
HA11567MP

Chroma Processor and H/V System for Digital VCR (PAL)

HITACHI

Rev. 0
Feb. 1991

Functions

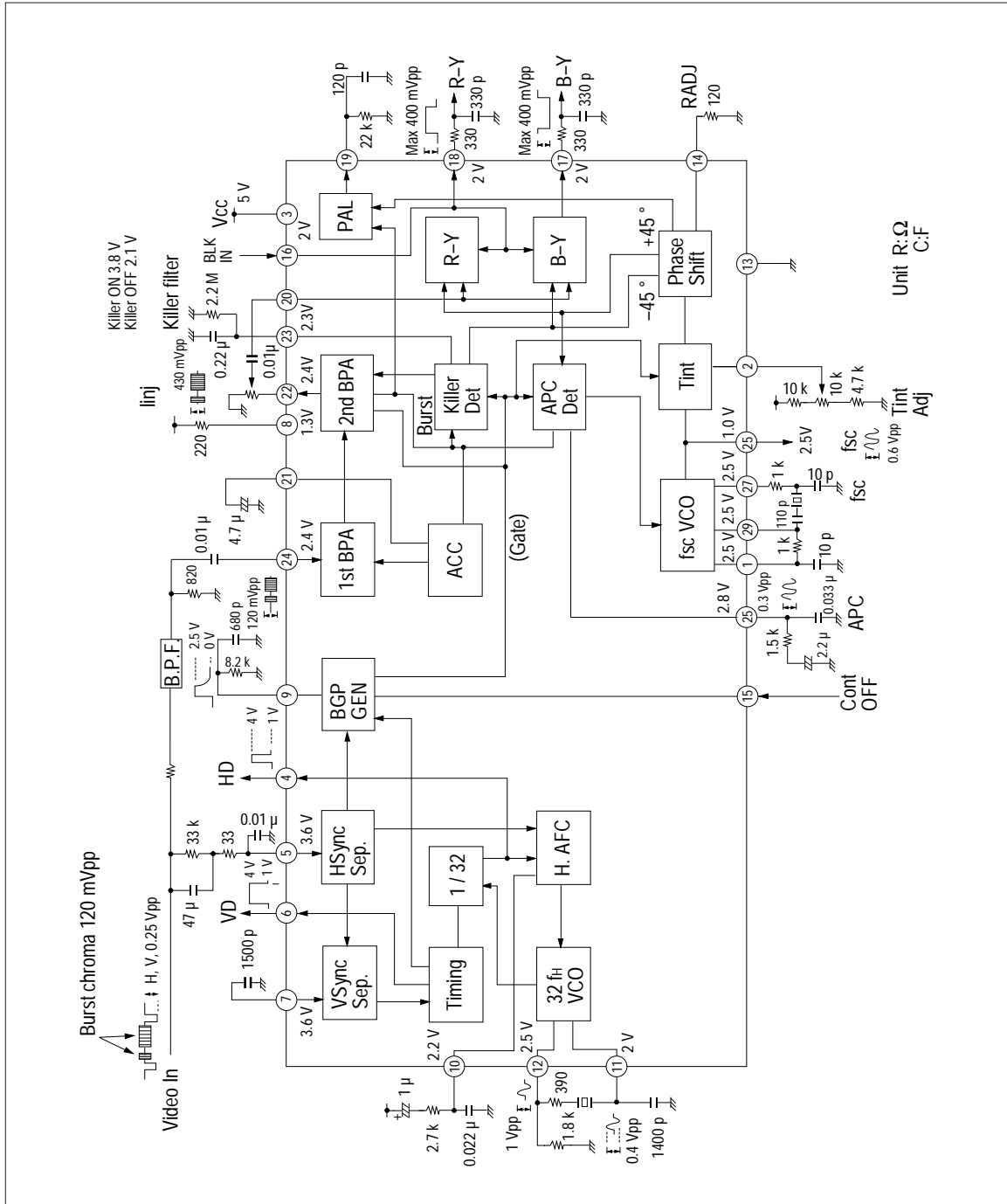
- Chroma signal processing (BPA, APC, DEMO)
- H/V signal processing

Features

- Chroma signal processing and H/V signal processing
- Most suitable to chroma signal processing for digital VCR, using with HA11535MP

