

**LA6358,
6358S**



3001A



3017B

T-79-05-20

Monolithic Linear IC

High-Performance Dual Operational Amplifier

©826G

The LA6358 is an IC integrating two high-performance operational amplifiers in a single package. This operational amplifier contains an internal phase compensator and is designed to operate from a single power supply over a wide range of voltages. As with conventional general-purpose operational amplifiers, operation from dual power supplies is also possible and power dissipation is very low. This IC can be used widely in commercial and industrial applications including various transducer amplifiers and DC amplifiers.

Features

- Eliminates need for phase compensation.
- Wide range of operating supply voltage:
3.0 to 30.0 V (single power supply)
 ± 1.5 to ± 15.0 V (dual power supplies)
- Input voltage swingable down to nearly ground level and output voltage range V_{OUT} of 0 to $V_{CC}-1.5V$.
- Low current dissipation: $I_{CC}=0.5mA$ typ./ $R_L=\infty$

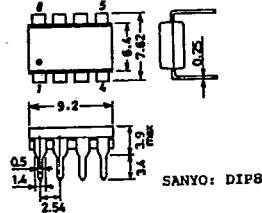
Maximum Ratings at $T_a=25^\circ C$

Maximum Supply Voltage	V_{CC}	32	V
Differential Input Voltage	V_{ID}	32	V
Maximum Input Voltage	V_{INmax}	-0.3 to +32	V
Allowable Power Dissipation	P_{dmax}	$T_a \leq 25^\circ C$	570 mW
Operating Temperature	T_{opg}	-20 to +85	$^\circ C$
Storage Temperature	T_{stg}	-55 to +125	$^\circ C$

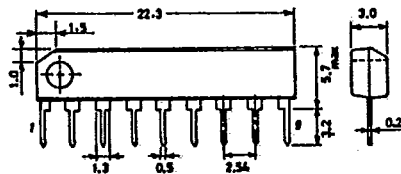
Operating Characteristics at $T_a=25^\circ C, V_{CC}=+5V$

			Test Circuit	min	typ	max	unit
Input Offset Voltage	V_{IO}		1		± 2	± 7	mV
Input Offset Current	I_{IO}	$I_{IN(+)} / I_{IN(-)}$	2		± 5	± 50	nA
Input Bias Current	I_B	$I_{IN(+)} / I_{IN(-)}$	3		45	250	nA
Common-mode Input Voltage Range	V_{ICM}		4	0	$V_{CC}-1.5$		V
Common-mode Rejection Ratio	CMR		4	65	80		dB
Large signal voltage gain	VG	$V_{CC}=15V, R_L \geq 2k\Omega$	5	25	100		V/mV
Output Voltage Range	V_{OUT}			0	$V_{CC}-1.5$		V
Power Supply Rejection Ratio	SVR		6	65	100		dB
Channel Separation		$f=1k$ to $20kHz$	7		120		dB
Current Dissipation	I_{CC}		8		0.5	1.2	mA
Output Current (Source)	$I_{Osource}$	$V_{IN+}=1V, V_{IN-}=0V$	9	20	40		mA
Output Current (Sink)	I_{Osink}	$V_{IN+}=0V, V_{IN-}=1V$	10	10	20		mA

Case Outline 3001A-D8IC [LA6358]
(unit:mm)



Case Outline 3017B-S9IC [LA6358S]
(unit:mm)

