

# AN5215

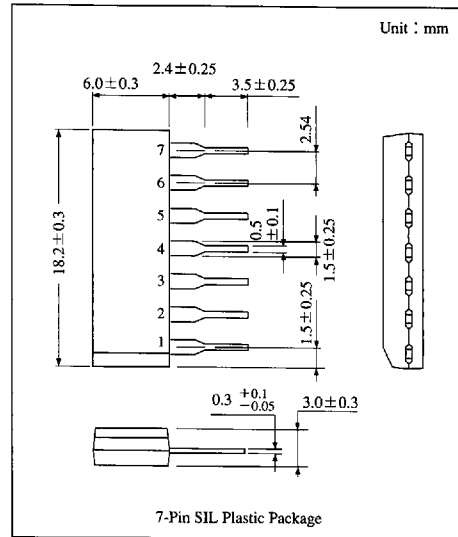
## TV Sound-IF Amplifier, FM Detector IC

### Overview

The AN5215 is an integrated circuit designed for TV receiver sound-IF amplifier and FM detector, and also is usable for TV sound multiplex broadcasting.

### Features

- High input sensitivity :  $V_{i (lim)} = 50 \mu V_{rms}$  typ.
- Usable as sound multiplex circuitry
- Good FM Detector characteristics
- 7-pin single-in-line plastic package for flexible PCB design

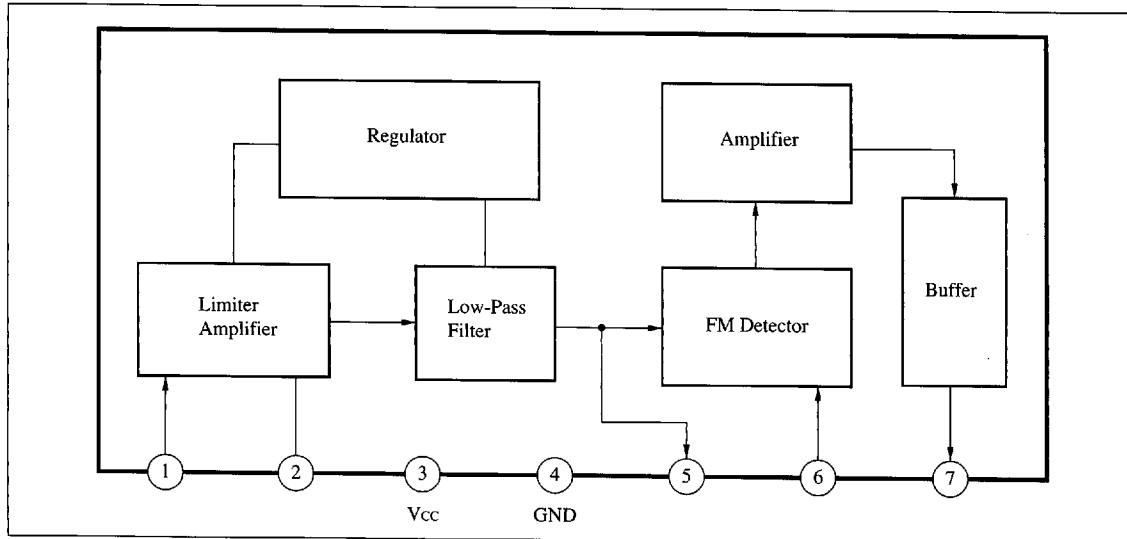


ICs for TV

### Pin Descriptions

Pin No.	Pin name
1	SIF input
2	Decoupling
3	V <sub>CC</sub>
4	GND
5	SIF output
6	Detector
7	Detector output

### Block Diagram



### ■ Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Rating	Unit
Supply voltage	$V_{CC}$	14.4	V
Circuit current	$I_{CC}$	36	mA
Power dissipation	$P_D$	520	mW
Temperature	Operating ambient temperature	$T_{opr}$	-20 to +70
	Storage temperature	$T_{stg}$	-55 to +150

### ■ Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Condition	min	typ	max	Unit
Total circuit current	$I_{tot}$	$V_{CC} = 12\text{V}$	17	23	29	mA
Input limiting voltage	$V_{i(lim)}$	$f_0 = 4.5\text{MHz}$ , $f_m = 400\text{Hz}$ , $\Delta f = \pm 25\text{kHz}$	—	50	100	$\mu\text{V}_{rms}$
AM rejection (1)	AMR1	$f_0 = 4.5\text{MHz}$ , $f_m = 400\text{Hz}$ , $m = 30\%$ (AM), $V_i = 100\text{mV}_{rms}$	43	53	—	dB
AM rejection (2)	AMR2	$f_0 = 4.5\text{MHz}$ , $f_m = 400\text{Hz}$ , $m = 30\%$ (AM), $V_i = 100\mu\text{V}_{rms}$	27	37	—	dB
Total detector output	$V_O$	$f_0 = 4.5\text{MHz}$ , $f_m = 400\text{Hz}$ , $\Delta f = \pm 25\text{kHz}$ , $V_i = 100\text{mV}_{rms}$	385	550	715	$\text{mV}_{rms}$
Total harmonics distortion	THD	$f_0 = 4.5\text{MHz}$ , $f_m = 400\text{Hz}$ , $\Delta f = \pm 25\text{kHz}$ , $V_i = 100\text{mV}_{rms}$	—	0.3	1.0	%
Input resistance	$R_{i(IF)}$	$f = 4.5\text{MHz}$ , $V_i = 30\text{mV}$	6	15	100	$\text{k}\Omega$
Input capacitance	$C_{i(IF)}$	$f = 4.5\text{MHz}$ , $V_i = 30\text{mV}$	3	6	9	pF

### ■ Application Circuit

