# LINEAR IC QUAD OPERATIONAL AMPLIFIER

## **MB3614**

#### QUAD OPERATIONAL AMPLIFIER OPERATES FROM A SINGLE OR DUAL POWER SUPPLY

The Fujitsu MB3614 is a Quad operational amplifier having a phase compensatory circuitry and operates from a single power supply or dual power supplies.

The device has equivalent electrical characteristics of current industrial standard operational amplifier and requires low power supply current.

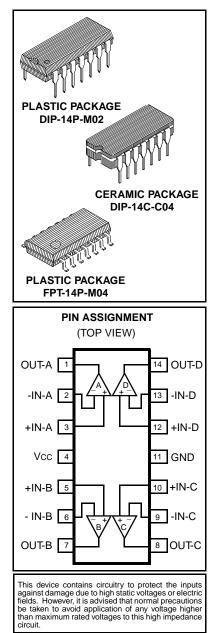
MB3614 can be high density mounted because it integrates 4 circuits in DIP/FPT 14-pin package.

- · No phase compensation required
- Wide power supply voltage
  - Single power supply: +3 to +30 V
  - Dual power supplies:  $\pm 1.5$  to  $\pm 15$  V
- Wide input common mode range: 0 to (Vcc -1.5) V
- Low power supply current: 0.8 mA typ.
- Low input offset voltage: 2 mV typ.
- Package
  - 14-pin Plastic DIP package (Suffix: -P)
  - 14-pin Ceramic DIP package (Suffix: -Z)
  - 14-pin Plastic FPT package (Suffix: -PF)

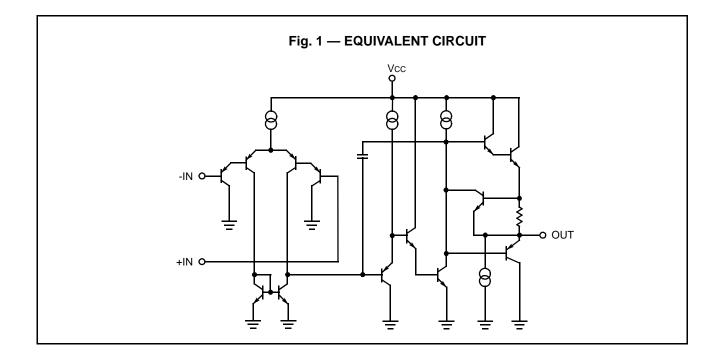
#### ABSOLUTE MAXIMUM RATINGS (see NOTE)

			(	Га=25°С)
Rating		Symbol	Value	Unit
Power Supply Voltage		Vcc	36	V
Differential Input Voltage		Vid	36	V
Input Common Mode Voltage		Vı	-0.3 to +36	V
Power Dissipation		PD	570	mW
Operating Temperature		TA	-20 to +75	°C
Storago Tomporaturo	Plastic	Tstg	-55 to +125	°C
Storage Temperature	Ceramic	Тѕтс	-65 to +150	°C

**NOTE:** Permanent device damage may occur if the above **Absolute Maximum Ratings** are exceeded. Functional operation should be restricted to the conditions as detailed in the operational sections of this data sheet. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.



MB3614



#### ■ ELECTRICAL CHARACTERISTICS

 $(VCC = 5 V, TA = 25^{\circ}C)$ 

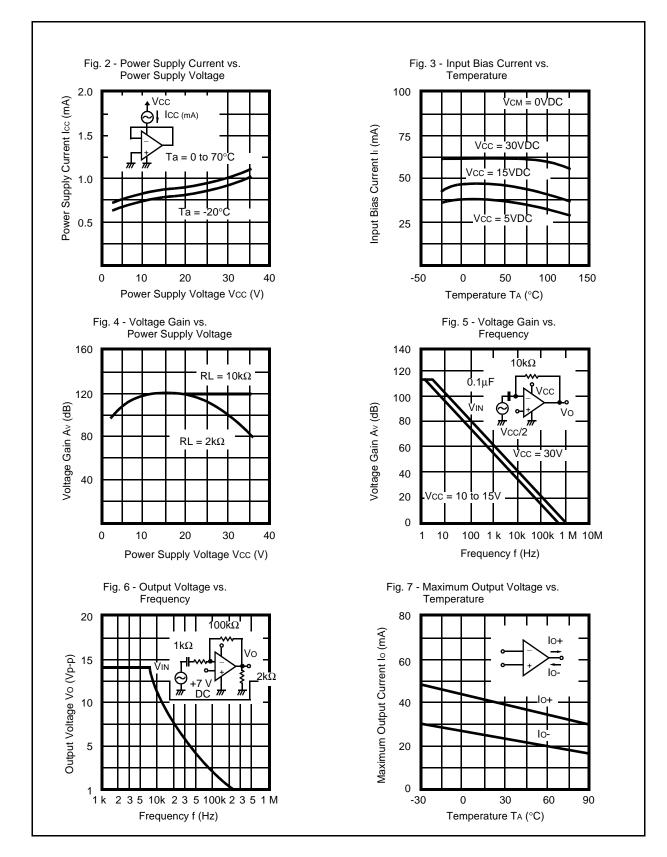
Parameter	Symbol	Condition	Value			11
			Min	Тур	Max	Unit
Input Offset Voltage	Vio	—		2	7	mV
Input Offset Current	lio	—		5	50	nA
Input Bias Current	<b>I</b> I *	—		45	250	nA
Power Supply Current	Icc	R∟ = ∞		0.8	2.0	mA
Input Common Mode Voltage	Vсм	—	0		Vcc -1.5	V
Voltage Gain	Av	$R_{L} \geq 2k\Omega$	25	100	_	V/mV
Output Voltage	Vон	$V_{CC} = 30V, R_{L} = 2k\Omega$	26	28	—	V
	Vol	$Vcc = 5V, R_{\perp} \leq 10k\Omega$		5	20	mV
Output Current	SOURCE	$V_{CC} = 15V, V_{IN} + = 1V$	20	40	_	mA
	ISINK	Vcc = 15V, VIN - = 1V	10	20	—	mA
Common Mode Rejection Ratio	CMRR	—	65	85	—	dB
Power Supply Voltage Rejecton Ratio	SVRR	-	65	100	—	dB
Channel Separation	CS	—	—	120	—	dB

