TAA960-K

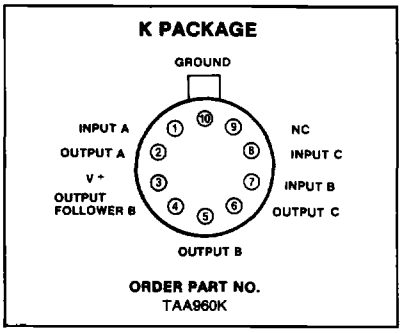
DESCRIPTION

The TAA960 consists of three identical general-purpose amplifiers integrated in a single silicon chip. The amplifiers can be used separately or can be cascaded to give a voltage gain of 117dB. One of the amplifiers has an additional emitter-follower stage. The TAA960 is very suitable for use in an active RC band-pass filter with Q up to 60.

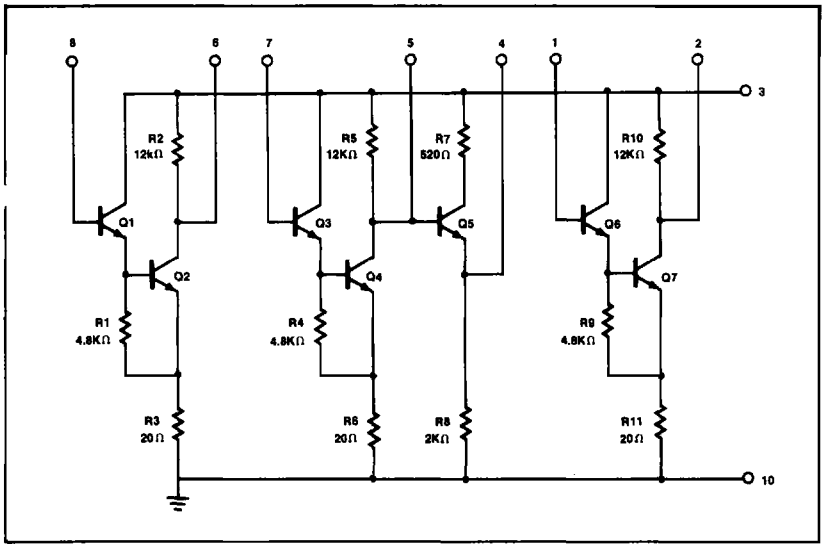
FEATURES

- **Cascade voltage gain of 117dB**
- **Typical Q of 45 in filter**
- **Input resistance > 25K**
- **Triple configuration**
- **Emitter follower output available**

PIN CONFIGURATION



EQUIVALENT SCHEMATIC



ABSOLUTE MAXIMUM RATINGS

PARAMETER		RATING	UNIT
	Voltages with respect to pin 10		
V_3	Supply voltage	10	V
V_8, V_7, V_1	Input voltage	4	V
V_6, V_5, V_4, V_2	Output voltage	10	V
I_8, I_7, I_1	Input current	50	μA
P_{TOT}	Total power dissipation	250	mW
T_{STG}	Storage temperature	-65 to +125	°C
T_A	Operating ambient temperature	-55 to +65	°C

NOTES:
1. With lower dc potential on all other terminals.

TAA960-K

DC ELECTRICAL CHARACTERISTICS $T_A = 25°C$, V+ = 6V unless otherwise specified.

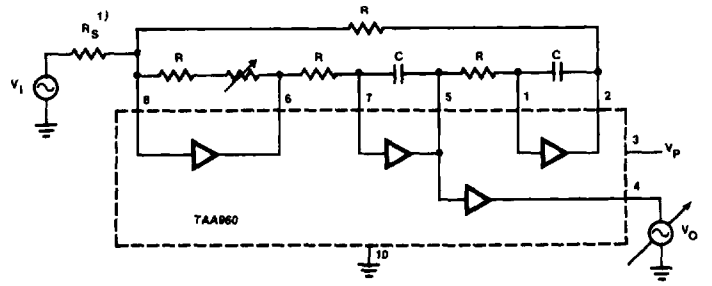
PARAMETER		TEST CONDITIONS	TAA960			UNIT
			Min	Typ	Max	
I_{CC}	Supply current [2]		1.5	2.0	2.5	mA
I_{CC}	Supply current [2]	$V_3 = 10V$	1.5	2.6	3.8	mA
A_{VOL}	Voltage gain (each amplifier)		60	90	150	V/V
R_{IN}	Input resistance		25			kΩ
R_{OUT}	Output resistance	Pins 2, 5 & 6	8	9		kΩ
R_{OUT}	Output resistance	Pin 4	135		750	Ω

NOTES

2. Terminal 8 connected to terminal 6
   Terminal 7 connected to terminal 5
   Terminal 1 connected to terminal 2

TYPICAL APPLICATIONS

ACTIVE RC FILTER FOR FREQUENCIES UP TO 150kHz



R = 10kΩ
This frequency range can be extended to 200kHz if a feed forward capacitor is connected between pin 5 and 8.

f	*Frequency*	$\frac{1}{2\pi RC}$	
V_P	*Supply voltage*	6	V
	Filter performance		
Q	at $T_A = 25°C$	40 to 55	
Q	at $T_A = -30$ to $+65°C$	35 to 55	
V_i	Input voltage	400	mV
V_o	Output voltage	400	mV
d_{tot}	Distortion at $V_o = 350mV$	2	%
S/N	S/N ratio at $V_o = 400mV$	50	dB
R_S	Input resistor*	470	kΩ

*NOTE

Value of input resistor to be determined for $\frac{V_o}{V_i}$ = 0.90 to 1.1.