

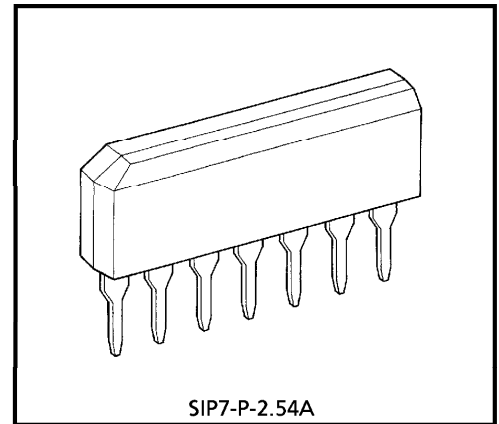
TA8749S

4 f_{sc} CLOCK GENERATOR

The TA8749S provides the function for CCD clock driver, and generate 4 times frequency signal of the input f_{sc} signal by PLL Circuit.

FEATURES

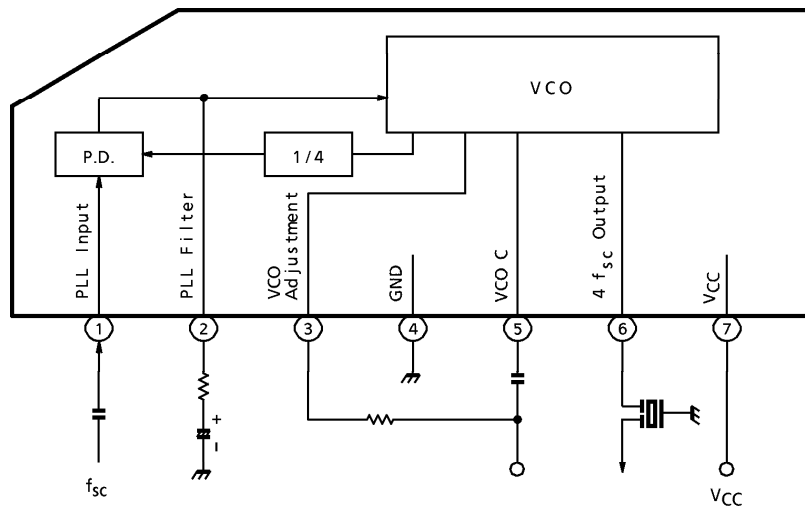
- 4 f_{sc} VCO
- Phase comparator



SIP7-P-2.54A

Weight : 0.72g (Typ.)

BLOCK DIAGRAM



MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	15	V
Input Signal Level	e _{in}	5	V _{p-p}
Power Dissipation	P _D (Note)	400	mW
Operating Temperature	T _{opr}	- 20~65	°C
Storage Temperature	T _{stg}	- 55~150	°C

(Note) When using the device at above Ta = 25°C, decrease the power dissipation by 4mW for each increase of 1°C.

ELECTRICAL CHARACTERISTICS

DC characteristics (Unless otherwise specified, V_{CC} = 9V, Ta = 25°C)

PIN No.	PIN NAME	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
1	PLL Input	V ₁	—	—	4.2	4.5	4.8	V
2	PLL Filter	V ₂	—	—	3.1	3.6	4.1	V
3	VCO Adjustment	V ₃	—	—	4.4	4.6	4.8	V
4	GND	—	—	—	—	0	—	V
5	VCO C	—	—	—	—	—	—	V
6	4 f _{sc} Output	V ₆	—	—	—	6.5	—	V
7	V _{CC}	—	—	—	—	9	—	V
7	V _{CC}	I ₇	—	—	9	11	15	mA

