

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		
AN241P AN241PD	Sound IF Amplifier Detector Circuit	Vcc = * Icc(Is) = 50mA Pd = 445mA Topr = -20~+70°C Tstg = -40~+150°C * Terminal ⑤ can be connected to any positive voltage by using a resistor Rs Ex. Vcc=24V Rs=390Ω Vcc=140V Rs=3.9kΩ In both cases, Is=33mA	(Vcc=24V, Rs=390Ω)								
			Total Circuit Current	Itot	Vcc=9V, Pin ①-②, ⑨-⑩ shorted	10	16	24	mA		
			Zener Voltage	V5-3	Pin ①-②, ⑨-⑩ shorted	10.3	11.2	12.2	V		
			Input Limiting Voltage (-3dB)	Vi(lim.)	f0=4.5MHz, fm=400Hz Δf=±25kHz Vi=100mVrms		250	400	μVrms		
			AM Rejection Ratio	AMR	f0=4.5MHz, fm=400Hz Δf=±25kHz Vi=100mVrms	AM=400Hz 30%	40	50	dB		
			Output Impedance	Ro(1F)	f0=4.5MHz Pin ⑨-③ shorted		3.25		kΩ		
			Output Impedance	Co(1F)	f0=4.5MHz Pin ⑨-③ shorted		10		pF		
			Demodulation Output (1)	Vo(AF1)	f0=4.5MHz fm=400Hz Δf=±25kHz Vi=100mVrms	R6=0	0.5	0.75	1.1	Vrms	
			Demodulation Output (2)	Vo(AF2, 241PD)	f0=4.5MHz fm=400Hz Δf=±25kHz Vi=100mVrms	R6=10kΩ			0.2	Vrms	
			Demodulation Signal Distortion	THD(1)	f0=4.5MHz fm=400Hz Δf=±25kHz Vi=100mVrms			0.9	2	%	
			Output Resistance	Ro(7)	f=400Hz, Vi=100mVrms			7.5		kΩ	
				Ro(8)	f=400Hz, Vi=100mVrms			300		Ω	
			Attenuation Circuit, Max. Attenuation		Att	R6=∞		60	80	dB	
			Sound Amp.	Distortion	THD(2)	f=400Hz, Vi=100mVrms	Vo=2Vrms		1.5	%	
Non-distortional Max. Output	Vo(max.)	f=400Hz, Vi=100mVrms		THD=5%	2	2.5	Vrms				
Voltage Gain	Gv(AF)	f=400Hz, Vi=100mVrms			17.5	20	23	dB			
AN340P	Sound Amplifier Detector (DC control)	Vcc=14.4V Icc=34mA Pd=490mW Topr=-20~+70°C Tstg=-40~+150°C	Total Circuit Current	Itot	V5-3=12V	16	22	28	mA		
			IF Amp.	Input Limiting Voltage (-3dB)	Vi(lim.)	f0=4.5MHz, fm=400Hz Δf=±25kHz		200	400	μV	
				AM Rejection Ratio	AMR	f0=4.5MHz, fm=400Hz m=30%(AM), Vi=100mVrms	40	58		dB	
				Parallel Input Resistance	Ri(1F)	f=4.5MHz		15		kΩ	
				Parallel Input Capacitance	Ci(1F)	f=4.5MHz		4.7		pF	
				Parallel Output Resistance	Ro(1F)	f=4.5MHz		3.9		kΩ	
				Parallel Output Capacitance	Co(1F)	f=4.5MHz		11		pF	
				Voltage Gain	Gv(1F)	f=4.5MHz		65		dB	
			Detect.	Total Detection Output	Vo(8,11)	f0=4.5MHz fm=400Hz	Vi4-3=0V	0.55	0.8	1.1	Vrms
				Detection Signal Distortion	THD	f0=4.5MHz fm=400Hz			0.7	2	%
			Sound Attenuation, Max. Attenuation		GR	Δf=±25kHz, Vi=100mV		80		dB	
			Sound Pre-Amp.	Voltage Gain	Gv	f=400Hz, Vo=1Vrms		18	20	22	dB
				Total Harmonic Distortion	THD	f=400Hz, THD=10%			0.9	%	
				Non-distortional Max. Output	Vo(max.)	f=400Hz, THD=10%		2	3.3	Vrms	
Output Noise Voltage	Vno	Vi=0, Pin ④-⑥ shorted					1	mVrms			
Output Resistance	Ro(12)	f=400Hz				90		Ω			
AN355	Sound IF Amp., Detector, Output Circuit	Vcc=20V Pd=1.6W*1 Pd=1.8W*2 Topr=-20~+70°C Tstg=-55~+150°C *1 Ta=70°C *2 Ta=60°C	Circuit Current		I11		16	21	26	mA	
					I16		17	24	31	mA	
			IF Amp. Detect.	Input Limiting Voltage (-3dB)	Vi(lim.)	f0=4.5MHz Δf=±25kHz		200	400	μV	
				AM Rejection Ratio	AMR	f0=4.5MHz m=30%(AM) Vi=100mV	40	50		dB	
				Input Impedance	Ri(1F)	f=4.5MHz		15		kΩ	
					Ci(1F)	f=4.5MHz		7.5		pF	
			Attenuation Circuit	Total Detection Output	Vo	f0=4.5MHz, fm=400Hz		700	1000	1400	mVrms
				Half Detection Output	Vo/2	f0=4.5MHz, fm=400Hz		300	500	700	mVrms
				Max. Attenuation (Residual Sound)	Att	Δf=±25kHz, Vi=100mV			5	mVrms	
			Output Circuit	Maximum Output Power	Po(max.)	f=400Hz, THD=10%		1.4	1.6	W	
				Output Current	Io	f=400Hz, THD=10%			180	mA	
				Voltage Gain	Gv	f=400Hz		29	31	33	dB
				Distortion	THD	Input (Pin ⑬) = 30mV			0.8	2	%
				Output Noise Voltage	Vno	f=400Hz				5	mVrms
Input Resistance	Ri(15)	f=400Hz			3.3	4.5		kΩ			