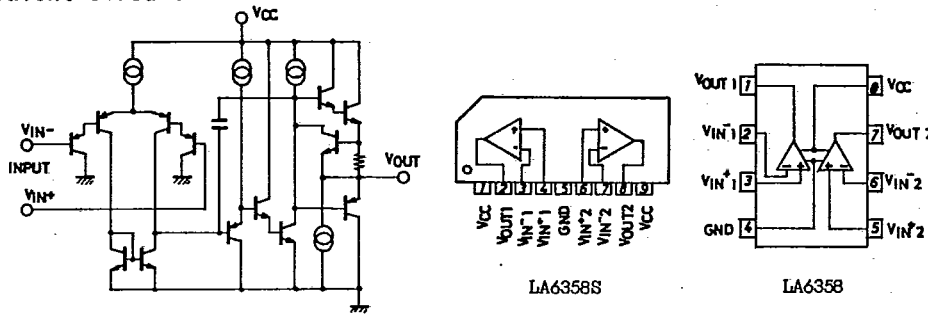


8077AT/4235MW/5237KI, TS/4091KI No. 826-1/4

T-79-05-20

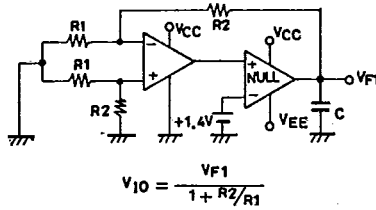
LA6358,6358S

Equivalent Circuit

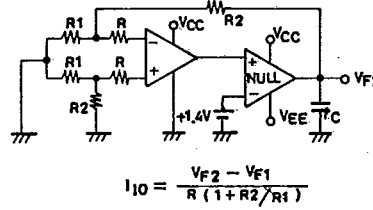


Test Circuits

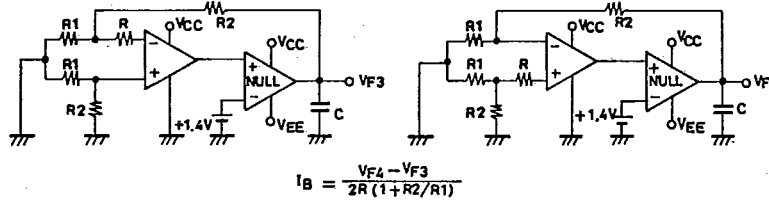
1 Input Offset Voltage V_{IO}



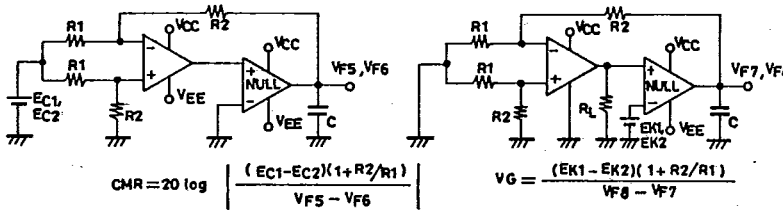
2 Input Offset Current I_{IO}



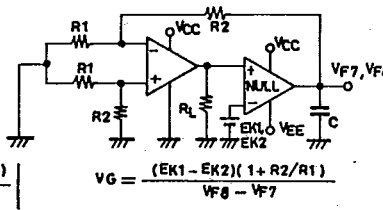
3 Input Bias Current I_B



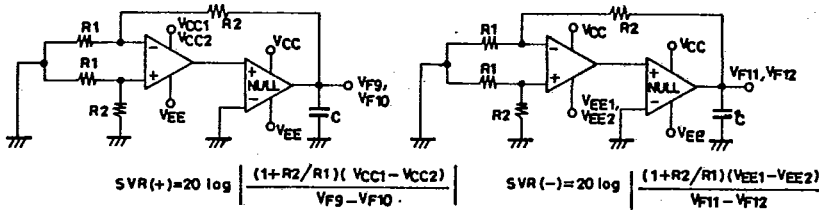
4 Common-mode rejection ratio CMR
Input common-mode voltage range V_{ICM}



