



## 3414

## LINEAR INTEGRATED CIRCUIT

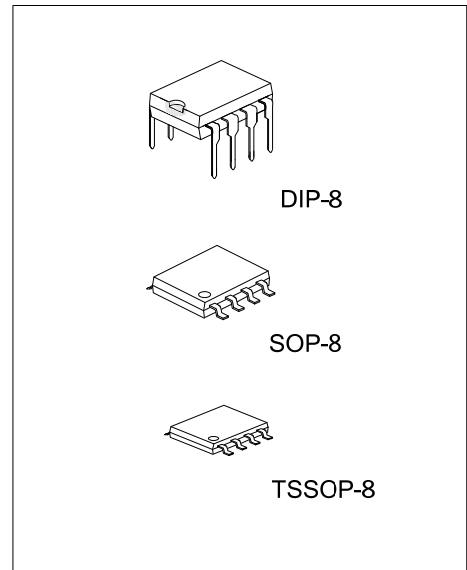
### SINGLE-SUPPLY DUAL HIGH CURRENT OPERATIONAL AMPLIFIER

#### DESCRIPTION

The UTC **3414** integrated circuit is a high gain, high output current, high output voltage swing dual operational amplifier capable of driving 70mA.

#### FEATURES

- \* Single supply
- \* Operating voltage: 3V~15V
- \* High output current: 70Ma
- \* Slew rate: 10V/μA(Typ.)
- \* Bipolar technology



#### ORDERING INFORMATION

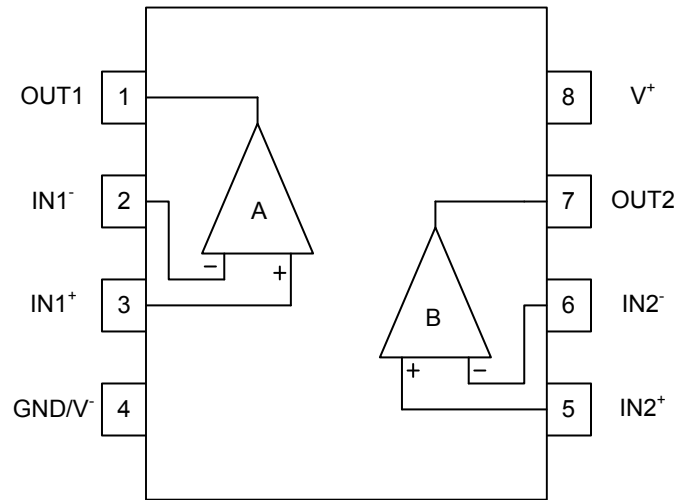
Ordering Number	Package	Packing
3414G-D08-T	DIP-8	Tube
3414G-P08-R	TSSOP-8	Tape Reel
3414G-S08-R	SOP-8	Tape Reel

<p>3414L-D08-T</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Green Package</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) D08: DIP-8, P08: TSSOP-8, S08: SOP-8</p> <p>(3) L: Lead Free, G: Halogen Free and Lead Free</p>
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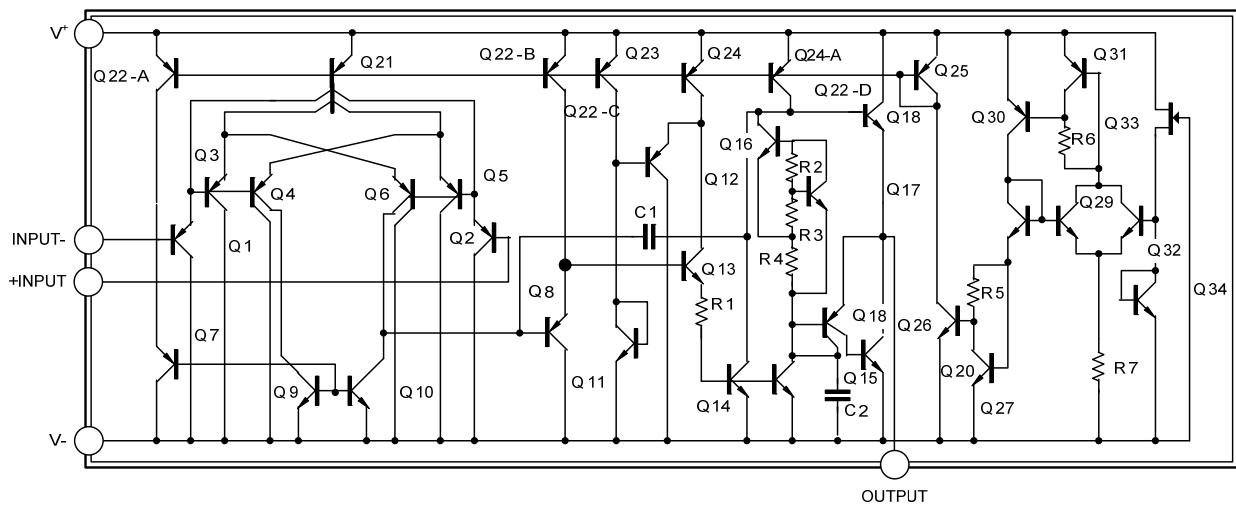
#### MARKING

