

# AN7025K, AN7025S

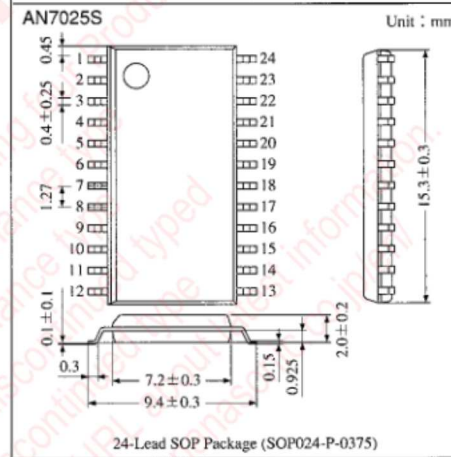
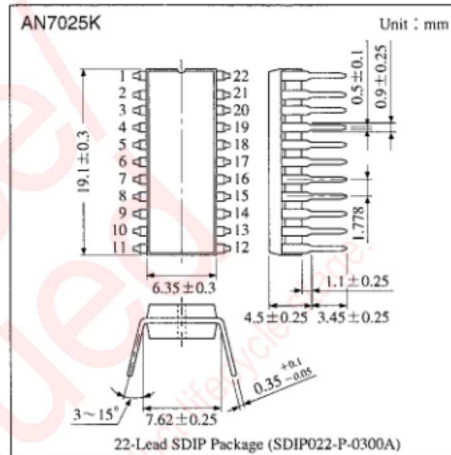
## FM-IF, PLL-MPX, AM Tuner ICs

### Overview

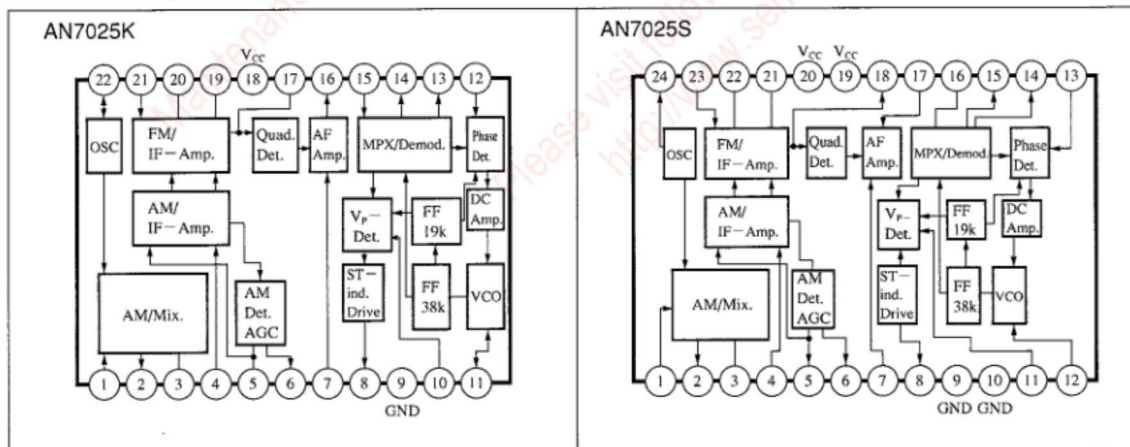
The AN7025K and the AN7025S are the ICs designed for radio cassette recorder, incorporating AM tuner, FM-IF amplifier, FM detector and PLL multiplex demodulator.

### Features

- Single-chip IC for AM tuner, FM-IF & FM multiplexers
- Low power consumption,  $I_{CO}=7.3\text{mA}$  (FM),  $4.5\text{mA}$  (AM)
- Wide operating supply voltage range :  $V_{CC}=1.8\text{V} \sim 6.6\text{V}$
- Built-in stereo-indicator drive
- Phase-Locked-Loop MPX stereo demodulation



### Block Diagrams



### Pin Descriptions

( ) shows the Pin No. of AN7025S.

Pin No.	Pin Name	Pin No.	Pin Name
1 (1)	AM Mixer Input	12 (13)	MPX Phase Detection
2 (2)	AM Mixer Output	13 (14)	L Ch. Output
3 (3)	AM Mixer By-pass	14 (15)	R Ch. Output
4 (4)	AM IF Input	15 (16)	MPX Input
5 (5)	AM AGC	16 (17)	IF-part AF Output
6 (6)	AM Detection Output	17 (18)	FM Detection Coil
7 (7)	AM AF Input	18 (19,20)	V <sub>CC</sub>
8 (8)	Stereo Indicator	19 (21)	IF By-pass 1
9 (9,10)	GND	20 (22)	IF By-pass 2
10 (11)	MPX Pilot Signal Detection	21 (23)	FM IF Input
11 (12)	VCO	22 (24)	AM Local Oscillation

### Absolute Maximum Ratings (T<sub>a</sub> = 25°C)

Parameter	Symbol	Rating	Unit
Supply Voltage	V <sub>CC</sub>	6.6	V
Supply Current	I <sub>CC</sub>	27	mA
Power Dissipation	AN7025K	180	mW
	AN7025S	260	
Operating Ambient Temperature	T <sub>opr</sub>	-20 ~ +75	°C
Storage Temperature	AN7025K	-55 ~ +150	°C
	AN7025S	-55 ~ +125	

### Electrical Characteristics (V<sub>CC</sub> = 3V, T<sub>a</sub> = 25°C)

Parameter	Symbol	Condition	min.	typ.	max.	Unit
FM	Detection Output Voltage	V <sub>O(FM)</sub> V <sub>in</sub> = 80dB $\mu$ , Monaural	45	56	70	mVrms
	Channel Balance	CB V <sub>in</sub> = 80dB $\mu$ , Monaural	-1.2	0	1.2	dB
	Limiting Sensitivity	V <sub>L(FM)</sub> Input which V <sub>O(FM)</sub> decrease by 3dB, Monaural	26	28.5	31	dB $\mu$
	Stereo Separation	Sep. V <sub>in</sub> = 80dB $\mu$ , Stereo	30	40	—	dB
	Total Harmonic Distortion	THD V <sub>in</sub> = 80dB $\mu$ , Stereo	—	0.5	1.5	%
	Stereo Lamp ON Level	V <sub>P(on)</sub> V <sub>in</sub> = 80dB $\mu$ , Modulation indication	—	5.5	7.5	%
	Stereo Lamp OFF Level	V <sub>P(off)</sub> V <sub>in</sub> = 80dB $\mu$ , Modulation indication	1.1	3.1	—	%
AM	Detection Output Voltage	V <sub>O(AM)</sub> V <sub>in</sub> = 60dB $\mu$	50	65	90	mVrms
	Sensitivity	S <sub>(AM)</sub> Input at V <sub>O(AM)</sub> = 20mA	12	16	23	dB $\mu$

Note) Unless otherwise specified.

FM : Monaural ; f<sub>in</sub> = 10.7MHz, 1kHz 30% modulationStereo ; f<sub>in</sub> = 10.7MHz, 1kHz 100% modulation (L + R = 90%, Pilot 10%)AM : f<sub>in</sub> = 1kHz, 400Hz 30% modulation