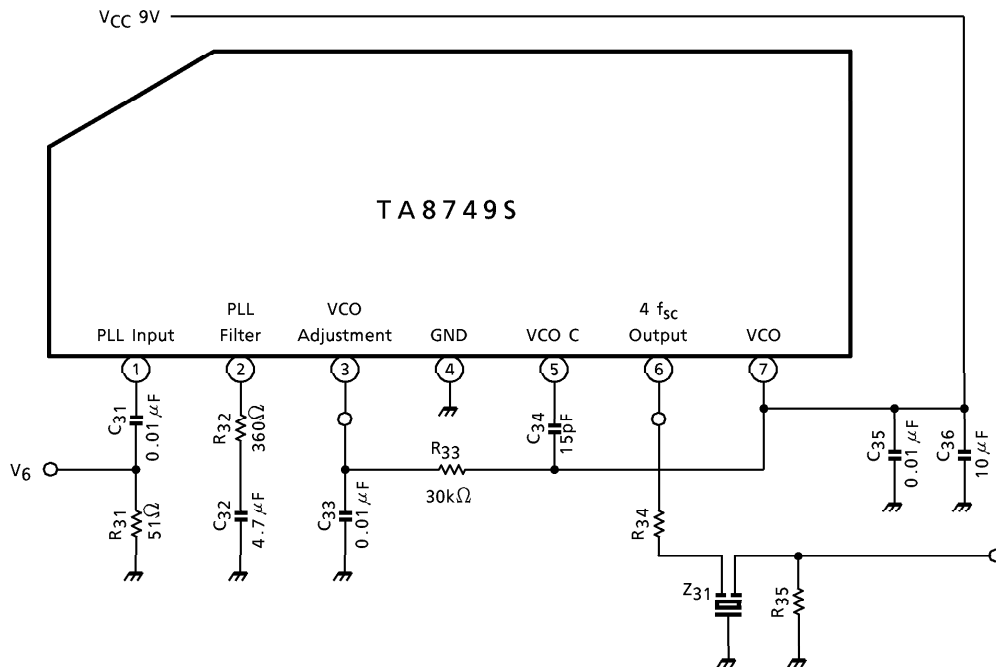
AC characteristics (Unless otherwise specified, V_{CC} = 9V, Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
4 f _{sc} Level	Pin 6	V ₆	—	(Note 1)	1.0	1.5	2.0	V _{p-p}
	Pin 5	V ₅			0.4	0.5	0.6	
VCO Variable Range	High	f _{ch}	—	(Note 2)	15.3	18.0	—	MHz
	Low	f _{cl}			—	11.0	13.3	
Input Sensitivity	V _i	—	—	(Note 3)	—	—	0.1	V _{p-p}
PLL Pull-in Range	High	f _{ph}	—	(Note 4)	3.78	3.90	—	MHz
	Low	f _{pl}			—	3.20	3.38	
f _{sc} Leak Level	f _s	—	—	(Note 5)	50	60	—	dB

