

AN6297S

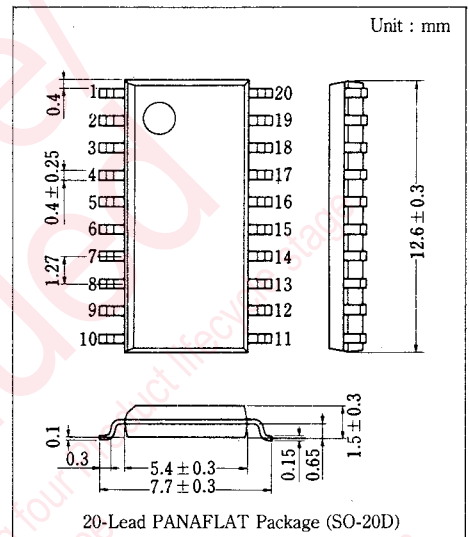
Peak-Noise-Reduction System for 8mm VTRs

Outline

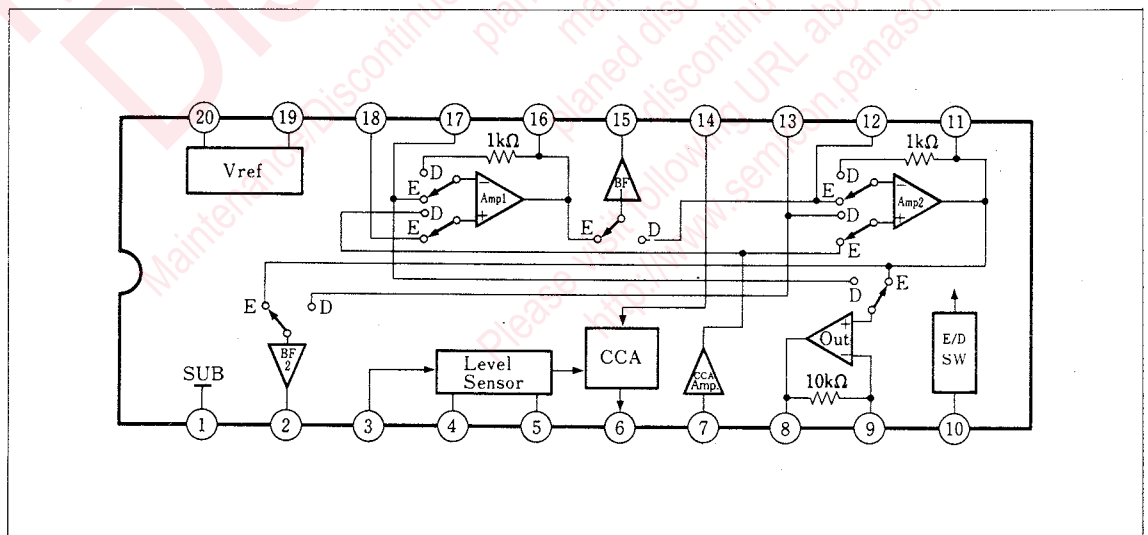
The AN6297S is designed for the noise reduction of an FM audio and a PCM audio for an 8 mm VTR.

Features

- Excellent matching to 8mm VTR noise-reduction characteristics.
- Includes all functions of noise-reduction system.
- Minimum number of external components.
- Low power consumption.
- Super reliable small out-line package.



Block Diagram



■ Absolute Maximum Ratings(Ta=25°C)

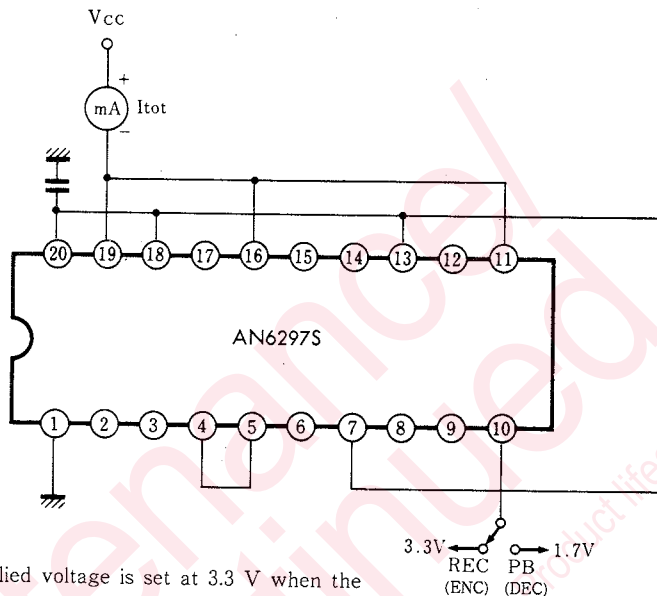
Item	Symbol	Rating	Unit
Supply Voltage	V _{CC}	6	V
Supply Current	I _{CC}	15	mA
Power Dissipation	P _D	90	mW
Storage Temperature	T _{opr}	-20~+75	°C
Temperature	T _{stg}	-55~+125	°C

