

# UTC M4565 LINEAR INTEGRATED CIRCUIT

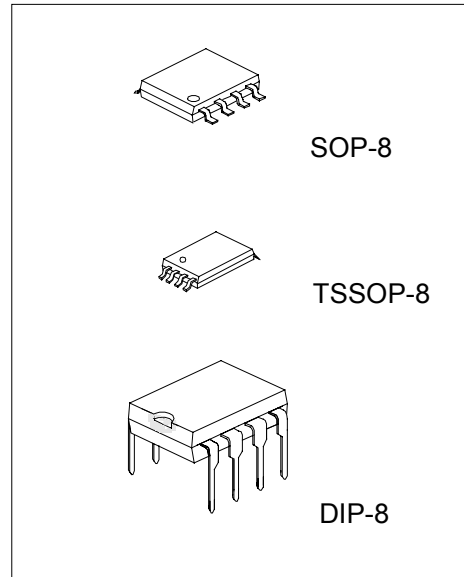
## DUAL OPERATIONAL AMPLIFIER

### DESCRIPTION

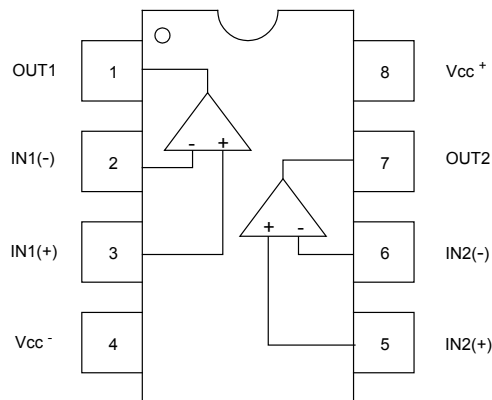
The UTC M4565 integrated circuit is a high-gain, wide-bandwidth, dual low noise operational amplifier capable of driving 20V peak-to-peak into 400  $\Omega$  load.

### FEATURES

- \*Operating Voltage:  $\pm 4V \sim \pm 18V$
- \*Wide Gain Bandwidth Product: 4MHz (typ.)
- \*Slew Rate: 4V/ $\mu$ s (typ.)

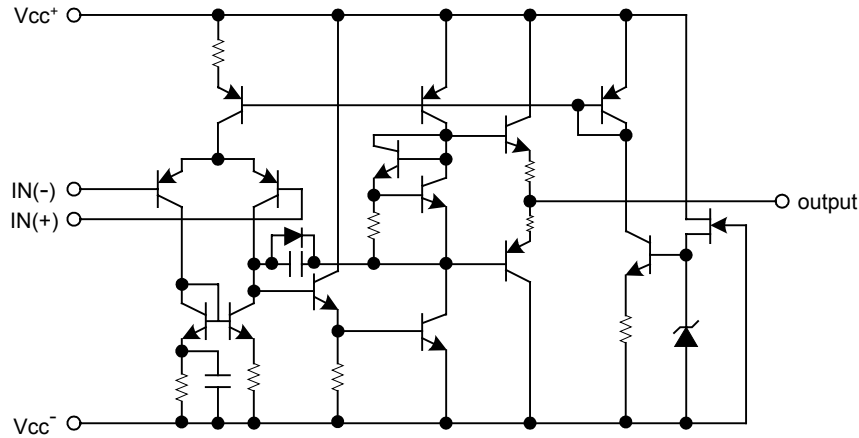


### PIN CONFIGURATION



# UTC M4565 LINEAR INTEGRATED CIRCUIT

## EQUIVALENT CIRCUIT



### ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sup>+</sup> /V <sup>-</sup>	±18	V
Differential Input Voltage	V <sub>ID</sub>	±30	V
Input Voltage	V <sub>IC</sub>	±15 *	V
Power Dissipation	P <sub>d</sub>	500	mW
DIP-8		300	
SOP-8 TSSOP-8		250	
Operating Temperature Range	T <sub>opr</sub>	-20~+75	°C
Storage Temperature Range	T <sub>stg</sub>	-40~+125	°C