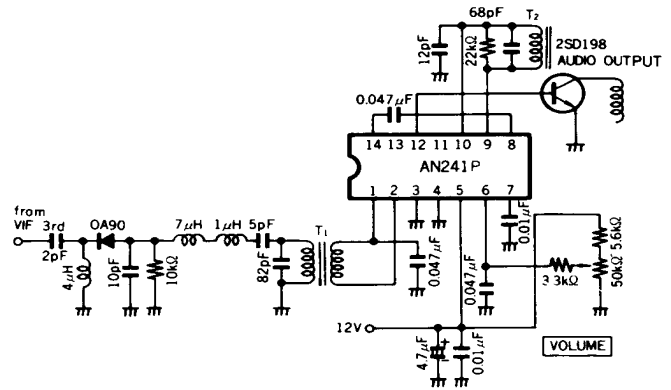
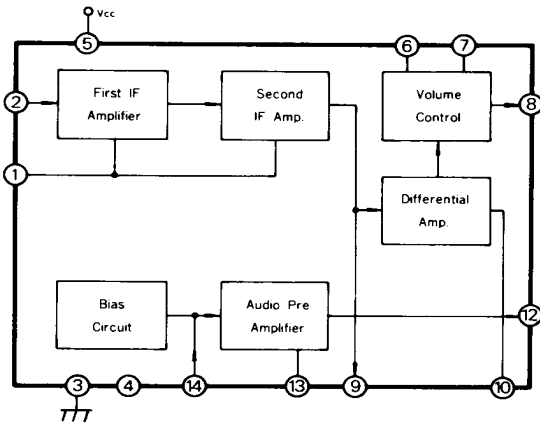
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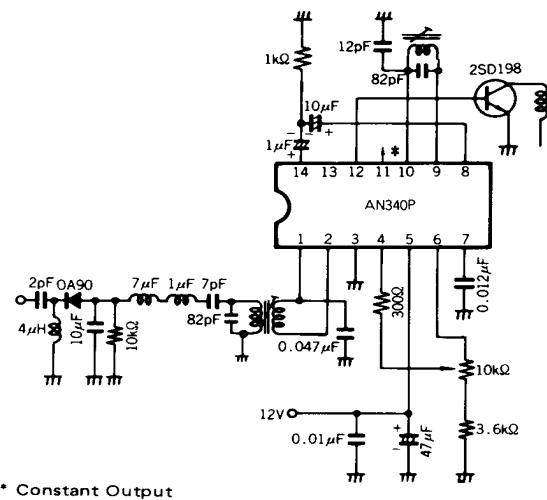
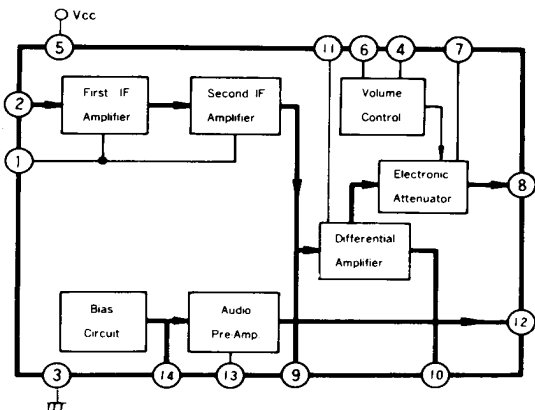
Block Diagram

Application Circuit

AN241P/AN241PD (Package I—16,14—Lead Plastic DIL)



AN340P (Package I—16,14—Lead Plastic DIL)



AN355 (Package I—19,16—Lead Plastic DIL with Fin)

