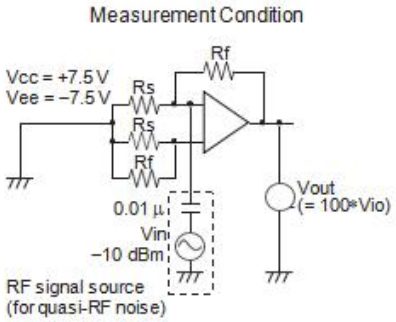
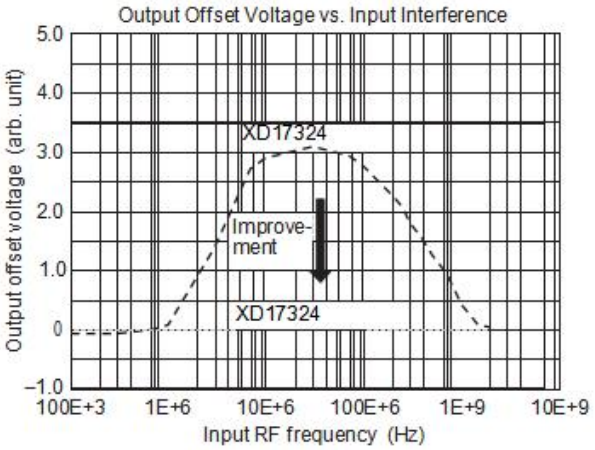
1. DESCRIPTION

XD17324 are quad operational amplifier that provide high gain and internal phase compensation, with single power supply. They can be widely used to control equipments.

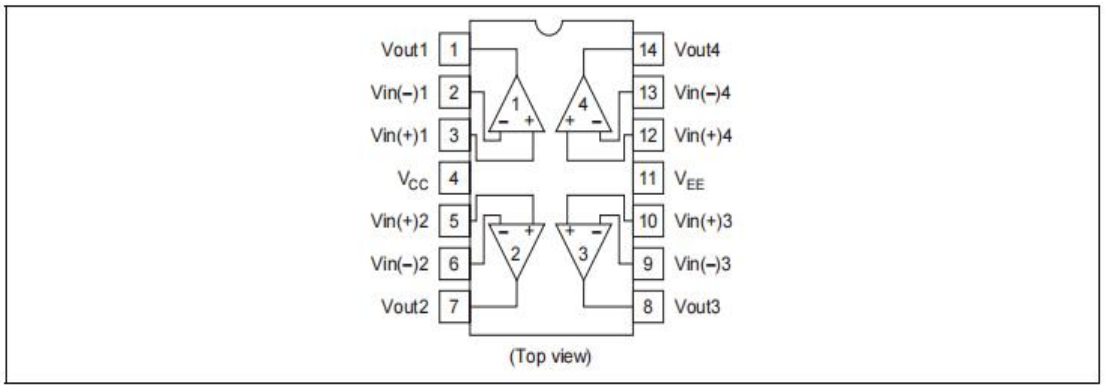
2. FEATURES

- Wide range of supply voltage, and single power supply used
- Internal phase compensation
- Wide range of common mode voltage, and possible to operate with an input about 0 V
- Low electro-magnetic susceptibility level

