

AN7463S

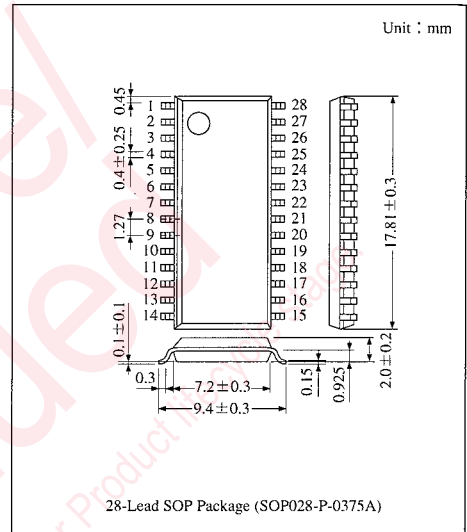
FM Noise Canceller/Stereo Multiplex Demodulator for Car Radio

Overview

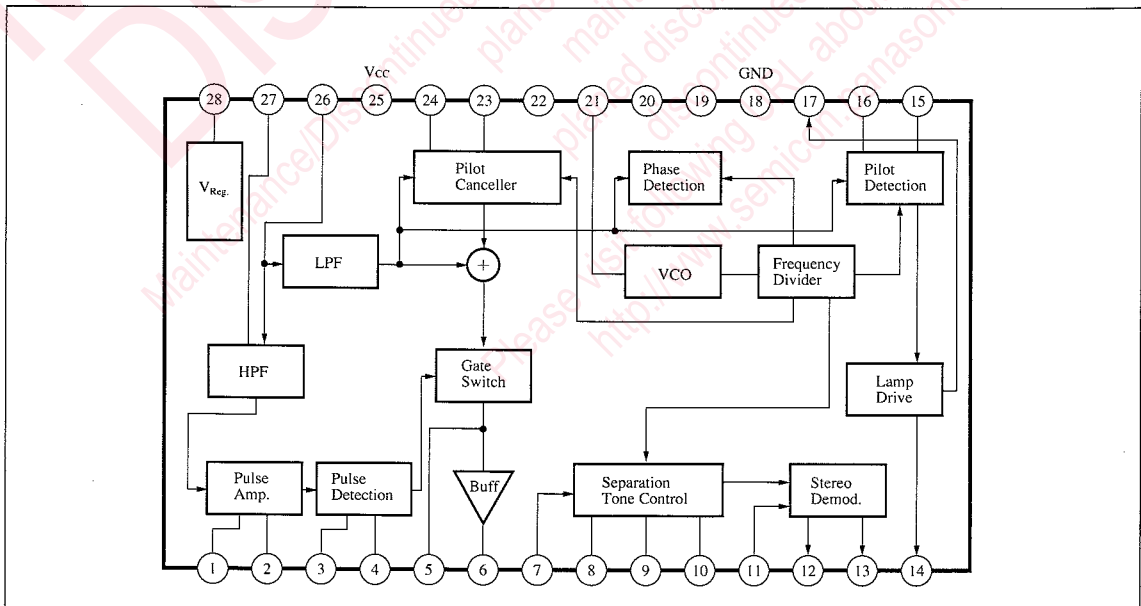
The AN7463S is an integrated circuit for car stereo configured FM noise canceller and PLL multiplex demodulator in a single chip. It is the same function/performance/pin compatible as the AN7465S except for ASC · ATC characteristics.

Features

- HPF/LPF of noise canceller input section built-in.
- Good S/N and distortion by using quasi sine wave as pilot canceller negative wave.
- HPF band width auto switching by monaural and stereo.
- With ASC · ATC functions reducing noise at weak electric field smoothly.
- With forced monaural and VCO stop functions



Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Rating	Unit
Supply Voltage		V _{CC}	10	V
Supply Current	Without Lamp Current	I _{CC(1)}	25	mA
	With Lamp Current	I _{CC(2)}	30	mA
Power Dissipation		P _D	280	mW
Operating Ambient Temperature		T _{opr}	-30 ~ +75	°C
Storage Temperature		T _{stg}	-55 ~ +125	°C

■ Recommended Operating Range (Ta=25°C)

