HA17474/P

Quad Operational Amplifier

HITACHI

Description

HA17474/P is a quad operational amplifier with provided internal frequency compensation and high performance. It can be applied widely to measuring control equipment and to general use.

Features

- High speed: 1.6 V/μs
- Continuous short-circuit protection
- Low-noise operational amplifiers
- Internal frequency compensation
- Wide operating power supply voltage range: V = ±2 V to ±20 V
- Pin compatible with HA17324, HA17902

Ordering Information

Type No.	Application	Package
HA17474P	Industrial use	DP-14
HA17474	Commercial use	

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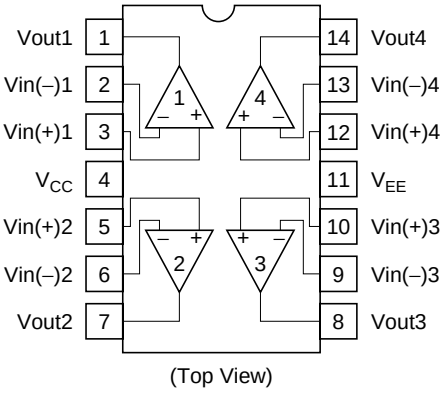
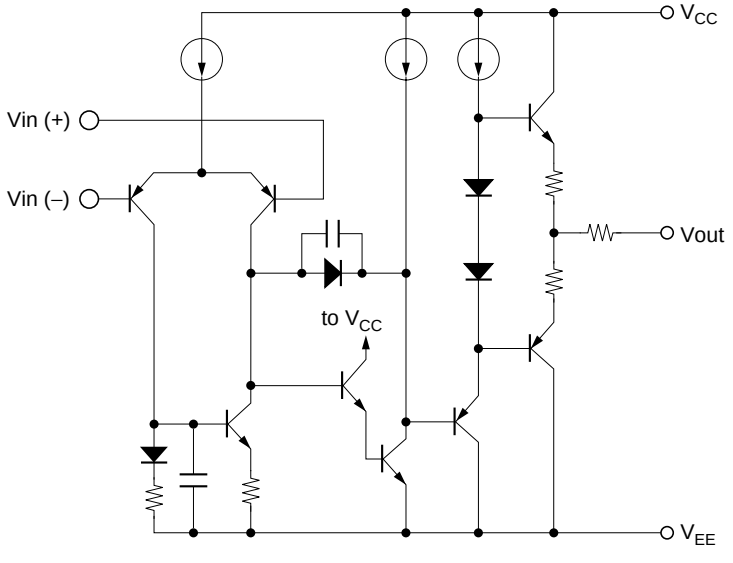
Pin Arrangement



(Top View)

Circuit Schematic



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings			Unit
		HA17474	HA17474P	HA17474RP	
Power supply	V_{CC}	+20	+20	+20	V
	V_{EE}	–20	–20	–20	V
Common-mode differential voltage	Vin(diff)	±30	±30	±30	V
Common-mode input voltage	V_{CM}	±15 *1	±15 *1	±15 *1	V
Power dissipation	P_T	670 *2	670 *2	670 *2	mW
Operating temperature range	Topr	–20 to +75	–20 to +75	–20 to +75	°C
Storage temperature range	Tstg	–55 to +125	–55 to +125	–55 to +125	°C

Notes: 1. For supply voltage less than ±15 V, the absolute maximum input voltage is equal to the supply voltage.
2. Value under Ta ≤ 35°C. In case of more than it, 8.3 mW/°C derating shall be done.

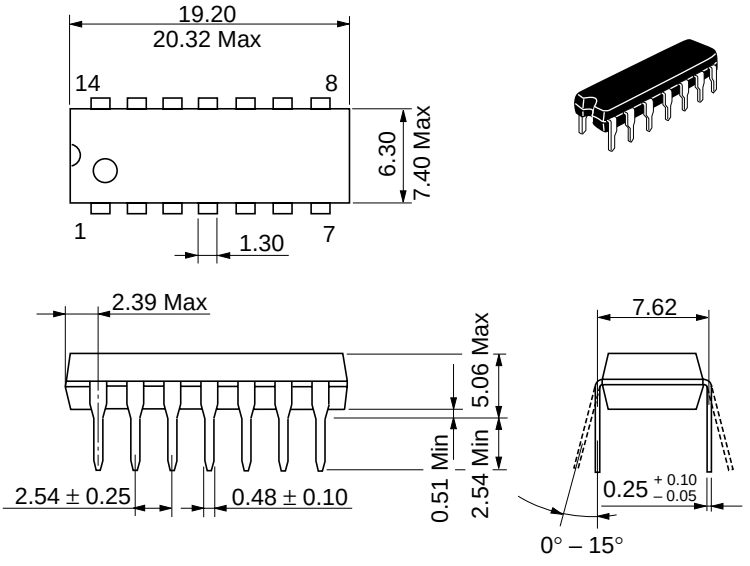
Electrical Characteristics (Ta = 25°C, V_{CC} = +15 V, V_{EE} = –15 V)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Input offset voltage	V_{IO}	—	1.0	5.0	mV	R_S ≤ 10 kΩ
Input offset current	I_{IO}	—	30	50	nA	
Input bias current	I_{IB}	—	100	300	nA	
Voltage gain	A_{VD}	88	94	—	dB	R_L ≥ 2 kΩ, V_O = ±10 V
Maximum output voltage	Vop-p	±12	±13.7	—	V	R_L ≥ 10 kΩ
		±10	±12.5	—	V	R_L ≥ 2 kΩ
Common-mode input voltage range	V_{CM}	±12	±14	—	V	
Common-mode rejection ratio	CMR	80	90	—	dB	R_S ≤ 10 kΩ
Supply voltage rejection ratio	PSRR	—	50	100	µV/V	R_S ≤ 10 kΩ
Power dessipation	Pd	—	150	210	mW	4-channel, No load
Slew rate	SR	—	1.6	—	V/µs	A_{VD} = 1
Equivalent input noise voltage	V_{NI}	—	9	—	nV/$\sqrt{Hz}$	R_S = 1 kΩ, f = 1 Hz to 1 kHz
Channel separation	CS	—	108	—	dB	f = 1 kHz

Note: Since these products provide a high slew rate, oscillation may occur due to load capacitance. An allowable capacitor value is minimum at voltage follower.

Package Dimensions

Unit: mm



Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Mass (reference value)	0.97 g

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