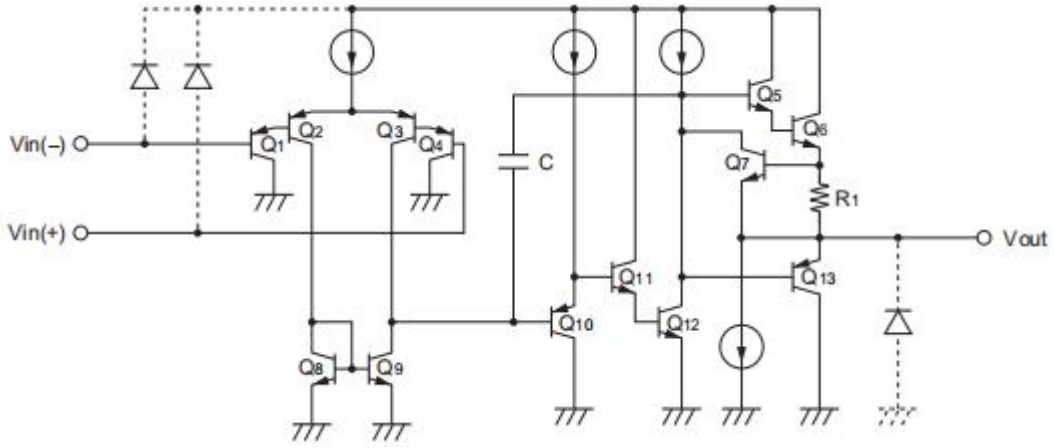




3. PIN ARRANGEMENT



4. CIRCUIT SCHEMATIC



Note：If Input/Output terminals voltage over the absolute maximum ratings, there is possibility of mis-operation, characteristics deterioration and destruction, because of the current's flowing to parasitic diode in IC.

The Input/Output terminals are recommended to be protected with the clamp circuit which using the diode with low forward voltage (like schottky barrier diode) when there is a possibility for the Input/Output terminals voltage exceeds the absolute maximum ratings.

5. ABSOLUTE MAXIMUM RATINGS

(Ta = 25°C)

Item		Symbol	Ratings	Unit
Power supply voltage		VCC	32	V
Output sink current		Iosink	50	mA
Common mode input voltage		VCM	−0.3 to +VCC	V
Differential input voltage		Vin(diff)	±VCC	V
Output voltage		Vout	−0.3 to +VCC	V
Allowable power dissipation	DIP	PT	625 *2	mW
Operating temperature		Topr	−40 to +85	°C
Storage temperature		Tstg	−55 to +125	°C

Notes: XD17324,This is the allowable values up to Ta = 50°C. Derate by 8.3 mW/°C.

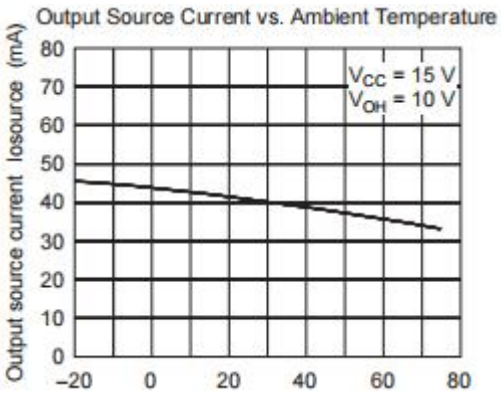
6. ELECTRICAL CHARACTERISTICS

(V_{CC} = +15 V, Ta = 25°C)

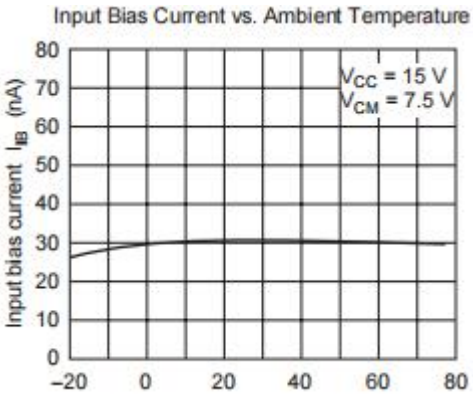
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Input offset voltage	VIO		2	7	mV	VCM = 7.5 V, RS = 50 Ω, Rf = 50 kΩ
Input offset current	IIO		5	50	nA	VCM = 7.5 V, IIO = | II (–) – II (+) |
Input bias current	IIB		30	500	nA	VCM = 7.5 V
Power source rejection ratio	PSRR		93		dB	f = 100 Hz, RS = 1 kΩ, Rj = 100 kΩ
Voltage gain	AVD	75	90		dB	RS = 1 kΩ, Rf = 100 kΩ, RL = ∞
Common mode rejection ratio	CMR		80		dB	RS = 50 Ω, Rf = 5 kΩ
Common mode input voltage range	VCM	-0.3		13.5	V	RS = 1 kΩ, Rf = 100 kΩ, f = 100 Hz
Maximum output voltage	VOP-P		13.6		V	f = 100 Hz, RS = 1 kΩ, Rf = 100 kΩ, RL = 20 kΩ
Output source current	Iosource	20	40		mA	VIN+ = 1 V, VIN– = 0 V, VOH = 10 V
Output sink current	Iosink	10	20		mA	VIN = 0 V, VIN = 1 V, VOL = 2.5 V
Supply current	ICC		0.8	2	mA	VIN = GND, RL = ∞
Slew rate	SR		0.19		V/μs	f = 1.5 kHz, VCM = 7.5 V, RL = ∞
Channel separation *1	CS		(120)		dB	f = 1 kHz
Output sink current	Iosink	15	50		μA	VIN+ = 0 V, VIN– = 1 V, VOL = 200 mV
		3	9		mA	VIN+ = 0 V, VIN– = 1 V, VOL = 1 V
Output voltage	VOH1	13.2	13.6		V	IOH = –1 mA
	VOH2	12.0	13.3		V	IOH = –10 mA
Output voltage	VOL1		0.8	1.0	V	IOL = 1 mA
	VOL2		1.1	1.8	V	IOL = 10 mA

