

Video/Chroma Deviation Processor with On-screen Indicator Function

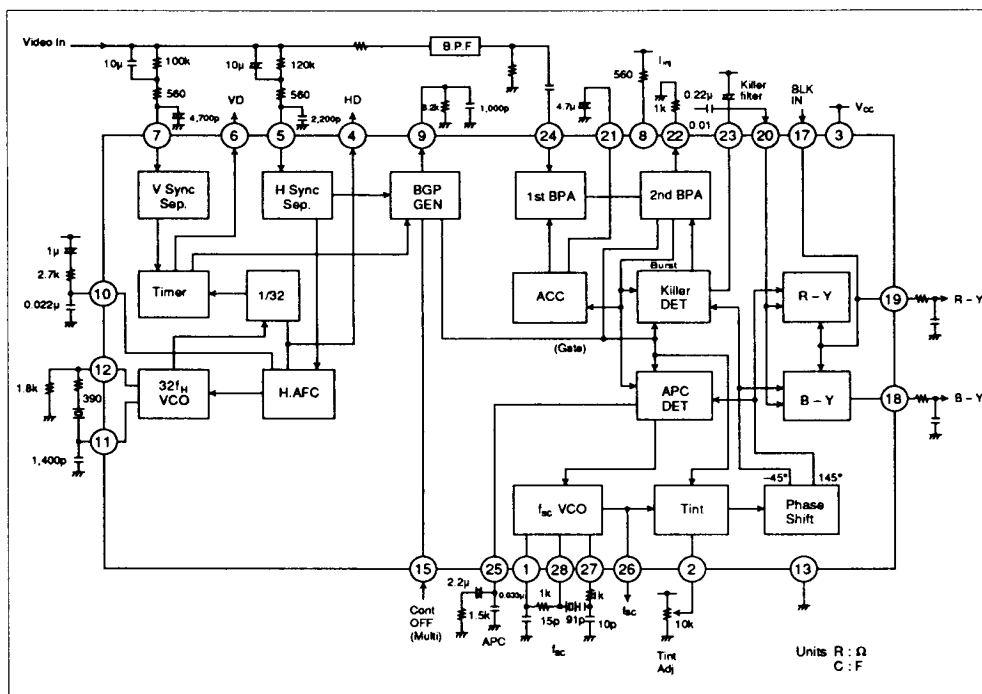
Functions

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

Features

- Single chip for both chroma signal processing and H/V signal processing
- Optimum for processing chroma signal of digital VCR in combination with HA11525MP

Block Diagram



Ordering Information

Type No.	Package
HA11532MP	MP-28
HA11532NT	DP-30S



Absolute Maximum Ratings (Ta = 25°C)

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

Note: Operating supply voltage = 5±0.25V

Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition	
1st BPA Rated Input	e _{MBI}	—	80	—	mVpp		
2nd BPA Rated Output	e _{MBO}	380	430	480	mVpp		
ACC Range	MAX	ΔG _{MAX}	-4	-2	+3	dB	Input burst level: -15dB e _{MBO} level ratio
	MIN	ΔG _{MIN}	-3	0.5	+3	dB	Output burst level: +6dB 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 Detection H-level	E _{KH}	3.4	3.8	4.3	V		
APC Pull Range	+	f _{p+}	350	1000	—	Hz	Chroma input frequency (+) during pull
	-	f _{p-}	—	-700	-350	Hz	Chroma input frequency (-) during pull
APC Control Sensitivity	β	6	11	—	Hz/mV		
Killer Carrier Leak	e _K	—	-32	-30	dB	Forced killer	
fse Output Level	e _{isc}	200	400	—	mVpp		
Chroma VCO Oscillation Frequency Offset		-70	0	+70	Hz		
Demodulated Rated Input	e _{DI}	—	250	—	mVpp		
Demodulated (R-Y) Gain	e _{DRO}	385	410	435	mVpp		
Demodulated (B-Y) Gain	e _{DBO}	385	410	435	mVpp		
Demodulation Output Ratio (R/Y)/(B-Y)		0.95	1.0	1.05	Times		
(B-Y) Demodulation Angle	φ _{BY}	—	0	—	deg	Tint terminal: OPEN	
Tint Variance Range	Δφ _T	80	90	—	deg		
Color Difference Output Residual Harmonic Level	e _{car}	—	0.03	0.15	Vpp	(B-Y) output = 1Vpp	
Color Difference Output BLKING Residual Harmonic Level	e _{Bcar}	—	0.03	0.05	Vpp		



Item	Symbol	Min	Typ	Max	Unit	Test Condition
Demodulation Angle	R/Y/B-Y	—	100	—	deg	
Demodulation Output Bandwidth	BW _{B-Y}	500	1500	—	kHz	
Color Difference Output DC Voltage (R-Y)	B _{R-Y}	1.9	2.2	2.5	V	
Color Difference Output DC Voltage (B-Y)	B _{B-Y}	1.9	2.2	2.5	V	
BLK Threshold Value Level	B _{DBL}	0.8	1.7	2.3	V	
Horizontal Free-running Frequency	f _{OH}	15434	15734	16034	Hz	
Horizontal Oscillation Frequency Current/Voltage Fluctuation	Δf _{HV}	—	+15 -30	±70	Hz	
HD Pulse Duration	T _{HD}	3.5	3.9	4.2	μs	
Horizontal Synchronization + Pull Range	f _{HP+}	+400	+650	—	Hz	
	f _{HP-}	—	-900	-400	Hz	
Horizontal Pulse Output Open Channel Voltage	V _{MPOS}	—	3.1	4.0	V	V _{cc} : Increased gradually from 0V.
Synchronization Separation H	V _{HSS}	3.4	3.6	3.8	V	
Power DC Level V	V _{DSS}	3.4	3.6	3.8	V	
Vertical Free-running Frequency	f _{OV}	—	f _H /288.5	—	Hz	
VD Pulse Duration	T _{VD}	—	10.25H	—	sec	Video input: OPEN
HD Pulse Output Voltage (HI)	B _{HDI}	3.8	4.1	4.5	V	Load against GND 3kΩ
HD Pulse Output Voltage (LO)	B _{HDL}	0.7	0.9	1.2	V	Load against GND 3kΩ
VD Pulse Output Voltage (HI)	B _{VDI}	3.8	4.1	4.5	V	Load against GND 3kΩ
VD Pulse Output Voltage (LO)	B _{VDL}	0.7	0.9	1.2	V	Load against GND 3kΩ
Supply Current	I _D	30	42	54	mA	
BGP Mask Pulse Duration	T _{BNP}	—	12H	—	sec	
BGP Pulse Duration	T _{BGP}	—	2.5	—	μs	Pulse duration following sync. signal trailing edge



Test Circuit

