# AN5070, AN5071, AN5072

# TV Tuner Band Switch Circuits 31V Voltage (Regulator Built-in)

#### Outline

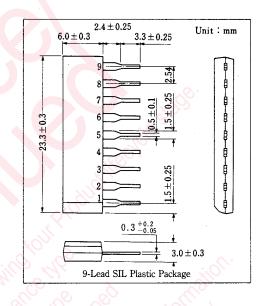
The AN5070, the AN5071 and the AN5072 are integrated circuits incorporating TV tuner band switch circuits and 31 V power supply circuit

#### Features

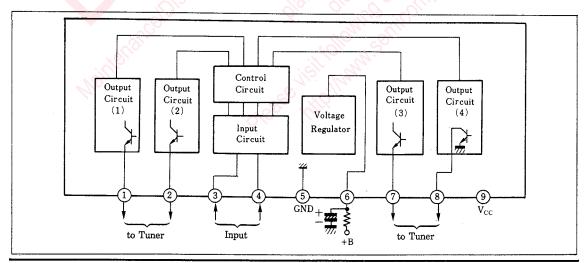
- Tuner band switch circuit with 31 V voltage regulator
- Usable for every tuner by suitable output combination

#### Pin

Pin No.	Pin Name
1	Output (1)
2	Output (2)
3	Input (1)
4	Input (2)
5	GND
6	31.5V Supply Voltage
7	Output (3)
8	Output (4)
9	Vcc



### Block Diagram



# ■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Supply Voltage	V <sub>cc</sub>	+18	V
Supply Voltage Supply Current	$I_6$	+14	mA
Power Dissipation	P <sub>D</sub>	620	mW
Operating Ambient	T	$-20 \sim +70$	Ŷ
Temperature	$T_{por}$	-20-0+10	
Storage Temperature	T <sub>stg</sub>	$-55 \sim +150$	℃

### ■ Electrical Characteristics (Ta=25°C)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Input Threshold Voltage	Vı	1	$V_{cc}=12V$	1.5	~0,	2.5	V
Input Threshold Current	It	2	V <sub>cc</sub> =12V	100	7,000	500	μΑ
Output Saturation Voltage	V <sub>CE(sat)</sub>	3	$V_{cc}=12V, I_0=-60mA$	10	0.3	0.8	V
Pin ® Output Saturation Voltage	V <sub>CE(sat)</sub>	3	$V_{cc} = 12V, I_8 = 20mA$	10,0	0.2	0.5	V
Voltage Regulator	V <sub>8-5</sub>	4	$V_{cc} = 12V$ , $I_s = 10mA$	29.5	31.7	33.5	V
Voltage Regulator with Ambient Temperature	V <sub>6-5</sub> /Ta	4	$T_a = -20 \sim 60 \mathrm{C}$	-1.0	0	1.0	mV/C
Voltage Regulator Voltage for Drift	$\Delta V_{6-5}$	4	As per condition after 5 sec elapsed with SW ON			±50	mV

# ■ Input / Output Related (Logic Table)

#### • AN5070

In	put	Output			Remarks	
Pin(3)	Pin4	Pin(1)	Pin2	Pin 7	Pin®	Tuning Status
L	L	Vcc	open	open	L	UHF
H	L	open	Vcc	open	open	VHF-L
L	H	open	open	Vcc	L	VHF-H
H	Н	open	open	Vcc	open	G

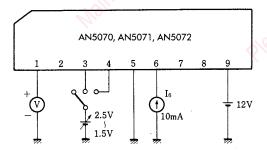
#### AN5071

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In	out	Output			Remarks	
Pin(3)	Pin4	Pin(1)	Pin <sup>2</sup>	Pin⑦	Pin®	(Tuning) Status
L	CL ,	Vcc	open	open	$^{\prime}$ $^{\prime}$	UHF
H <sub>×</sub> Q	L	open	Vcc	open	open	VHF-L
L	H	open	open	Vcc	L	VHF-H
H	H.	open	open	open	open	

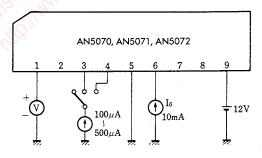
#### AN5072

In	put	Output			Remarks	
Pin(3)	Pin4	Pin(1)	Pin2	Pin⑦	Pin®	Status
$\overline{L}$	H	Vcc	open	open	L	UHF
H	H	open	Vcc	open	open	VHF-L
L	L	open	open 💍	Vcc	L	VHF-H
H	L	open	open	Vcc	open	

## Test Circuit 1 (V<sub>t</sub>)

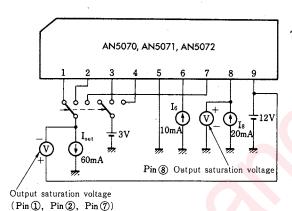


## Test Circuit 2 (I<sub>t</sub>)

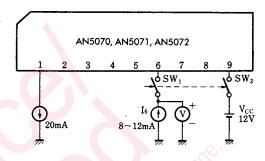


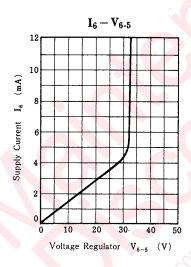
Measure the voltage when Pin 1 is changed from  $V_{cc}$  to Open (No Connection).

Test Circuit 3  $(V_{CE(sat)})$ 

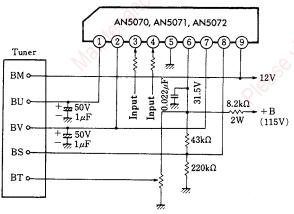


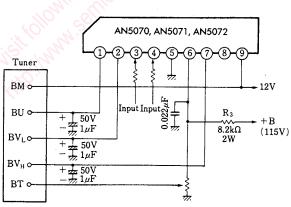
Test Circuit 4 ( $V_{6-5}$ ,  $V_{6-5}/Ta$ ,  $\Delta V_{6-5}$ )





# Application Circuits





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