Note:

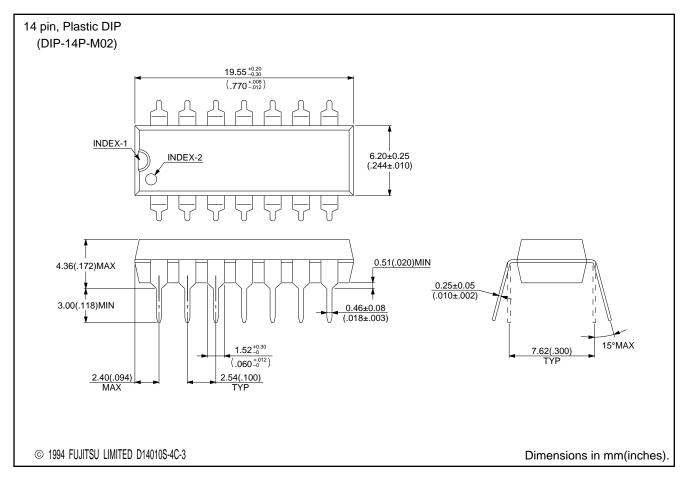
\* A direction of the input bias current flows from IC because first input transistor consists of PNP.

### **MB3614**

#### TYPICAL CHARACTERISTICS CURVES

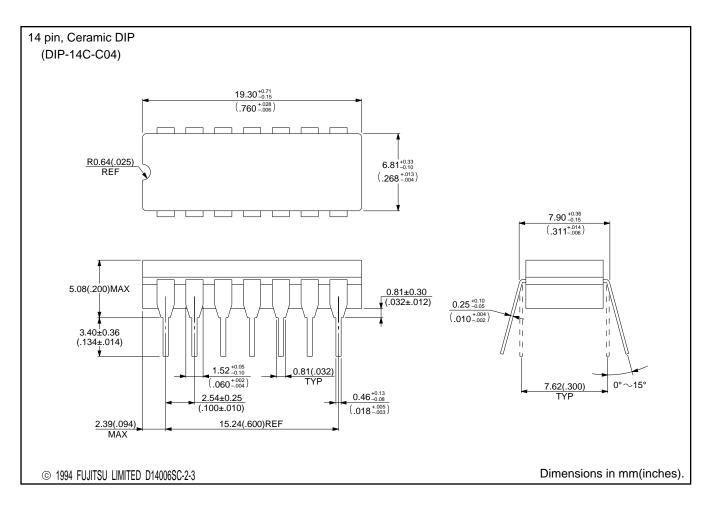


#### ■ PACKAGE DIMENSIONS

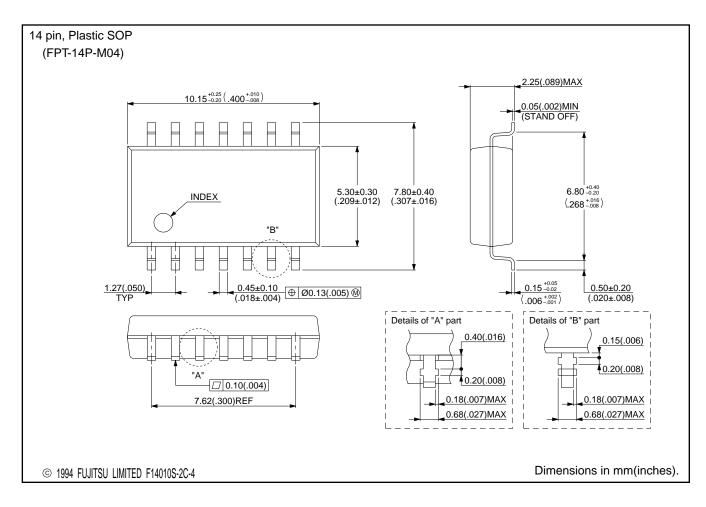


### **MB3614**

#### ■ PACKAGE DIMENSIONS (Continued)



#### PACKAGE DIMENSIONS (Continued)



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