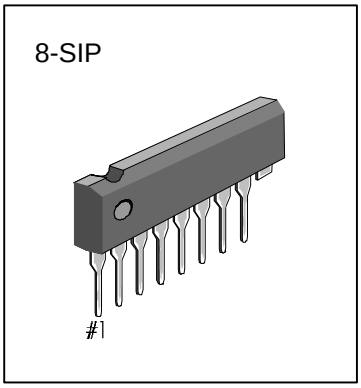
REMOTE CONTROL PREAMPLIFIER

The KA2181 is a silicon monolithic integrated circuit designed for a remote control preamplifier of infrared signals. This device has features of low power, high sensitivity and wide supply voltage.



FUNCTIONS

• AMP • ABLC • LIMITER & LEVEL SHIFT
• PEAK DET • SHAPING

FEATURES

- Wide operation voltage V_{CC}=6 to 14.4V
- Low power consumption I_{CC}=2.5mA Typ.
- High input sensitivity 50μV_{P-P} Typ.
- Peak detector
- Small size package 8-SIP
- A minimum number of parts are required
- Designed for use with the KS5803 remote control transmitter IC.

ORDERING INFORMATION

Device	Package	Operating Temperature
KA2181	8-SIP	-20°C ~+75°C

BLOCK DIAGRAM

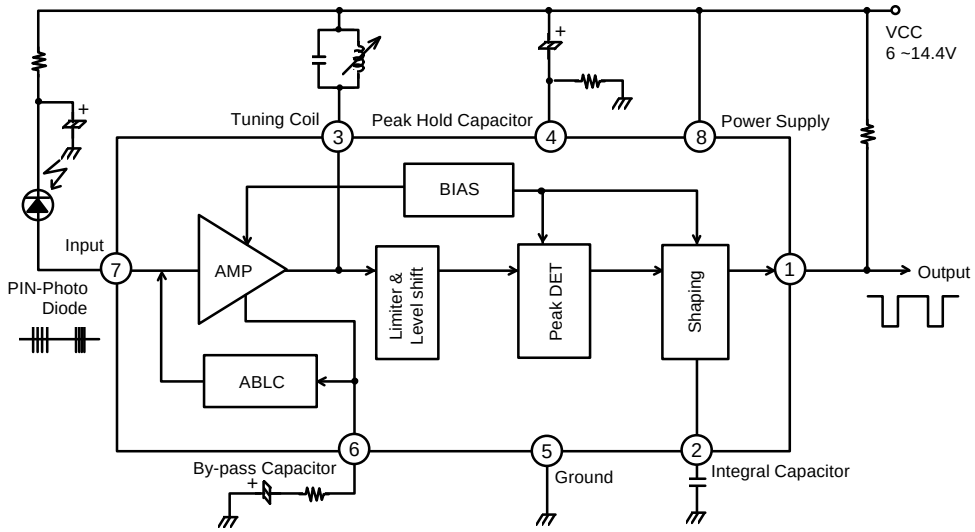


Fig. 1

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	15	V
Power Dissipation	P_D	270	mW
Operating Temperature	T_{OPR}	-20~+75	°C
Storage Temperature	T_{STG}	-45~+125	°C

RECOMMENDED OPERATING CONDITIONS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Power Supply	V_{CC}	6.0	8.5	14.4	V
Input Frequency	f_{IN}	30	-	50	KHz

ELECTERICAL CHARACTERISTICS

(T_A=25°C, V_{CC}=8.5V, f_{IN}=40KHz)

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Supply Current	I_{CC}		1.5	2.5	3.5	mA
Input Terminal Voltage	V_{IN}1		2.1	2.6	3.1	V
Input Terminal Voltage	V_{IN}2	I_{IN}=70μA	3.4	4.1	4.9	V
1st Stage Voltage Gain	A_{VL}	#7-#3, V_{OUT}=500mV_{P-P}	-	60	-	dB
Detection Input Voltage	υ_{IN}		-	50	100	μV_{P-P}
Input Impedance	γ_{IN}		40	60	80	KΩ
Output Voltage	V_{OL}	I_{OL}=0.1mA, υ_{IN}=7mV_{P-P}	-	-	0.5	V
Output Leakage Current	I_{OH}	V_{OH}=14.4V	-	-	2	μA
Noise		Input Open	Output Terminal is not fall			

TYPICAL APPLICATION CIRCUITS

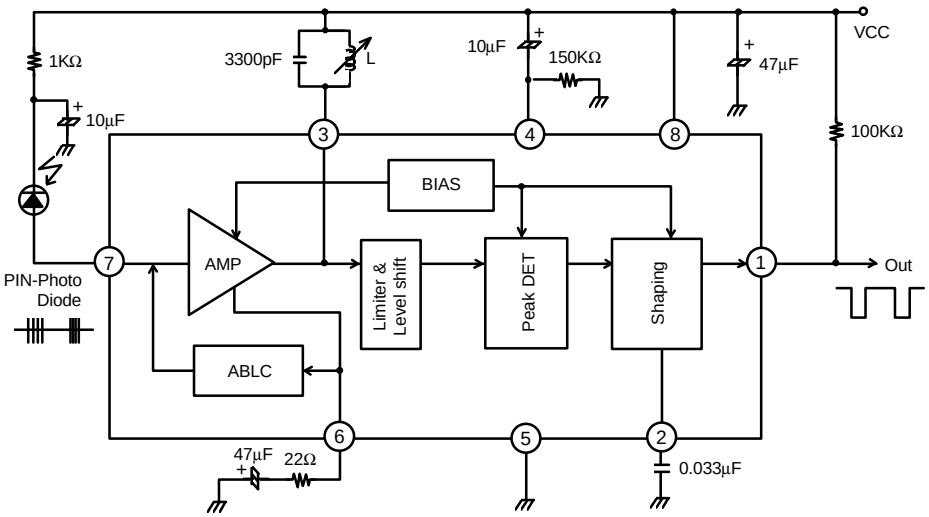


Fig. 2

TEST CIRCUITS

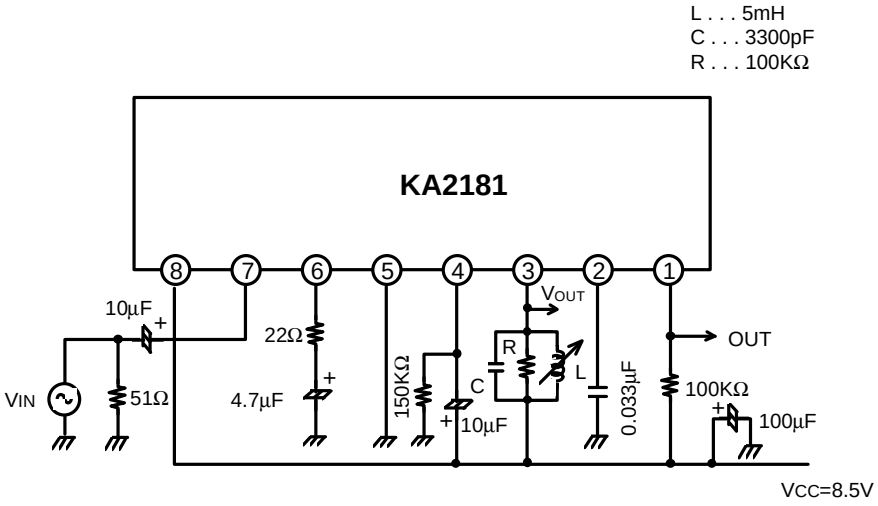


Fig. 3