

BA7106LS

PAL and SECAM discriminator, with switch, for use in delay lines

The BA7106LS includes a PAL and SECAM discriminator on a single chip.

The IC contains a glass delay line amplifier, and an amplifier output switch. The switch is set depending whether the output is PAL or SECAM.

Features

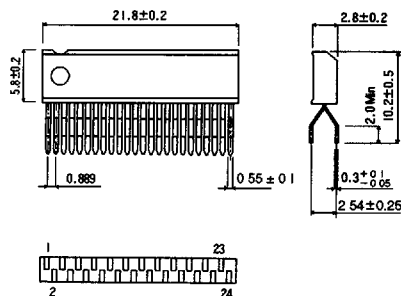
- available in SZIP24 package
- has an internal switch for use with a delay line
- uses a quadrature wave detector in the highly sensitive detection circuit
- exhibits small variance because it uses digital processing for the $1/2f_H$ detector
- has an internal burst gate pulse generator circuit

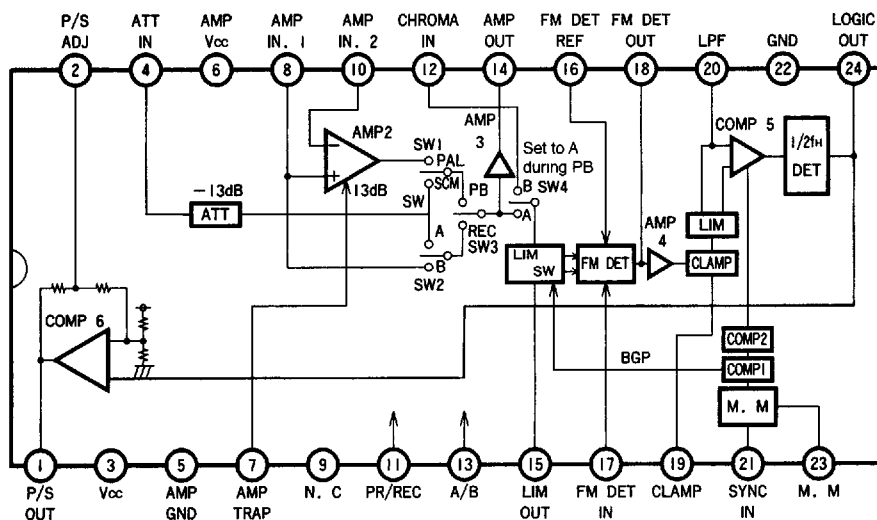
Applications

- video cassette recorders

Dimensions (Units : mm)

BA7106LS (SZIP24)



Block diagram**Absolute maximum ratings ($T_a = 25^\circ\text{C}$)**

Parameter	Symbol	Limits	Unit	Conditions
Power supply	V_{CC}	7.0	V	
Power dissipation	P_d	400	mW	Reduce power by 4.0 mW/ $^\circ\text{C}$ for each degree above 25°C
Operating temperature	T_{opr}	$-10 \sim +70$	$^\circ\text{C}$	
Storage temperature	T_{stg}	$-55 \sim +125$	$^\circ\text{C}$	

Recommended operating conditions

Parameter	Symbol	Min	Typical	Max	Units
Power supply	V_{CC}	4.5		5.5	V

Electrical characteristics (unless otherwise noted, $T_a = 25^\circ\text{C}$, $V_{CC} = 5.0\text{ V}$)

Parameter	Symbol	Min	Typical	Max	Unit	Conditions
Current consumption	I_Q	17	23	29	mA	Unloaded, no input
ATT gain	$G_{V\text{ ATT}}$	-14.5	-13	-11.5	dB	$V_{IN4} = 1\text{ V}_{\text{pk-pk}}$, 4 MHz
ATT input impedance	Z_{IN4}	17	22	27	$k\Omega$	DC
AMP2 non-inverted gain	G_{V2-8}	11.7	13.2	14.7	dB	$V_{IN8} = 50\text{ mV}_{\text{pk-pk}}$, 4 MHz
AMP2 inverted gain	G_{V2-10}	11.7	13.2	14.7	dB	$V_{IN10} = 50\text{ mV}_{\text{pk-pk}}$, 4 MHz
AMP2 input impedance	Z_{IN8}	17	22	27	$k\Omega$	DC
AMP2 input impedance	Z_{IN10}	17	22	27	$k\Omega$	DC
SW + AMP3 gain	$G_{V\text{ SW}}$	-1	0	1	dB	$V_{IN8} = 200\text{ mV}_{\text{pk-pk}}$, 4 MHz
SW3 crosstalk: PB to REC	$CT_{P \rightarrow R}$		-50	-40	dB	SECAM mode, $V_{IN4} = 1\text{ V}_{\text{pk-pk}}$, 4 MHz
SW3 crosstalk REC to PB	$CT_{R \rightarrow P}$		-50	-40	dB	SECAM mode, $V_{IN8} = 200\text{ mV}_{\text{pk-pk}}$, 4 MHz
SW2 crosstalk: A to B	$C_{R\text{ A} \rightarrow B}$		-50	-40	dB	REC mode, $V_{IN4} = 1\text{ V}_{\text{pk-pk}}$, 4 MHz
SW2 crosstalk: B to A	$C_{R\text{ B} \rightarrow A}$		-50	-40	dB	REC mode, $V_{IN8} = 200\text{ mV}_{\text{pk-pk}}$, 4 MHz
SW1 crosstalk: PAL to SECAM	$C_{R\text{ P} \rightarrow S}$		-50	-40	dB	PB mode, $V_{IN8} = 50\text{ mV}_{\text{pk-pk}}$, 4 MHz
SW1 crosstalk: SECAM to PAL	$C_{R\text{ S} \rightarrow P}$		-50	-40	dB	PB mode, $V_{IN4} = 1\text{ V}_{\text{pk-pk}}$, 4 MHz
PB mode voltage	V_{H11}	3.0		V_{CC}	V	
REC mode voltage	V_{L11}	0		2.0	V	
A mode voltage	V_{H13}	3.0		V_{CC}	V	
B mode voltage	V_{L13}	0		2.0	V	
SECAM mode voltage	V_{H24}	3.40	3.55	3.70	V	
PAL mode voltage	V_{L24}	2.90	3.05	3.20	V	
Hysteresis width	Hys_{24}	0.35	0.50	0.65	V	
DET chroma input impedance	Z_{IN12}	17	22	27	$k\Omega$	DC
Discrimination level	V_{IN12}	20	100	200	$\text{mV}_{\text{pk-pk}}$	Burst level
PAL output voltage	V_{CH1}	4.0			V	$I_O = -5\text{ mA}$
SECAM output voltage	V_{OL1}			1.0	V	$I_O = 5\text{ mA}$
H-SYNC V_{TH21}	V_{TH21}	1.1	1.3	1.5	V	

Application example