■ Electrical Characteristics(V_{CC}=5V, Ta=25°C)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Supply Current	I _{tot}	1	Circuit Current with No Signal		5	7	mA
Encode Holding Voltage-1	V _{SE}		Encode Pin⑩ Applied Voltage	3.5			V
Decode Holding Voltage-2	V _{SD}		Decode Pin⑩ Applied Voltage			1.5	V
Encode Output Voltage-1	V _{OE1}	2	Encode (REF) V _{in} =400Hz, -15dBV	-16	-15	-14	dBV
Encode Output Voltage-2	V _{OE2}	2	Encode V _{in} =400Hz, -35dBV	-26	-25	-24	dBV
Encode Output Voltage-3	V _{OE3}	2	Encode V _{in} =400Hz, -55dBV	-36.5	-35	-33.5	dBV
Decode Output Voltage-1	V _{OD1}	2	Decode (REF) V _{in} =400Hz, -15dBV	-17	-15	-13	dBV
Decode Output Voltage-2	V _{OD2}	2	Decode V _{in} =400Hz, -35dBV	-57	-55	-53	dBV
Decode Output Voltage-3	V _{OD3}	2	Decode V _{in} =400Hz, -50dBV	-88	-85	-82	dBV
Maximum Output Voltage-1	V _{OM1}	2	Encode f=400Hz, THD=3%	-8.5	-6.5		dBV
Maximum Output Voltage-2	V _{OM2}	2	Decode f=400Hz, THD=3%	0	2		dBV
Distortion-1	THD ₁	2	Encode V _{in} =400Hz, -15dBV		0.2	0.4	%
Distortion-2	THD ₂	2	Decode V _{in} =400Hz, -15dBV		0.2	0.4	%
Noise Output Voltage-1	V _{NO1}	3	Encode f=20Hz~20kHz, R _g =0		-60	-55	dBV
Noise Output Voltage-2	V _{NO2}	3	Decode f=20Hz~20kHz, R _g =0		-100	-90	dBV
Crosstalk-1	CT ₁	4	Encode V _{in} =1kHz, -15dBV			-40	dBV
Crosstalk-2	CT ₂	4	Decode V _{in} =1kHz, -15dBV			-70	dBV
Operating Supply Voltage	V _{OPR} *		Supply Voltage at Which Actual Operation is Made Possible	4.5	5	5.5	V
Input Impedance (Pin⑩)	Z _{inE} *		Encode Input f=1kHz		10		kΩ
Input Impedance (Pin⑬)	Z _{inD} *		Decode Input f=1kHz		10		kΩ
Output Impedance (Pin⑧)	Z _{OUT} *		f=1kHz			100	Ω
Frequency Characteristic-1	V _{fE1} *		Encode V _{in} =4kHz, -15dBV	-13.3	-12.3	-11.3	dBV
Frequency Characteristic-2	V _{fE2} *		Encode V _{in} =7kHz, -15dBV	-11.9	-10.9	-9.9	dBV
Frequency Characteristic-3	V _{fE3} *		Encode V _{in} =14kHz, -15dBV	-11.2	-9.7	-8.2	dBV

