

AN5070, AN5071, AN5072

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

■ Outline

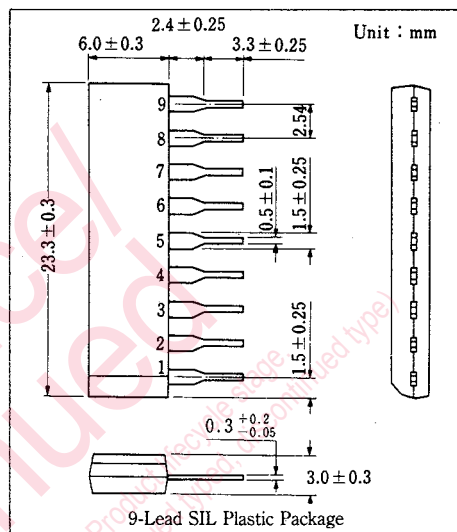
The AN5070, the AN5071 and the AN5072 are integrated circuits incorporating TV tuner band switch circuits and 31 V power supply circuit

■ Features

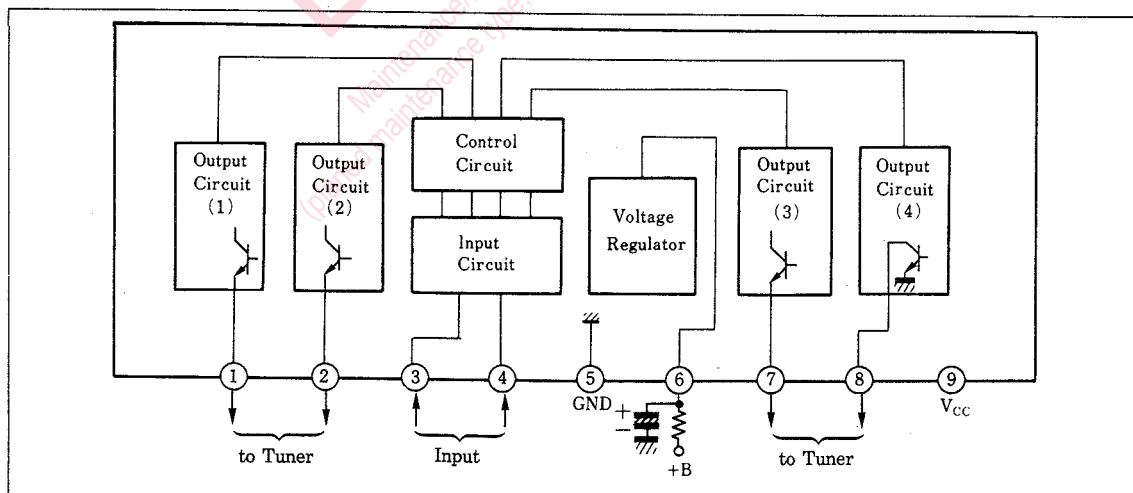
- Tuner band switch circuit with 31 V voltage regulator
- Usable for every tuner by suitable output combination

■ 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	V _{cc}



■ Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Supply Voltage	V _{cc}	+18	V
Supply Current	I _s	+14	mA
Power Dissipation	P _d	620	mW
Operating Ambient Temperature	T _{por}	-20~+70	°C
Storage Temperature	T _{stg}	-55~+150	°C

■ Electrical Characteristics (Ta=25°C)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Input Threshold Voltage	V _t	1	V _{cc} =12V	1.5		2.5	V
Input Threshold Current	I _t	2	V _{cc} =12V	100		500	μA
Output Saturation Voltage	V _{CB(sat)}	3	V _{cc} =12V, I _o =-60mA		0.3	0.8	V
Pin ⑧ Output Saturation Voltage	V _{CB(sat)}	3	V _{cc} =12V, I _s =20mA		0.2	0.5	V
Voltage Regulator	V ₈₋₅	4	V _{cc} =12V, I _s =10mA	29.5	31.7	33.5	V
Voltage Regulator with Ambient Temperature	V ₈₋₅ /Ta	4	T _a =-20~60°C	-1.0	0	1.0	mV/°C
Voltage Regulator Voltage for Drift	ΔV ₈₋₅	4	As per condition after 5 sec elapsed with SW ON			±50	mV

■ Input/Output Related (Logic Table)

● AN5070

Input		Output				Remarks (Tuning Status)
Pin③	Pin④	Pin①	Pin②	Pin⑦	Pin⑧	
L	L	V _{cc}	open	open	L	UHF
H	L	open	V _{cc}	open	open	VHF-L
L	H	open	open	V _{cc}	L	VHF-H
H	H	open	open	V _{cc}	open	-