DIP-8	SOP-8	TSSOP-8
<p>UTC □□□□ → Date Code</p> <p>3414 □□ → Lot Code</p> <p>L: Lead Free</p> <p>G: Halogen Free</p>	<p>UTC □□□□ → Date Code</p> <p>3414G □□ → Lot Code</p>	<p>UTC □□□□ → Date Code</p> <p>3414G □□ → Lot Code</p>

## ■ PIN CONFIGURATION



## ■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ )

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	$V^+(V^+/V)$	15V (or $\pm 7.5$ )	V
Differential Input Voltage	$V_{I(DIFF)}$	15	V
Input Voltage	$V_{IN}$	-0.3 ~ +15	V
Power Dissipation	$P_D$	300	mW
Operating Temperature	$T_{OPR}$	-20~+75	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-40~+125	$^\circ\text{C}$

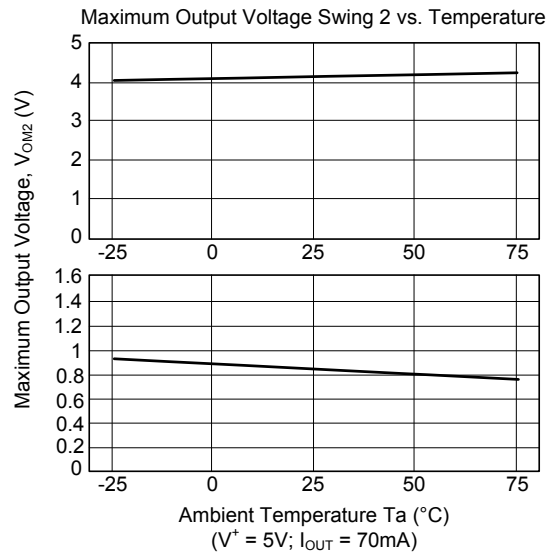
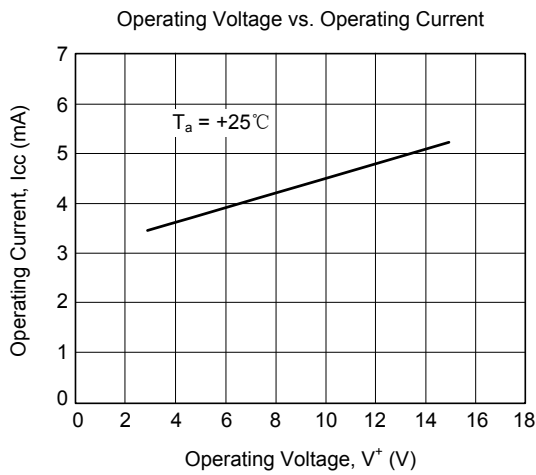
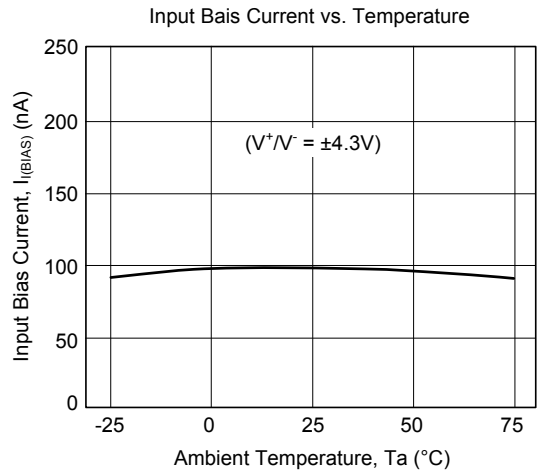
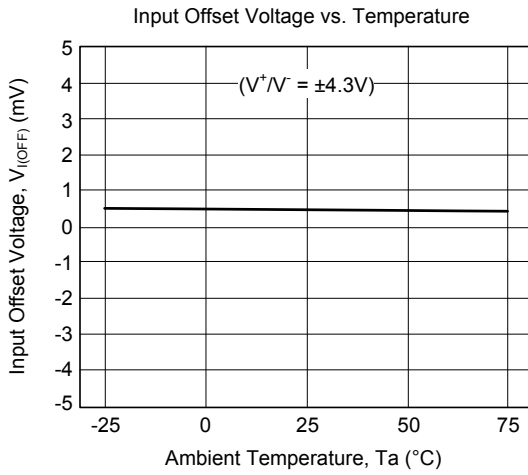
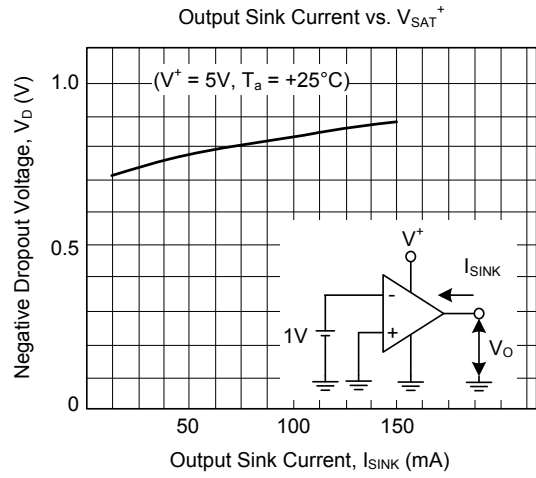
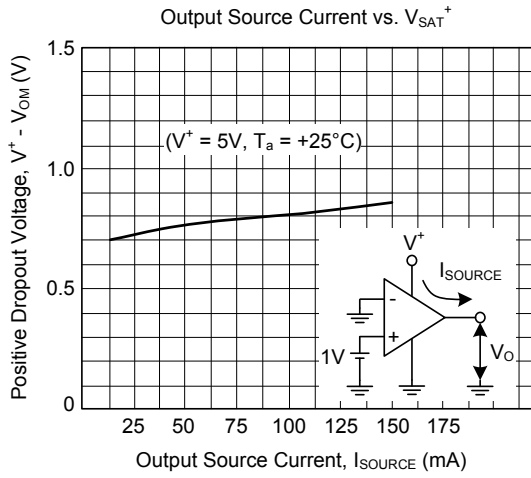
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