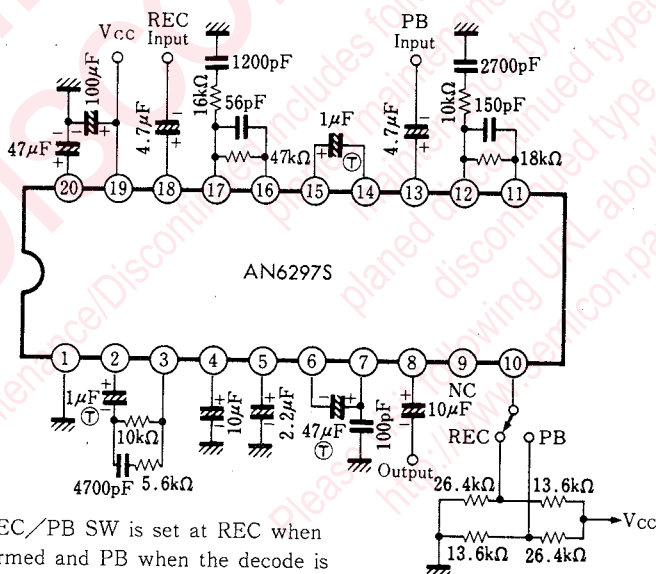
*There are reference values for designing and not guaranteed values.

Test Circuit 1 (I_{tot})



*1 The Pin ⑩ applied voltage is set at 3.3 V when the encode is performed and 1.7 V when the decode is performed.

Test Circuit 2 (V_{SE} , V_{SD} , V_{OE1} , V_{OE2} , V_{OE3} , V_{OD1} , V_{OD2} , V_{OD3} , V_{OM1} , V_{OM2} , THD_1 , THD_2)



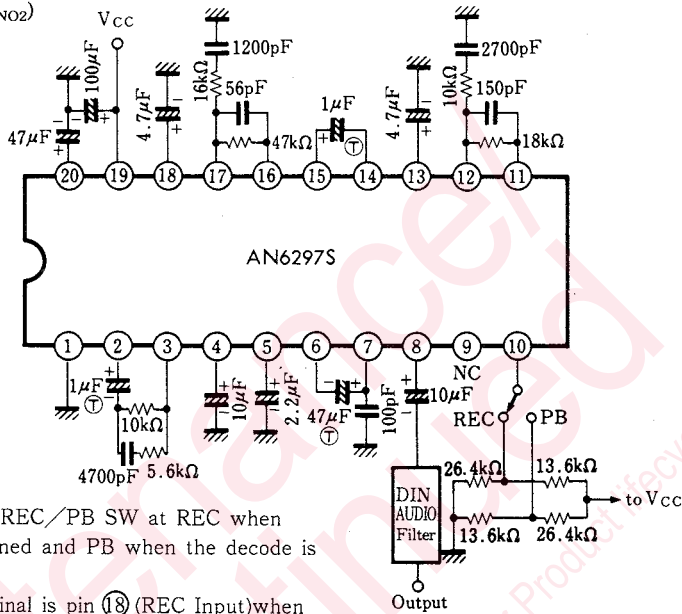
*1 The Pin ⑩ REC/PB SW is set at REC when the encode is performed and PB when the decode is performed.

*2 The input signal is input to Pin ⑱ (REC Input) when the encode is performed and Pin ⑬ (PB Input) when the decode is performed.

*3 The output is Pin ⑧ (Output).

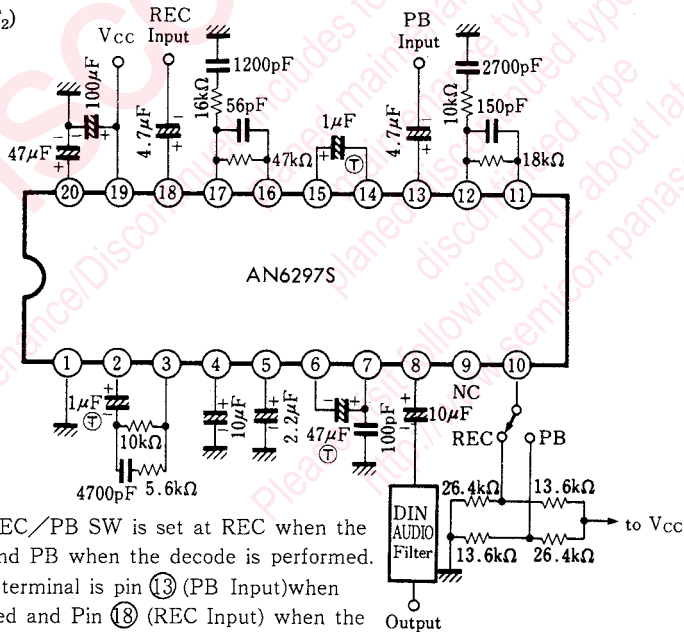
*4 The percentage of errors of the capacitance of 1 µF or less and all the resistances must be within 1 %.