Note: 1. Design spec.

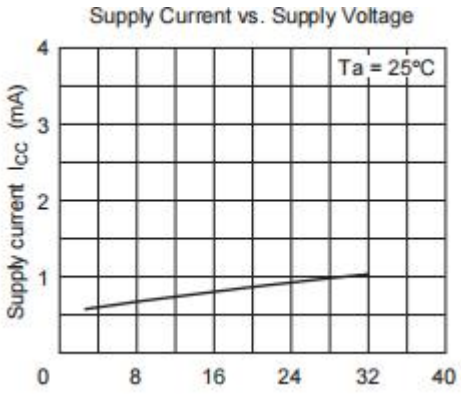
7. CHARACTERISTIC CURVES



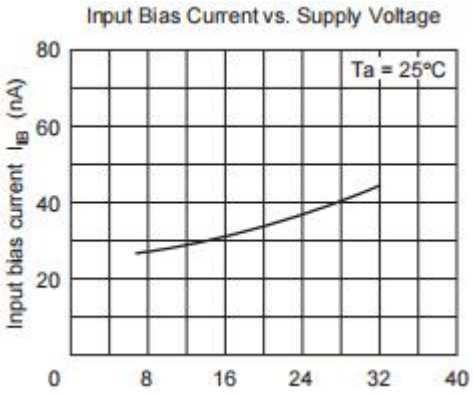
Ambeint temperature Ta (°C)



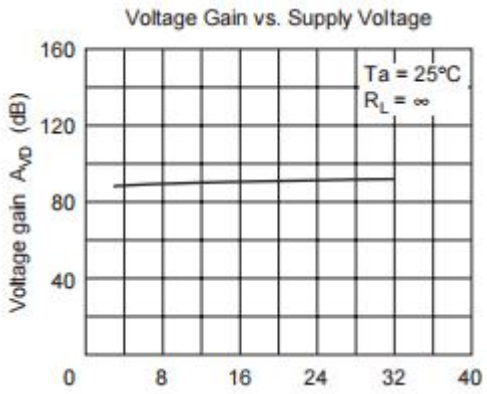
Ambeint temperature Ta (°C)



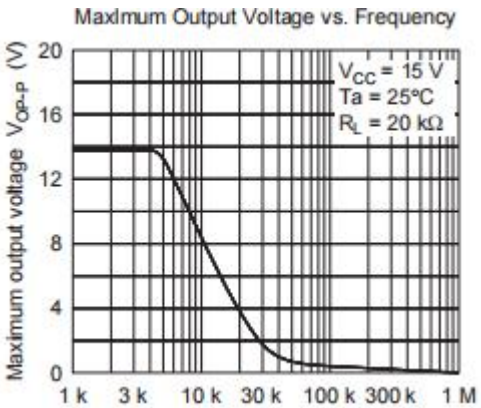
Supply voltage VCC (V)



Supply voltage VCC (V)

