DUAL OP. AMP./CURRENT SOURCES

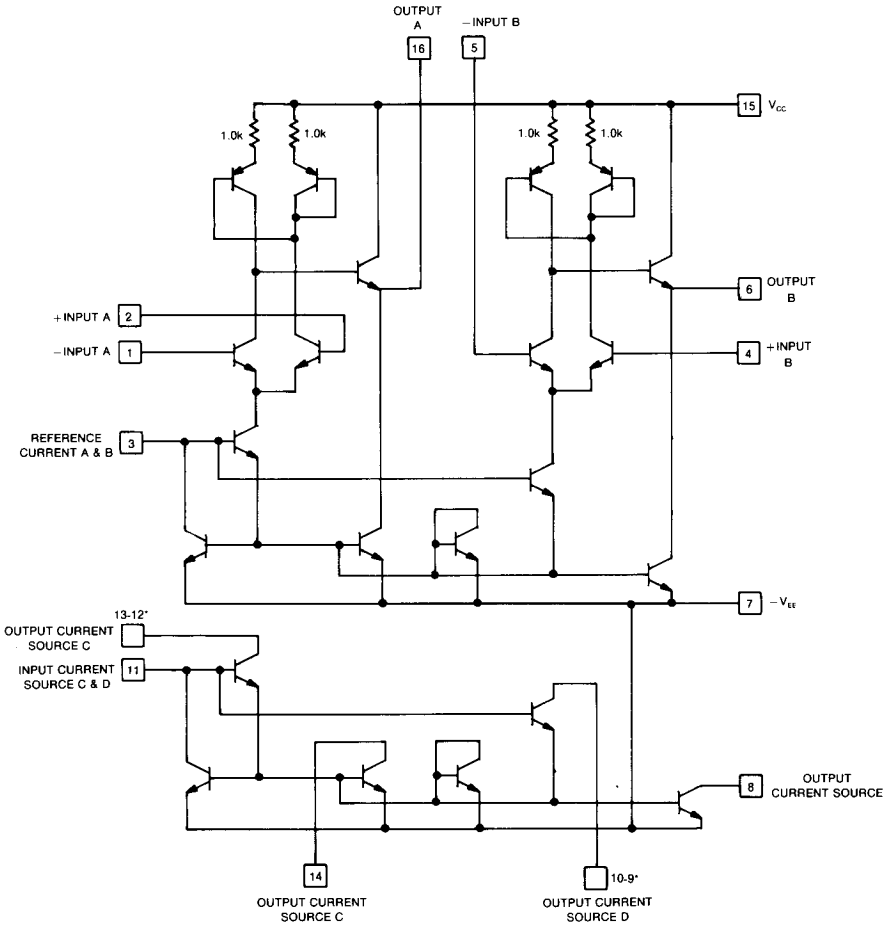
DESCRIPTION

The 155-0057-00 is a dual-operational amplifier with two current sources. The monolithic chip is contained in a 16-pin plastic package.

FEATURES

- ±5 V to ±15 V power supply range
- 80 MHz gain bandwidth product
- No compensation required
- Open loop gain 3300 typical
- 5 mV input offset voltage
- 5 mA output current

SCHEMATIC



*These two pins must be connected together externally.

