

LINEAR MONOLITHIC INTEGRATED CIRCUITS

IC's For TV

Type No.	Function	Maximum Ratings (Ta=25°C)	Electrical Characteristics (Ta=25°C)							
			Item	Symbol	Condition	min.	typ.	max.	Unit	
Video IF Signal Processing Circuit										
△ AN247P	Video IF Amp. with AGC Circuit	V _{CC} (V ₂₋₁₅)=14.4V V _{CC} (V ₁₄₋₁₅)=14.4V I _{CC} =30mA (I ₂ +I ₁₄) P _D =435mW T _{opr} =-20~+70°C T _{stg} =-40~+150°C	(V _{CC} =12V)							
			Circuit Current (1)	I ₂		7	11	15	mA	
			Circuit Current (2)	I ₁₄		5	8	11	mA	
			IF Amp.	Voltage Gain	G _V	f=58.75MHz	41	44	47	dB
				AGC Range	H _{AGC}	f=58.75MHz	60			dB
				Forward Transfer Admittance	Y ₂₁	f=58.75MHz		230		mΩ
				Noise Figure	NF	f=60.0MHz		9		dB
			AGC Circuit	IF AGC Max. Voltage	V ₉₋₁₅		8	9.3	10.6	V
				IF AGC Min. Voltage	V ₉₋₁₅				0.5	V
				RF AGC Max. Voltage	V ₄₋₁₅	Forward	9.1	9.8	10.5	V
				RF AGC Min. Voltage	V ₄₋₁₅	Forward			0.5	V
				RF AGC Max. Voltage	V ₅₋₁₅	Reverse	10	10.8	11.6	V
				RF AGC Min. Voltage	V ₅₋₁₅	Reverse			0.5	V
				IF AGC Voltage Gain	G _{V(IF)}		40	44	48	dB
				RF AGC Voltage Gain	G _{V(RF-F)}	Forward	36	42	45	dB
			RF AGC Voltage Gain	G _{V(RF-R)}	Reverse	37	43	46	dB	
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AN5111	Video IF Amp. Detector, AGC AFC Circuit	V _{CC} (V ₂₀₋₂)=14.4V V _{CC} (V ₂₀₋₁₆)=14.4V P _D =1.4W*1 P _D =0.8W*2 T _{opr} =-20~+70°C T _{stg} =-40~+125°C *1 Ta=25°C *2 Ta=70°C	(V _{CC} =12V)							
			Total Circuit Current	I _{tot}		35	50	66	mA	
			VIF Amp.	Voltage Gain	G _V	f=58.75MHz, V _i =50dBμ	40	45	50	dB
				Input Resistance	R _{i1}	f=58.75MHz	0.8	1.05	1.3	kΩ
				Input Capacitance	C _{i1}		2.3	2.9	4.1	pF
			Video Dete- ction	Convergence Gain	G _C	f _o =58.75MHz, V _i =0.12Vp-p f _m =400Hz, m=74% (AM)	27	30	33	dB
				Differential Gain	DG	f _o =58.75MHz, f _m =3.58MHz	0	5	10	%
				Differential Phase	DP	Staircase Signal Wave Modulation	0	3	5	deg
				Carrier Rejection	CRJ	f=58.75MHz, V _o =2Vp-p	50	60	80	dB
			AFC Circuit	Detection Sensitivity	μ	f=58.75MHz, sweep signal V _o =5.5V~7.5V	47	58	69	mV/kHz
				AFC Center Voltage	V ₁₀		5	6.5	7.1	V
				Maximum Output Voltage	V _{10(max)}	f=58.75MHz-500kHz	10.5	11.5	12	V
				Minimum Output Voltage	V _{10(min)}	f=58.75MHz+500kHz	0	0.5	1	V
				AFC SW OFF Voltage	V _{AFC}	f=58.75MHz sweep signal	1.3	1.5	1.6	V
			AGC Circuit	IF AGC Gain	G _V	V ₁₉ =50mVp-p V ₂₃ =3.5±0.5V	28	33	38	dB
				RF AGC Gain F	G _V	V ₆ =10mVp-p	45	49	53	dB
				RF AGC Gain R	G _V	V ₅ =6±0.5V	46	50	54	dB
			Total Circuit Opera- tion	Video Detection Output	V _{O(DET)}	f=58.75MHz, V _i =80dBμ f _m =500kHz, m=74% (AM)	1.8	2	2.2	Vp-p
				Sensitivity	S	f=58.75MHz, Non modulation	50	55	60	dBμ
				AGC Range	R _{AGC}		56	60	70	dB
4.5MHz Output	V _{O(SIF)}	58.75MHz.....80dBμ 54.25MHz.....60dBμ		90	93	96	dBμ			

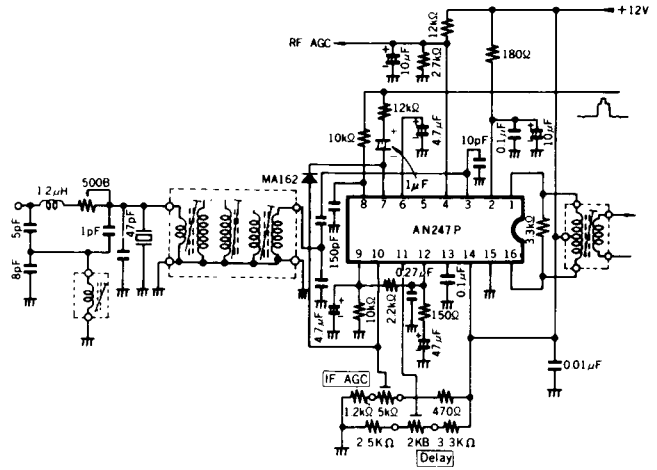
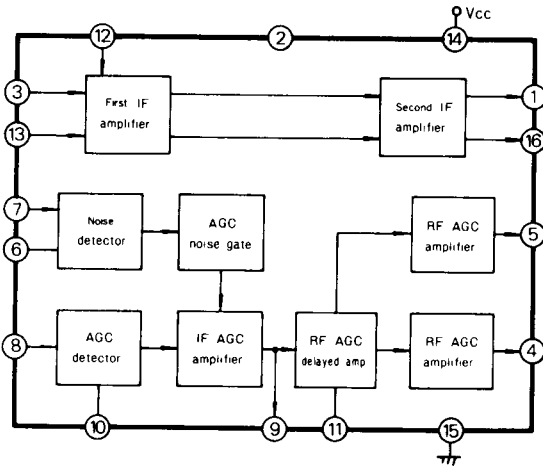
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IC's For TV

Block Diagram

Application Circuit

AN247P (Package I—18,16—Lead Plastic DIL)



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AN5111 (Package I—23,28—Lead Plastic DIL)

