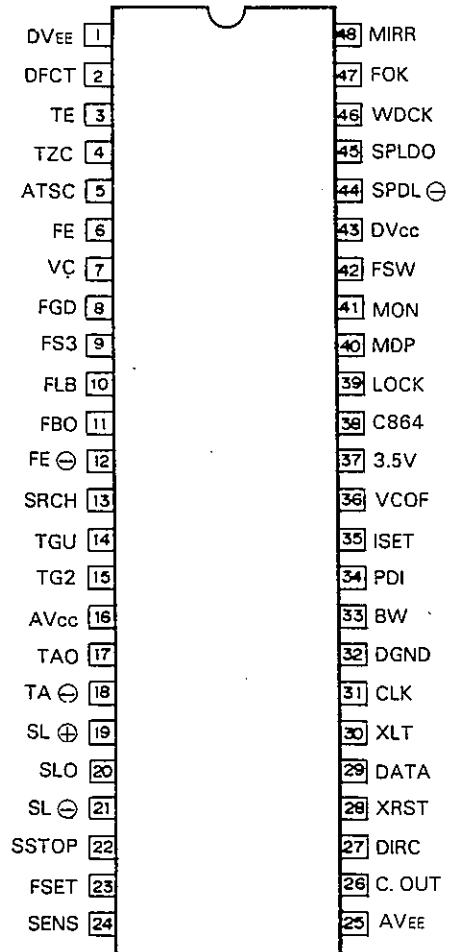


Pin Configuration

CXA1082BQ



CXA1082BS



Pin Description

Numbers in () show CXA1082BS

No.	Symbol	Equivalent Circuit	Description
2 (8)	FGD		Connect a capacitor between this pin and pin 3 (9) to reduce the high-frequency gain.
3 (9)	FS3		The high-frequency gain of the focus servo can be changed by switching FS3 ON or OFF.

No.	Symbol	Equivalent Circuit	Description
4 (10)	FLB		Time constant external pin for rising low bandwidth of the focus servo.
5 (11)	FEO		Focus drive output
11 (19)	TAO		Tracking drive output
14 (20)	SLO		Sled drive output
39 (45)	SPDLO		Spindle drive output
6 (12)	FE -		Inverse input pin for the focus amplifier.
7 (13)	SRCH		Pin for providing a time constant to generate the focus search waveform.
8 (14)	TGU		Pin for providing a time constant to switch the tracking gain of high-frequency.
9 (15)	TG2		Pin for providing a time constant to change the high-frequency tracking gain.

No.	Symbol	Equivalent Circuit	Description
12 (18)	TA -		Inverse input pin for the tracking amplifier.
13 (19)	SL +		Non-inverse input pin for the sled amplifier.
15 (21)	SL -		Inverse input pin for the sled amplifier.
16 (22)	SSTOP		Pin for detecting a signal for the ON/OFF limit switch of the innermost part of the disc.
17 (23)	FSET		Pin for setting the peak frequency of the focus, tracking phase compensation and f0 of the CLV LPF.
18 (24)	SENS		Pin to output FZC, AS, TZC, SSTOP and $\overline{\text{BUSY}}$ by command from CPU.
20 (26)	C. OUT		Track number count signal output

No.	Symbol	Equivalent Circuit	Description
21 (27)	DIRC		Pin for one-track jump
22 (28)	XRST		Contains a 47 kΩ pull-up resistor.
23 (29)	DATA		Reset input pin, reset at "L"
24 (30)	XLT		Serial data input from CPU
25 (31)	CLK		Latch input from CPU
33 (39)	LOCK		Serial data transfer clock input from CPU
27 (33)	BW		Pin for providing a time constant for the loop filter.
28 (34)	PDI		Input pin for the CX23035/CXD1135 phase comparator output PDO.
29 (35)	ISET		Current is input, determining the peaks of focus search, track jump, and sled kick.
30 (36)	VCOF		The free-running frequency of VCO is almost proportional to the resistance value between this pin and pin 31 (37).
32 (38)	C864		Output pin of 8.64 MHz VCO.

No.	Symbol	Equivalent Circuit	Description
34 (40)	MDP		Pin for connecting the CX23035/CXD1135 MDP pin.
35 (41)	MON		Pin for connecting the CX23035/CXD1135 MON pin.
36 (42)	FSW		Pin for providing an external LPF time constant of the CLV servo error signal.
38 (44)	SPDL -		Inverse input pin for the spindle drive amplifier.
40 (46) 41 (47) 42 (48) 44 (2)	WDCK FOK MIRR DFCT		Clock input for auto sequence, usually 88.2 kHz is input FOK signal input pin Mirror signal input pin Defect signal input pin for the operation of the defect countermeasure circuit at "H"
45 (3)	TE		Input pin for tracking error signals.

No.	Symbol	Equivalent Circuit	Description
46 (4)	TZC		Input pin for the zero-cross tracking comparator.
47 (5)	ATSC		Input pin of the window comparator for ATSC detection.
48 (6)	FE		Input pin for focus error signals.