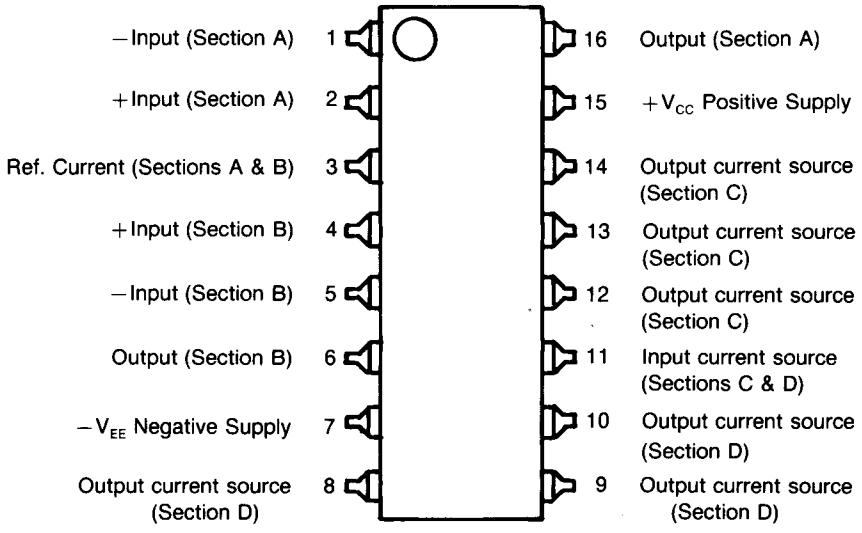
5

ABSOLUTE MAXIMUMS

Symbols	Identifications	Values	Units
T_{stg}	Storage temperature, range	−55 to +125	°C
T_A	Operating ambient temperature, range	−15 to +60	°C
V_{CC} - V_{EE}	Difference between V_{CC} and V_{EE}	20	V
I_{out}	Output current (pins 16, 6)	5	mA
$V_{in,diff}$	Input differential voltage	±7.0	V
I_{REF}	Reference Current (pin 3)	500	μA
I_s out	Current Source Output (pins 8, 9, 10 or 12, 13, 14)	3	mA
I_s in	Current Source Input (pin 11)	1.5	mA
I_Z	Current Source Output Impedance	⩾200	KΩ
I_{volts}	Voltage Swing of Current Source Output	V_{EE} + 1.5 V to V_{EE} +20 V	V

5

PIN CONNECTIONS



ELECTRICAL CHARACTERISTICS

Electrical Characteristics (T_A = −15 to +60°C; V_{CC} = +6.5 V V_{EE} = −6.5 V; I_{REF} = 0.25 mA—Sections A & B ±1.0 percent Test each of 2 circuits.)
I_S In = .75 mA ±1.0%. Test both current sources.

Symbols	Identifications	Notes and Test Conditions	Values Min	Typ	Max	Units
	Stability (Sections A & B)	−INPUT connected to OUTPUT; +INPUT to GROUND	No motorboating, oscillation, or other instability indication			
A_o	Open-loop voltage amplification (Sections A & B)	See Figure 1	1,000		3,300	
V_{os}	Section A Input offset voltage Section B	R_L >100 KΩ; −INPUT connected to OUTPUT; +INPUT grounded. Measure OUTPUT voltage			±5 ±10	mV
t_r	Risetime (Sections A & B)	See Figure 3			100	ns
A_c	Closed-loop voltage amplification (Sections A & B)	See Figure 4	9.70			
I_sOut	Output current from current sources. (Sections C & D)	See Figure 5	2.75	3.0	3.25	mA
	Output-voltage swing (Sections A & B)	−INPUT connected to OUTPUT; +INPUT connected to adjustable ±6.5 V supply. See Note 2	±4.0			V
	Frequency response (Sections A & B)	See Figure 2				
	Noise (Sections A & B)	Referred to input		10	100	μV peak-to-peak