5 Voltage Gain V_G



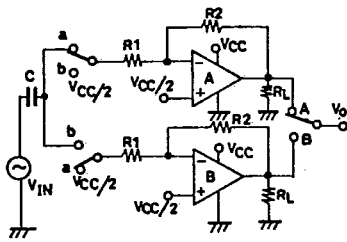
6 Supply Voltage Rejection SVR



LA6358, 6358S

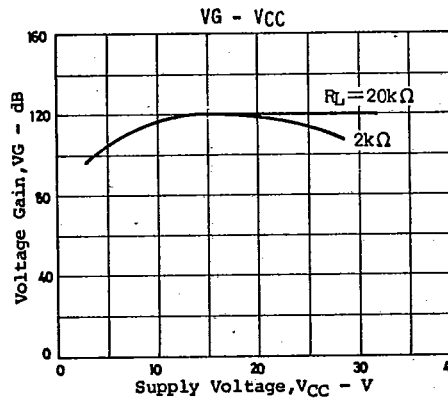
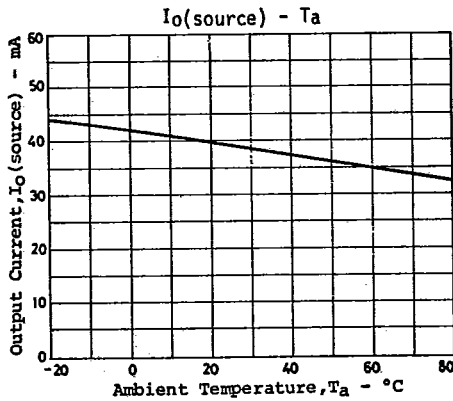
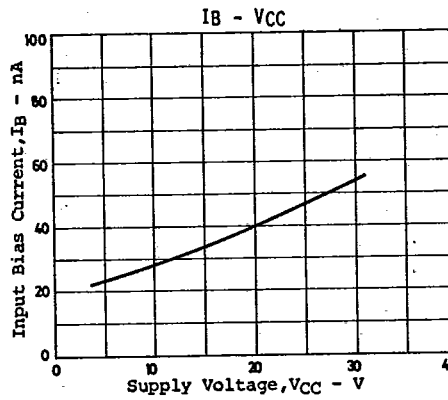
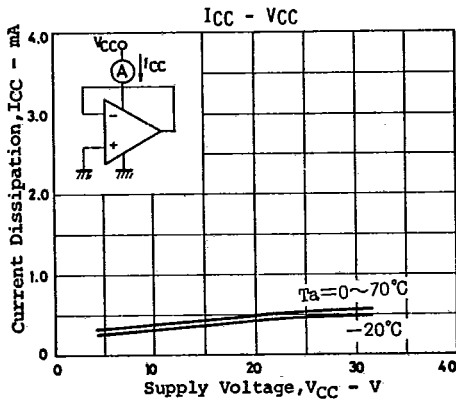
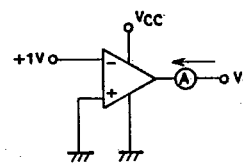
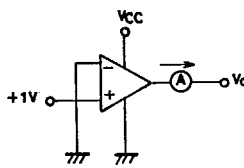
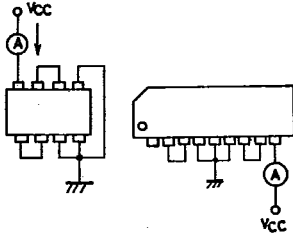
T-79-05-20

7-Channel Separation CS



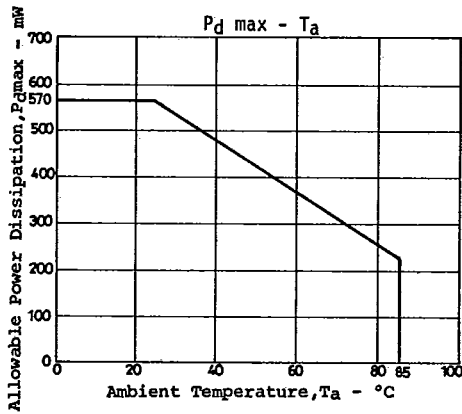
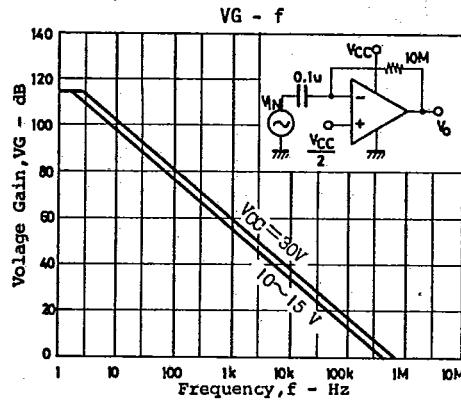
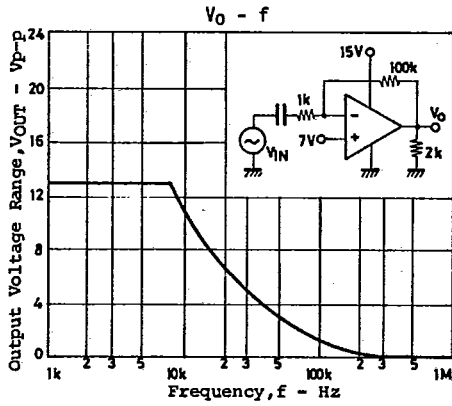
SW : a
 $CS(A \rightarrow B) = 20 \log \frac{R_2 V_{OA}}{R_1 V_{OB}}$
 SW : b
 $CS(B \rightarrow A) = 20 \log \frac{R_2 V_{OB}}{R_1 V_{OA}}$

8 Current Dissipation I_{CC} 9 Output Current I_O source 10 Output Current I_O sink



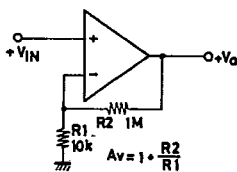
T-79-05-20

LA6358, 6358S

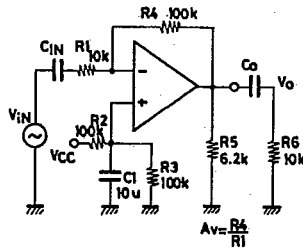


Application Circuits:

Noninverting DC amplifier



Inverting AC amplifier



Rectangular wave oscillator