HA11567MP

Block Diagram



HA11567MP**Absolute Maximum Ratings (Ta = 25 °C)**

Item	Symbol	Rating	Unit
Supply voltage	V _{CC}	7.0	V
Power dissipation	P _T	450	mW
Storage temperature	T _{stg}	-40 to +125	°C
Operating temperature	T _{opr}	-20 to +80	°C

Note: Operating supply voltage: 5 ± 0.25 V

Electrical Characteristics

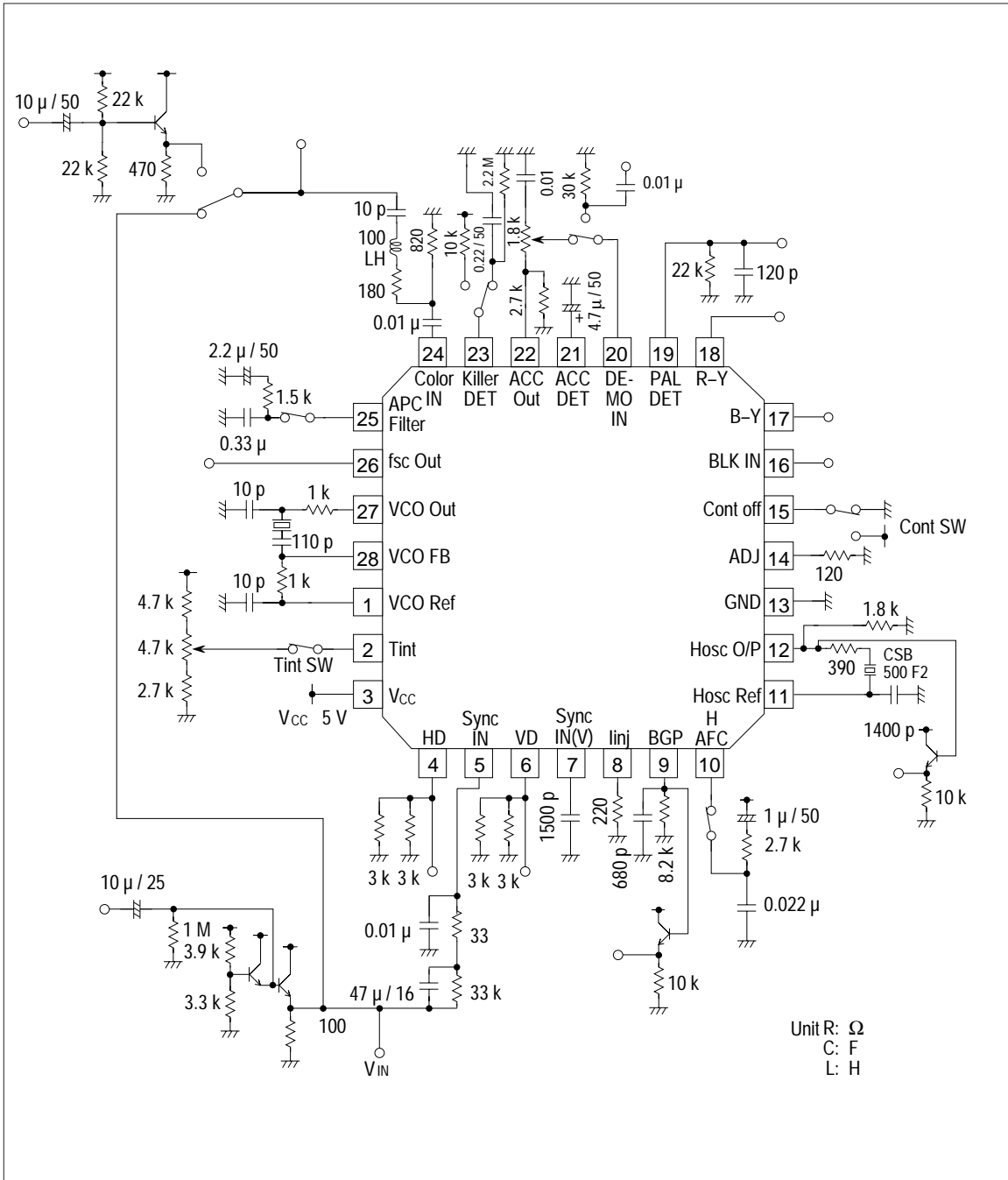
Item		Symbol	Min	Typ	Max	Unit	Test Conditions
1st BPA rated input		e _{MBI}	—	120	—	mV _{pp}	
2nd BPA rated output		e _{MBO}	330	400	470	mV _{pp}	
ACC range	MAX	Δ _{GMAX}	-4	-2	+3	dB	Input burst level: -15 dB e _{MBO} level ratio
	MIN	Δ _{GMIN}	-3	0.5	+3	dB	Input burst level: +6 dB e _{MBO} level ratio
Killer operating point			—	-31	-26	dB	
1st BPA input DC voltage		E _{MBI}	2.75	2.85	2.95	V	
2nd BPA output DC voltage		E _{MBO}	2.1	2.4	2.7	V	
Killer detect high level		E _{KH}	3.4	3.8	4.3	V	
APC lead-in range	+	fp+	+350	1000	—	Hz	Chroma input frequency with pull in (+)
	-	fp-	—	-1200	-350	Hz	Chroma input frequency with pull in (-)
APC control sensitivity		β	6	11	—	Hz / mV	
Killer carrier leak		e _k	—	-32	-30	dB	With forced killer
fsc output level		e _{fsc}	200	700	—	mV _{pp}	
Chroma VCO oscillation frequency off-set			-70	0	+70	Hz	f _o = 4.433619 MHz
De-mod rated input		e _{DI}	—	250	—	mV _{pp}	
De-mod (R-Y) gain		e _{DRO}	380	410	440	mV _{pp}	
De-mod (B-Y) gain		e _{DBO}	380	410	440	mV _{pp}	
De-mod output ratio (R-Y) / (B-Y)			0.95	1.0	1.05	times	
(B-Y) de-mod angle		φ _{B-Y}	—	0	—	deg	Tint: open
Tint variable range		Δφ _T	80	90	—	deg	
Color difference output residual harmonic level		ecar	—	0.03	0.15	V _{pp}	(B - Y) output = 1 V _{pp}