Test Circuit 3 (V_{NO1} , V_{NO2})



- *1 Set the Pin ⑩ REC/PB SW at REC when the encode is performed and PB when the decode is performed.
- *2 The input terminal is pin ⑱ (REC Input) when the encode is performed and Pin ⑬ (PB Input) when the decode is performed.
- *3 The output is Pin ⑧ (Output).
- *4 The output must pass through the DIN AUDIO filter.
- *5 The percentage of errors of the capacitance of 1 μ F or less and all the resistances must be within 1 %.

Test Circuit 4 (CT_1 , CT_2)

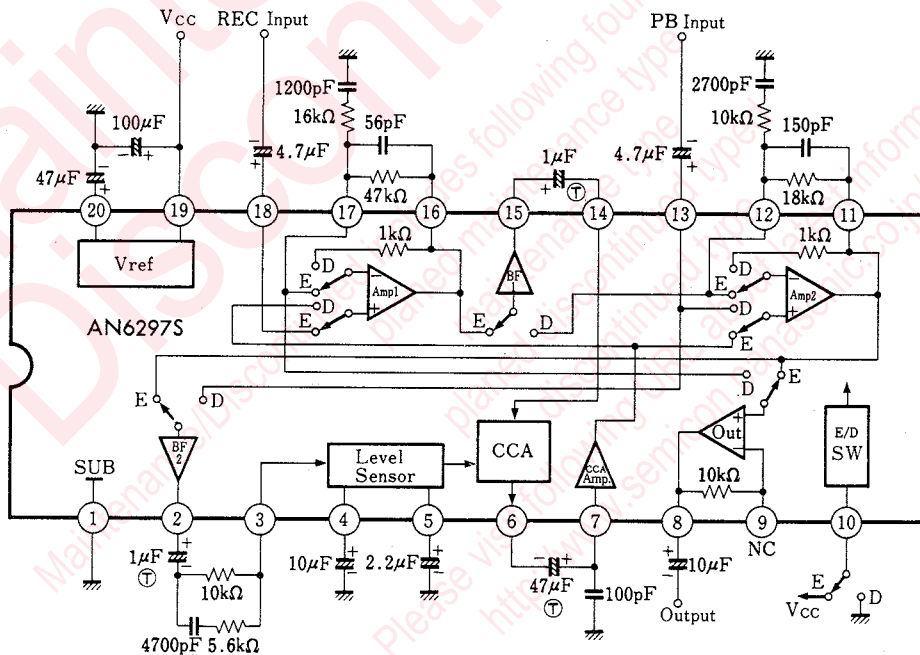


- *1 Set the Pin ⑩ REC/PB SW is set at REC when the encode is performed and PB when the decode is performed.
- *2 The signal input terminal is pin ⑬ (PB Input) when the encode is performed and Pin ⑱ (REC Input) when the decode is performed.
- *3 The output is Pin ⑧ (Output).
- *4 The output must pass through the DIN AUDIO filter.
- *5 The percentage of errors of the capacitance of 1 μ f or less and all the resistances must be within 1 %.

■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	GND	11	Amp. 2 Output
2	BF Amp. 2 Output	12	Amp. 2 Feedback/BF Amp. 1 Input
3	L.S. Input	13	Decode Input
4	Hold Recovery	14	CCA G.C. Input
5	Recovery	15	BF Amp. 1 Output
6	ACC G.C. Output	16	Amp. 1 Output
7	CCA Amp. Input	17	Amp. 1 Feedback/Output Amp. Input
8	Signal Output	18	Encode Input
9	Output Amp. Feedback	19	V _{cc}
10	Encode/Decode SW	20	Reference Voltage

■ Application Circuits



Note) It is possible to correct the output amplifier gain and the f characteristic by connecting a suitable resistance and a capacitor between Pin ⑨ and GND.

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