[1]**Test-condition tolerances, ±1.0 percent unless shown otherwise.**

[2]**OUTPUT voltage will not go more than 1.0 volt negative of −INPUT.**

5

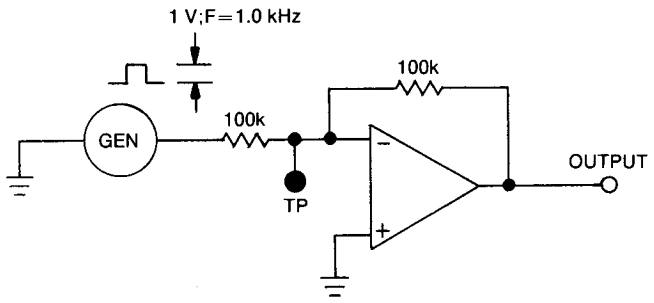


FIGURE 1

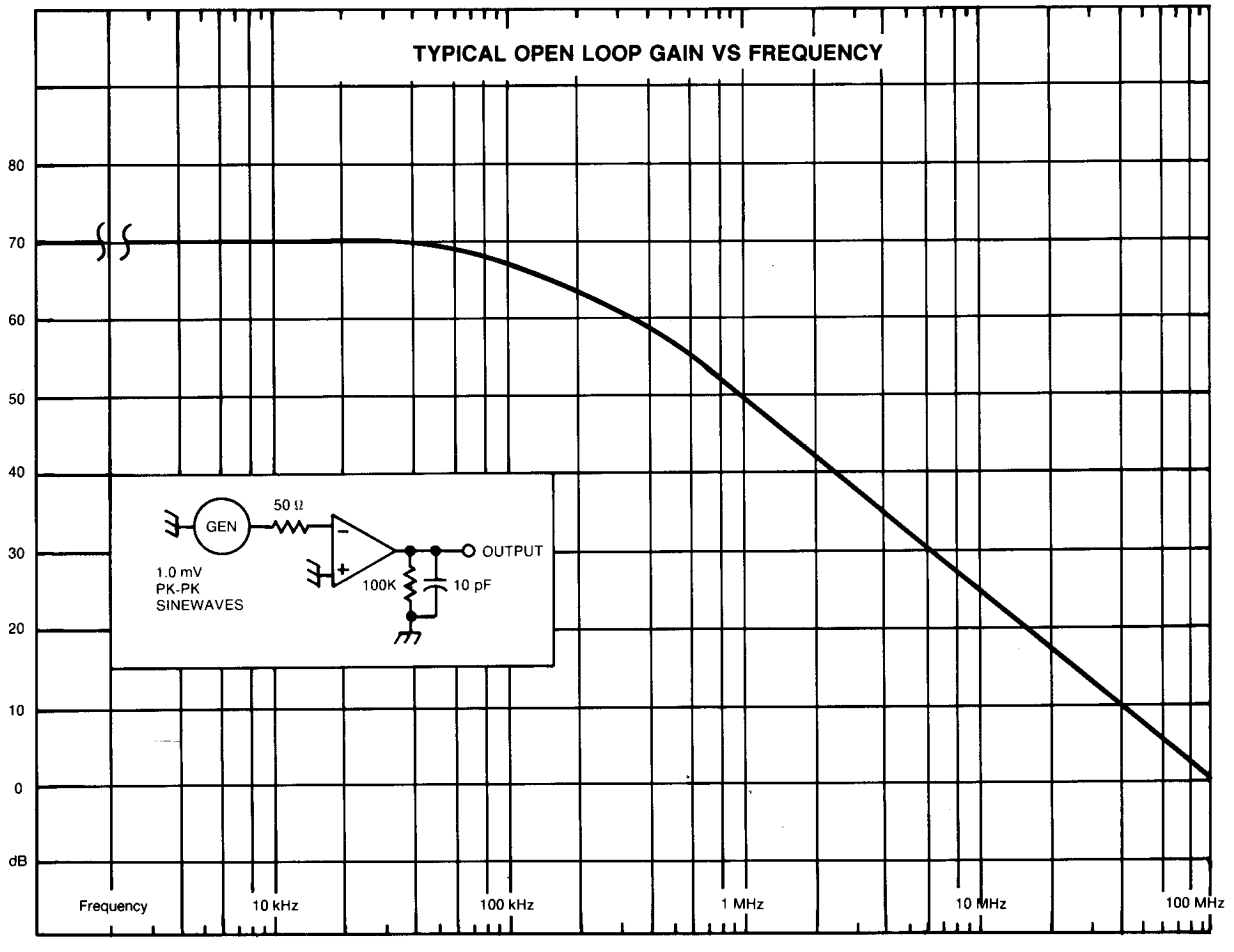


FIGURE 2

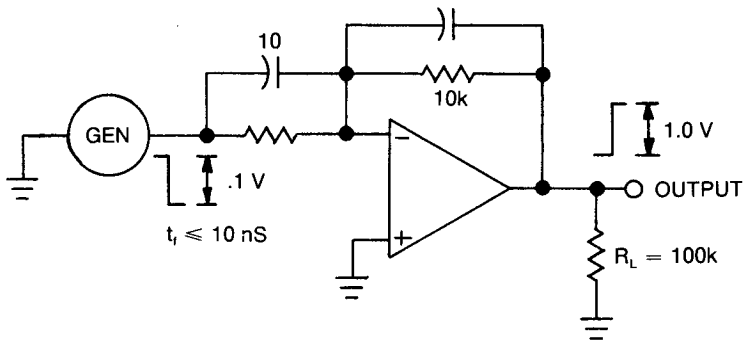


FIGURE 3

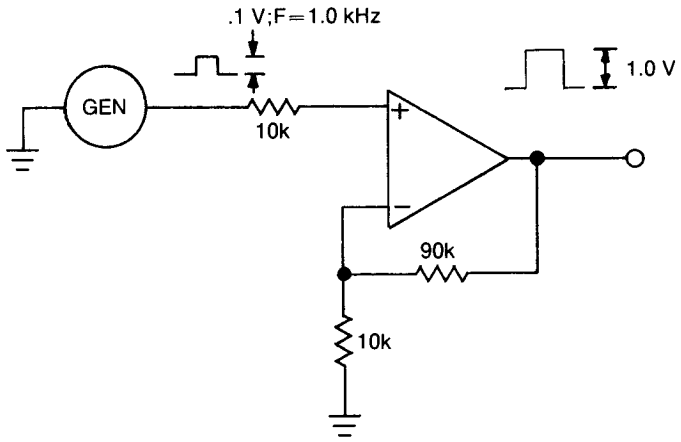


FIGURE 4

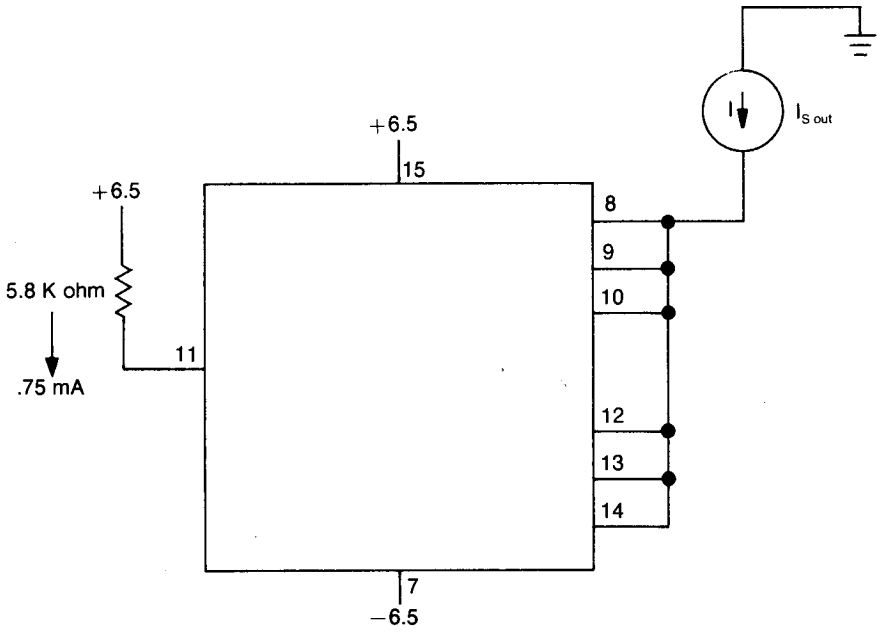


FIGURE 5