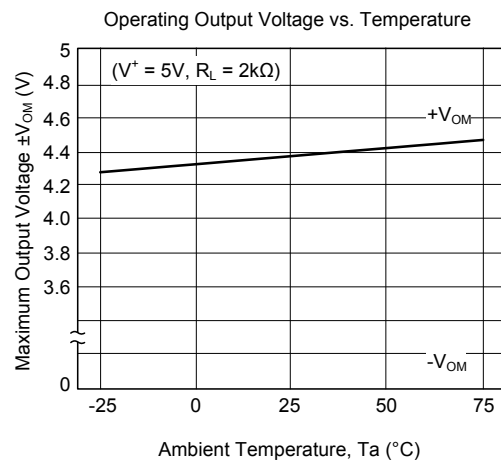
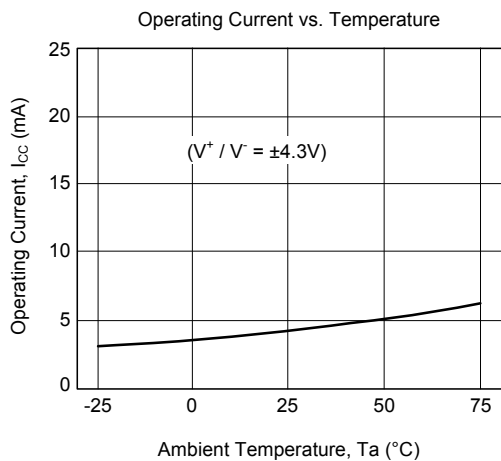
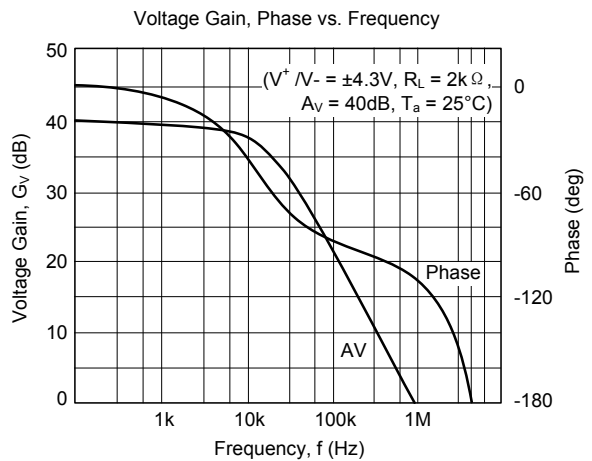
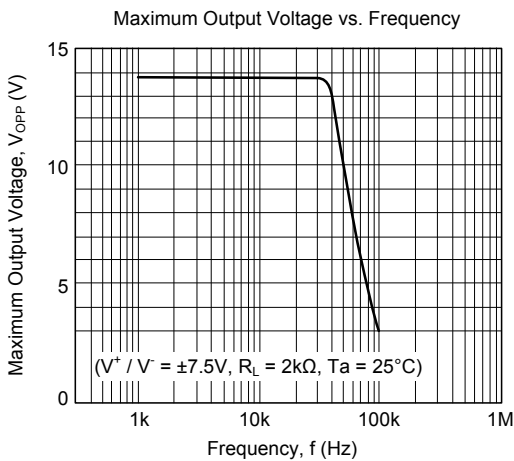
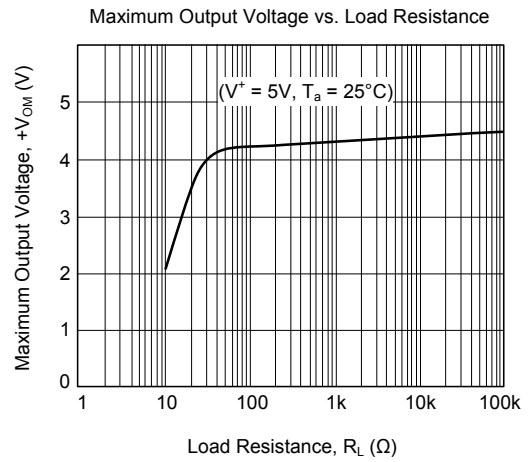
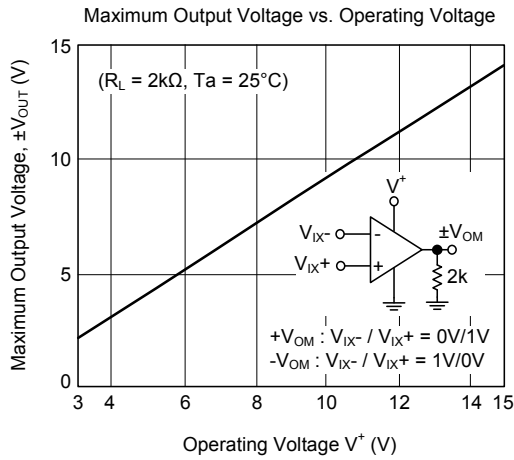
■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ ,  $V^+=8.6\text{V}$ )

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Offset Voltage	$V_{I(OFF)}$	$R_S=0\Omega$		2	5	mV
Input Offset Current	$I_{I(OFF)}$			5	100	nA
Input Bias Current	$I_{I(BIAS)}$			100	500	nA
Large Signal Voltage Gain	$G_V$	$R_L=2\text{k}\Omega$	88	100		dB
Input Common Voltage Range	$V_{ICM}$		$V^+-2$			V
Maximum Output Voltage Swing 1	$V_{OM1}$	$R_L \geq 2\text{k}\Omega, V^+=5\text{V}$	3.5			V
Maximum Output Voltage Swing 2	$V_{OM2}$	$I_{OUT}=70\text{mA}, V^+=5\text{V}$	3.2			V
Common Mode Rejection Ratio	CMR		80	90		dB
Supply Voltage Rejection Ratio	SVR		80	90		dB
Operating Current	$I_{CC}$	$R_L=\infty$	3	4	5	mA
Slew Rate	SR			1.0		V/ $\mu\text{s}$
Unity Gain Bandwidth	GB			1.3		MHz
Operating Voltage Range	$V^+$				15	V

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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