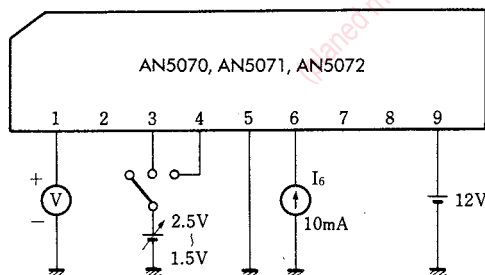
● AN5071

Input		Output				Remarks (Tuning Status)
Pin③	Pin④	Pin①	Pin②	Pin⑦	Pin⑧	
L	L	V _{cc}	open	open	L	UHF
H	L	open	V _{cc}	open	open	VHF-L
L	H	open	open	V _{cc}	L	VHF-H
H	H	open	open	open	open	-

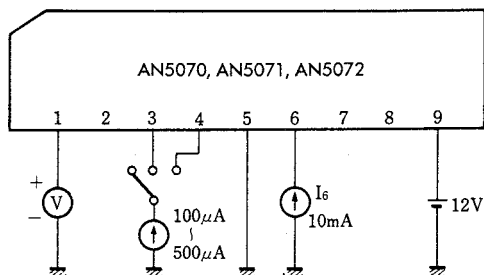
● AN5072

Input		Output				Remarks (Tuning Status)
Pin③	Pin④	Pin①	Pin②	Pin⑦	Pin⑧	
L	H	V _{cc}	open	open	L	UHF
H	H	open	V _{cc}	open	open	VHF-L
L	L	open	open	V _{cc}	L	VHF-H
H	L	open	open	V _{cc}	open	-

Test Circuit 1 (V_t)

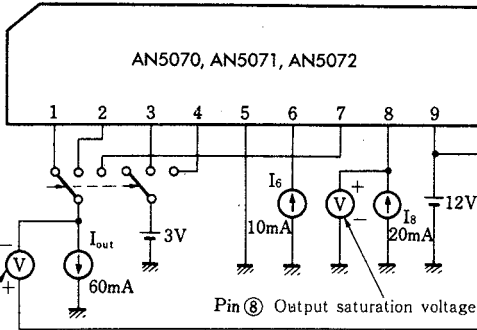


Test Circuit 2 (I_t)



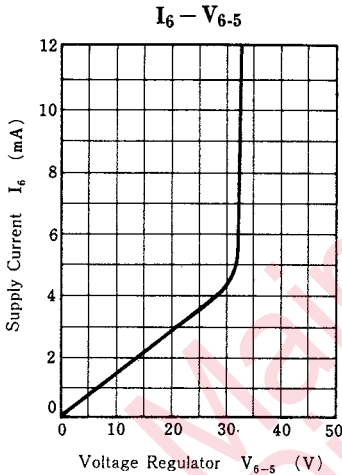
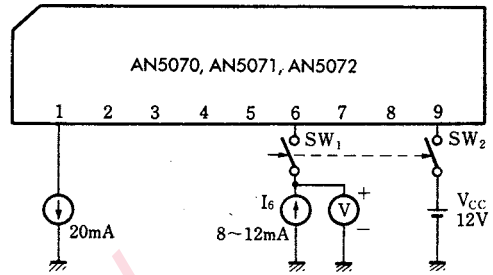
Measure the voltage when Pin ① is changed from V_{cc} to Open (No Connection).

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

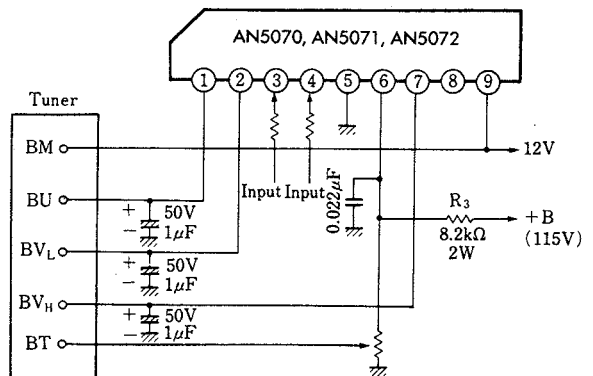
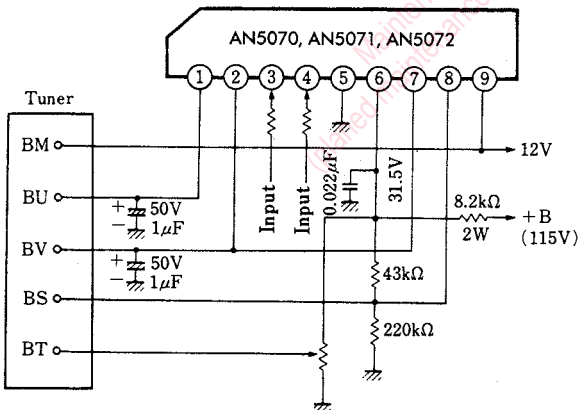


Output saturation voltage (Pin ①, Pin ②, Pin ⑦)

Test Circuit 4 (V_{6-5} , V_{6-5}/I_a , ΔV_{6-5})



Application Circuits



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