

AN5860, AN5860S

Analog Switch ICs for RGB Interface

Overview

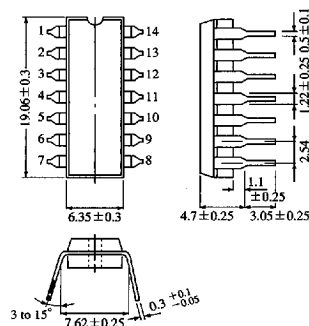
The AN5860 and the AN5860S are the integrated circuits designed for high-speed analog switch circuits for RGB signal processing.

Features

- Wide band Characteristics ($>20\text{MHz}$)
- High speed switching characteristics ($t_{dr}(\text{typ.})$, $t_{df}(\text{typ.})$; 35ns)
- Brightness is DC-controlled

AN5860

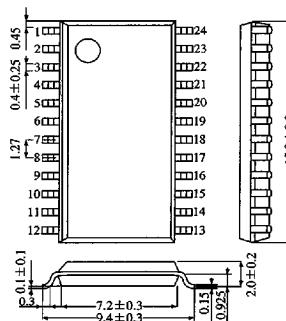
Unit : mm



14-Pin DIL Plastic Package (DIP014-P-0300B)

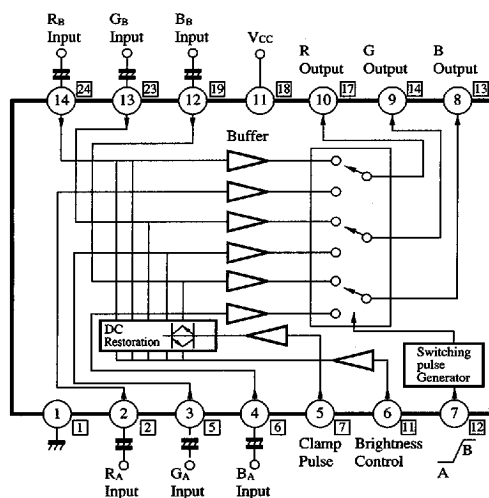
AN5860S

Unit : mm



24-Pin PANAFLAT Package (SOP024-P-0375)

Block Diagram



□ Shows the Pin No. of AN5860S

Pin Descriptions

Pin No.	Pin name	Pin No.	Pin name
1(1)	GND	8(13)	B output
2(2)	R _A input	9(14)	G output
3(5)	G _A input	10(17)	R output
4(6)	B _A input	11(18)	V _{CC}
5(7)	Clamp pulse input	12(19)	B _B input
6(11)	Brightness control	13(23)	G _B input
7(12)	Switching pulse input	14(24)	R _B input

Note : In case of AN5860S, Pin No.③, ④, ⑧, ⑨, ⑩, ⑬, ⑯, ⑰, ⑱, ⑳, ㉑, ㉒, are NC

Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol		Rating		Unit
Voltage	Supply voltage	V _{CC}		13.8(13.0)		V
	Circuit current	V ₁₁₋₁ (V ₁₈₋₁)	0	13.8(13.0)	V	
		V _{2,3,4,12,13,14-1} (V _{2,5,6,19,23,24-1})	0	V ₁₁₋₁ (V ₁₈₋₁)	V	
		V ₅₋₁ (V ₇₋₁)	−1	6(V ₁₈₋₁)	V	
		V ₆₋₁ (V ₁₁₋₁)	3(0)	9	V	
		V ₇₋₁ (V ₁₂₋₁)	0	6(V ₁₈₋₁)	V	
Circuit voltage		I _{8,9,10} (I _{13,14,17})		−10	2	mA
Power dissipation (Ta = 70℃)		P _D	AN5860	560		mW
			AN5860S	490		
Temperature	Operating ambient temperature	T _{opr}		−20 to +70		℃
	Storage temperature	T _{stg}	AN5860	−55 to +150		℃
			AN5860S	−55 to +125		

ICs for TV

() shows the Pin No. of AN5860S

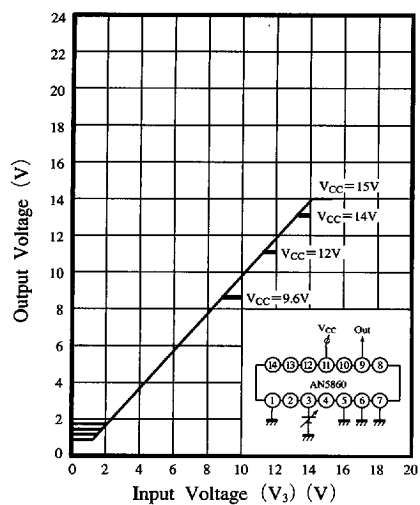
Electrical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	min	typ	max	Unit
Operating supply voltage range	V _{CC(opr.)}		9.6	12.0	13.8	V
Total circuit current	I _{tot}	V _{CC} =12V, V ₅ : input pulse 1V _{P-P}	19	26.5	34	mA
DC voltage difference between outputs	ΔV _{RGB}	V _{CC} =12V, V ₇ =1V, 0V	—	0	±100	mV
Switching output DC voltage difference	ΔV _{A-B}	V _{CC} =12V, V ₇ =1V, 0V	—	0	±30	mV
Input/Output dynamic range for signals (upper)	D.R _{max.}	V _{CC} =12V	—	—	10.5	V
Input/Output dynamic range for signals (lower)	D.R _{min.}	V _{CC} =12V	1.7	—	—	V
Output terminal sink current	I _{SINC}	V _{CC} =12V, input voltage 6V	—	—	0.8	mA
Voltage amplification for signals	A _v	f _{in} =1MHz, 1V _{P-P}	0.9	1	1.1	times
Frequency characteristics for signals	f _{3dB}	e _{in} =1V _{P-P}	20	—	—	MHz
DC level difference of pedestal level for signals	ΔE _{TO}	Input pulse 1V _{P-P} , V ₆ : 7V	—	0	±100	mV
Switching crosstalk	CT _{A/B}	f _{in} =1MHz, 1V _{P-P}	—	—	-40	dB
Signal rise time	t _r	f _{in} =1MHz, 1V _{P-P}	—	20	40	ns
Signal fall time	t _f	f _{in} =1MHz, 1V _{P-P}	—	20	40	ns
Signal rise delay time	t _{dr}	f _{in} =1MHz, 1V _{P-P}	—	10	30	ns
Signal fall delay time	t _{df}	f _{in} =1MHz, 1V _{P-P}	—	10	30	ns
Switching delay time	t _{dr(A/B)}	Switching pulse 1V _{P-P}	—	35	60	ns
	t _{df(A/B)}	Switching pulse 1V _{P-P}	—	35	60	ns
Switching pulse standard input	V _{SWP}	V _{CC} =12V	—	1	—	V _{O-P}
Clamp pulse standard input	V _{CLP}	V _{CC} =12V	—	2	—	V _{O-P}

Panasonic

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Input/Output Characteristics



Brightness Control Characteristics