TEST CONDITION

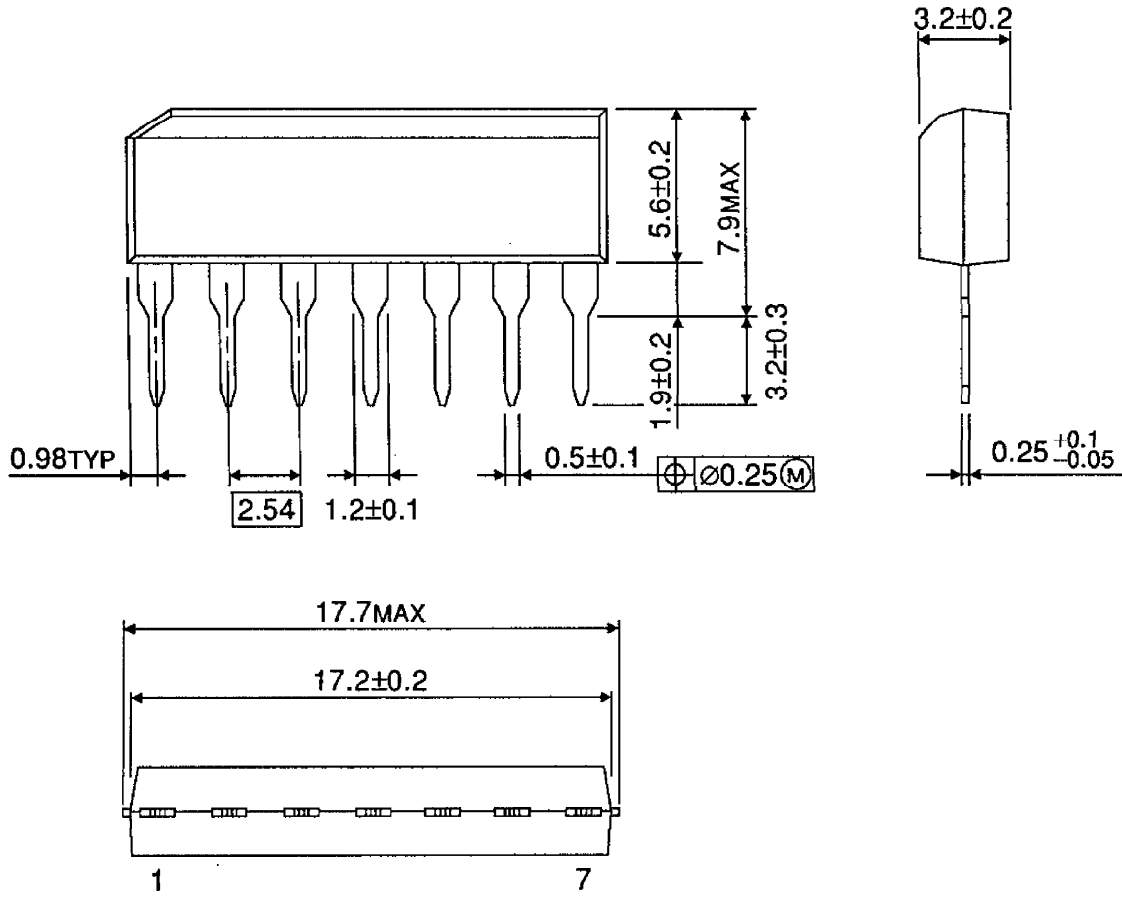
NOTE No.	ITEM		MEASUREMENT CONDITION (V _{CC} = 9.0V, Ta = 25°C)	
			SW & VR MODE	MEASUREMENT METHOD
1	4 f _{sc} Level	Pin 6 Pin 5	— —	(1) No signal input (2) Measure amplitude of 4 f _{sc} at pin 6 and pin 5.
2	VCO Variable Range	High Low	— —	(1) No signal input (2) Measure the frequency of output signal at pin 6. (3) Measure the frequency at each mode. ① Pin 2 = 7.5V ② Pin 2 = 1.5V
3	Input Sensitivity		—	(1) V ₆ input : f _o = 3.58MHz level variable (2) Monitor pin 6 output wave form. Change the input level higher, and get the level to pull-in.
4	PLL Pull-in Range	High Low	— —	(1) V ₆ input : f = sweep, 300mV _{p-p} CW (2) Change the input frequency ① → high ② → Low, and get the frequency to pull-in by sweeping.
5	f _{sc} Leak Level		—	(1) V ₆ input : f _o = 3.58MHz, 300mV _{p-p} CW (2) Monitor pin 6 output, and calculate 14.32MHz / 3.58MHz.

TEST CIRCUIT



PACKAGE DIMENSIONS
SIP7-P-2.54A

Unit : mm



Weight : 0.72g (Typ.)

RESTRICTIONS ON PRODUCT USE

000707EBA

- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc..
- The TOSHIBA products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These TOSHIBA products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of TOSHIBA products listed in this document shall be made at the customer's own risk.
- The products described in this document are subject to the foreign exchange and foreign trade laws.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.