Parameter	Symbol	Range
Operating Supply Voltage Range	V _{CC}	6V ~ 10V

■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	min.	typ.	max.	Unit
Total Circuit Current	I _{tot}	V _{in} =0mVrms	10	15	20	mA
AGC Voltage (1)	V _{AGC1}	V _{in} =0mVrms, R _S =10kΩ	—	0.05	0.4	V
AGC Voltage (2)	V _{AGC2}	V _{in} =2mVrms, f=150kHz	1	1.3	1.5	V
Noise Detection Voltage	V _{Det.}	V _{in} =100mVrms, f=150kHz	—	0.05	0.3	V
Gate Pulse Width	PW	V _{in} =0.3V _{P-P} Pulse, t _w =1μs, f=1kHz	20	25	30	μs
Residual Noise Voltage	V _{NR}	V _{in} =1V _{P-P} Pulse*, t _w =10μs, f=1kHz	—	0.3	0.7	mVrms
Output Voltage	V _O	V _{in} =300mV, f=1kHz	250	290	330	mVrms
Channel Balance	CB	V _{in} =300mV, f=1kHz	—	0	1	dB
Separation (1) (R ^⑨ =820Ω fixed)	Sep. ₁	V _{L+R} =270mV, V _P =30mV, f=1kHz	22	32	—	dB
Separation (2) (at R ^⑨ adjustment)	Sep. ₂	At V _{L+R} =270mV, V _P =30mV, f=1kHz adjustment	—	40	—	dB
THD (L+R)	THD	V _{L+R} =270mV, V _P =30mV, f=1kHz	—	0.05	0.3	%
THD (Monaural)	THD	V _{in} =300mV, f=1kHz	—	0.05	0.3	%
Residual Pilot Voltage	V _{PC}	V _P =30mV	—	2.5	10	mVrms
Lamp ON Pilot Voltage	V _{P(ON)}	Input only Pilot Signal	11	16	21	mVrms
Lamp OFF Pilot Voltage	V _{P(OFF)}	Input only Pilot Signal	—	8	—	mVrms
Capture Range	CR	V _P =30mV	±1.8	±3	—	%
VCO Stop Voltage	V ₁₄₋₁₈	Pin ^⑭ , VCO Stop Voltage	3	3.4	3.8	V
Maximum Input Voltage	V _{i(max.)}	f=1kHz, Input at lamp ON	0.7	—	—	Vrms
Input Impedance	Z _{in}	Pin ^⑳	—	53	—	kΩ
Output Impedance	Z _o	Pin ^⑫ , ^⑬	—	3.3	—	kΩ

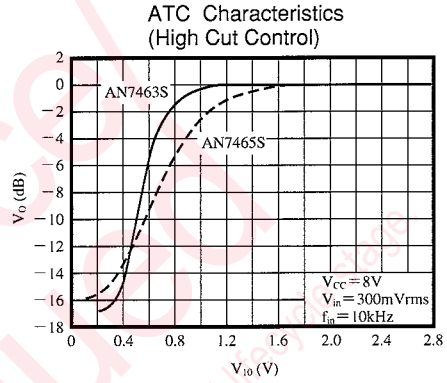
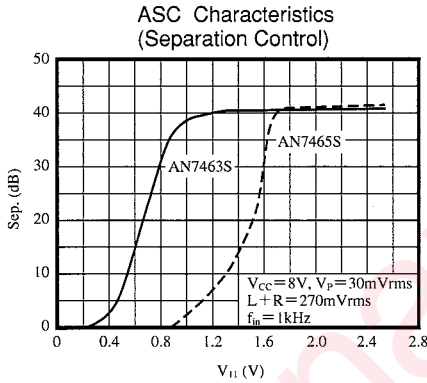
* Input through LPF of R=150Ω, C=0.033μF.

ICs for
Tuner

■ Difference between AN7463S and AN7465S

The AN7463S is all the same as the AN7465S except for ASC/ATC control characteristics. Refer to the AN7465S for electrical characteristics and application circuit.

• ASC, ATC Characteristics Comparison



■ Supplementary Explanation

• Noise Canceller/MPX IC Series for Car Radio Comparison List

Noise canceller/MPX IC series for car radio is integrated noise canceller for FM radio and FM stereo MPX circuit on a single chip in Pin²⁸~³², which is most suitable series for cost down of high performance car radio.

Item	Type Name	AN7465S/K	AN7464S	AN7463S
Package		K···Pin ²⁸ · Shrunk DIL S···Pin ²⁸ · Flat	Pin ²⁸ · Flat	Pin ²⁸ · Flat
Supply Voltage		6V~10V	6V~10V	6V~10V
Supply Current		15mA	16mA	15mA
Noise Canceller		○	○	○
Pilot Canceller		○	○	○
ATC (Refer to above diagram)		○	○	○
ASC (Refer to above diagram)		○	○	○
Forced Manual/V/COSTOP		○	○	○
Noise Canceller HPF Switching		○	○	○
Multipath Detection Amp.		×	○	×

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