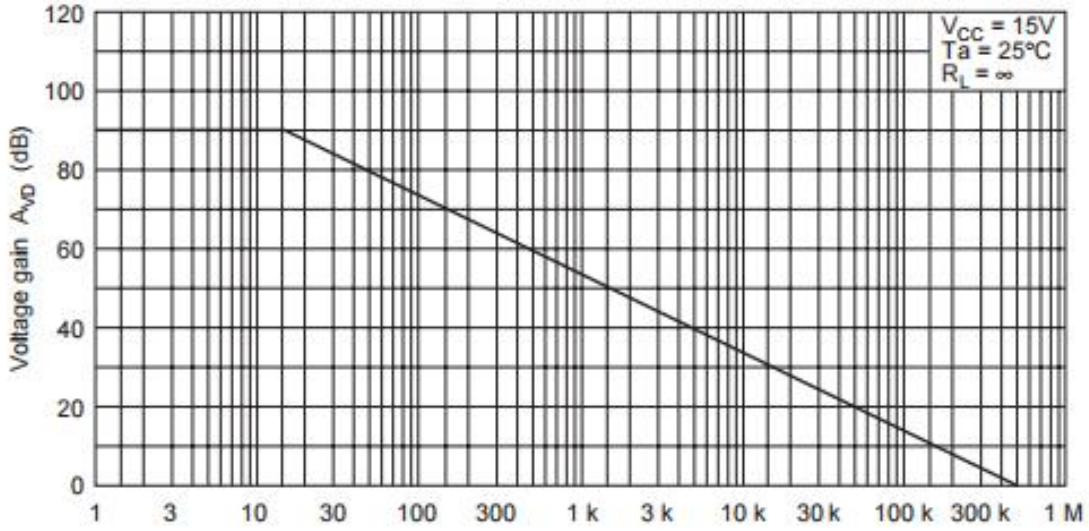


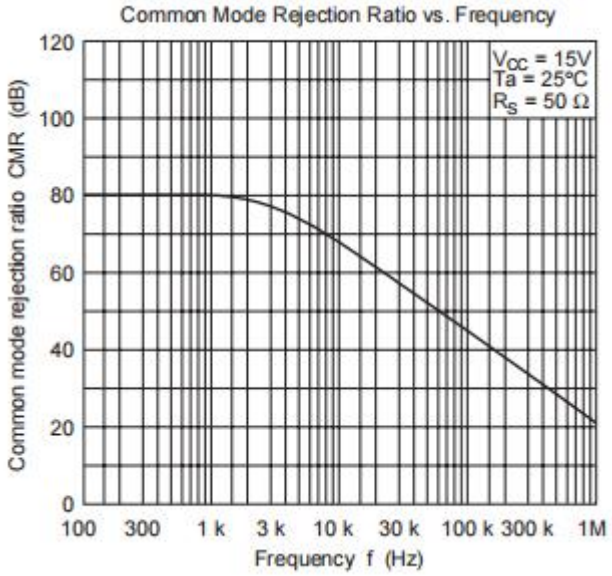
Supply voltage VCC (V)



Frequency f (Hz)

Voltage Gain vs. Frequency





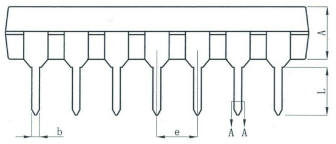
8. ORDERING INFORMATION

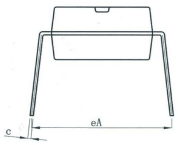
Ordering Information

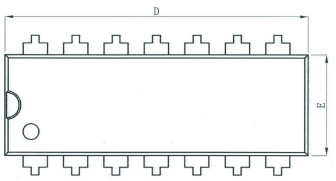
part Number	Device Marking	Package type	Body size (mm)	Temperature (℃)	MSL	Transport	Package Quantit
XD17324	XD17324	DIP14	19.05*6.35	-40 to +85	MSL3	Tube 25	1000

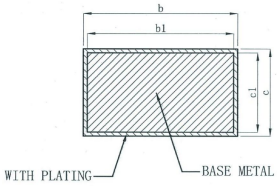
9. DIMENSIONAL DRAWINGS

DIP14









SECTION A-A

symbol	millimeter		
	Min	Nom	Max
A	3.20	3.30	3.40
b	0.44	----	0.53
b1	0.43	0.46	0.49
c	0.25	----	0.30
c1	0.24	0.25	0.26
D	18.95	19.05	19.15
E	6.25	6.35	6.45
e	2.54BSC		
eA	8.30	8.80	9.30
L	3.00	----	----