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Table 2 Electrical Characteristics (cont)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Color difference output blanking residual harmonic level	e_{Bcar}	—	0.03	0.05	V_{pp}	
De-mod angle	R-Y/B-Y	—	90	—	deg	$R_{ADJ} = 120 \Omega$
De-mod output band width	BW (B-Y)	500	1500	—	kHz	
Color difference output DC voltage (R-Y)	E_{R-Y}	1.9	2.2	2.5	V	
Color difference output DC voltage (B-Y)	E_{B-Y}	1.9	2.2	2.5	V	
BLK threshold level	E_{DBti}	0.8	1.7	2.3	V	
Horizontal osc. frequency	f_{OH}	15333	15625	15923	Hz	
Horizontal osc. frequency DC voltage charge	Δf_{HV}	—	+15 -30	± 70	Hz	
HD pulse width	THD	3.5	3.9	4.2	μs	
	+	f_{HP+}	+400	+650	—	Hz
	-	f_{HP-}	—	-750	-400	Hz
Horizontal pulse output start voltage	V_{HPOS}	—	3.1	4.0	V	
Synchronizing separation terminal DC level	H V_{HSS}	3.4	3.6	3.8	V	
ID pulse output voltage (high)	E_{IDH}	4.0	4.5	5.0	V	Load 22 k Ω , 100 pF
ID pulse polarity		4.0	4.5	5.0	V	Burst +45°
VD pulse with	T_{VD}	—	10.25 H	—	sec	Video no input
HD pulse output voltage (high)	E_{HDH}	3.8	4.1	4.5	V	Load 3 k Ω
HD pulse output voltage (low)	E_{HDL}	0.7	0.9	1.2	V	Load 3 k Ω
VD pulse output voltage (high)	E_{VDH}	3.8	4.1	4.5	V	Load 3 k Ω
VD pulse output voltage (low)	E_{VDL}	0.7	0.9	1.2	V	Load 3 k Ω
Supply current	I_D	28	42	56	mA	
BGP mask pulse width	T_{BNP}	—	14H	—	sec	
BGP pulse width	T_{BGP}	—	2.5	—	μs	Pulse width from synchronizing signal back edge

Test Circuit



HA11567MP

Package Dimensions

Units: mm (inch)