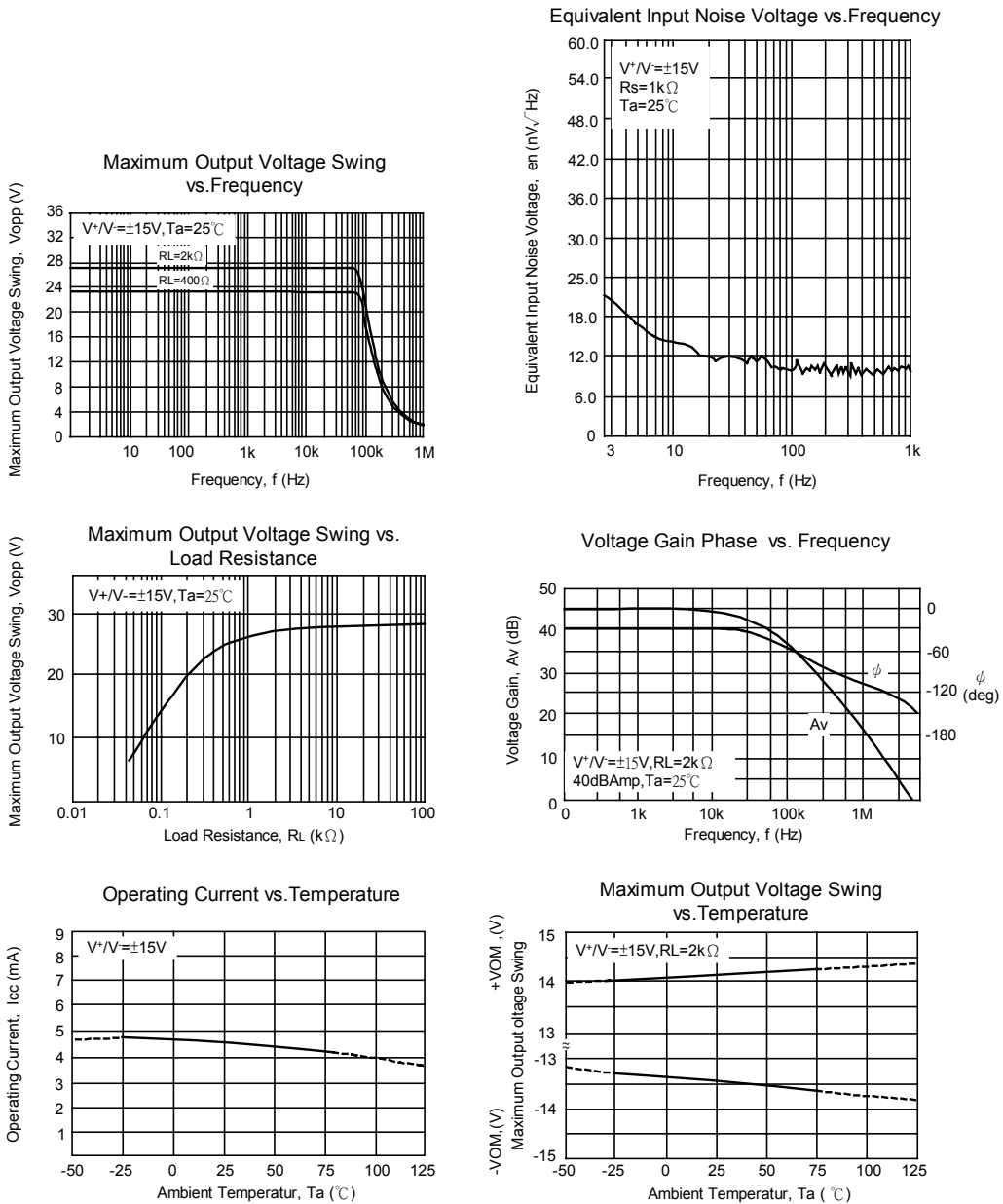
\* For supply voltage less than ±15V, the absolute maximum input voltage is equal to the supply voltage.

### ELECTRICAL CHARACTERISTICS (Ta=25°C, V<sup>+</sup>/V<sup>-</sup>=±15V)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Offset Voltage	V <sub>IO</sub>	R <sub>s</sub> ≤ 10k Ω		0.5	3.0	mV
Input Offset Current	I <sub>IO</sub>			2	50	nA
Input Bias Current	I <sub>B</sub>			50	200	nA
Input Resistance	R <sub>IN</sub>		0.3	5		M Ω
Large Signal Voltage Gain	A <sub>v</sub>	R <sub>L</sub> ≥ 2k Ω, V <sub>o</sub> = ±10V	86	100		dB
Maximum Output Voltage Swing 1	V <sub>OM1</sub>	R <sub>L</sub> ≥ 2k Ω	±12	±14		V
Maximum Output Voltage Swing 2	V <sub>OM2</sub>	I <sub>o</sub> = 25mA	±10	±11.5		V
Input Common Mode Voltage Range	V <sub>ICM</sub>		±12	±14		V
Common Mode Rejection Ratio	CMR	R <sub>s</sub> ≤ 10k Ω	70	90		dB
Supply Voltage Rejection Ratio	SVR	R <sub>s</sub> ≤ 10k Ω	76.5	90		dB
Operating Current	I <sub>CC</sub>			4.5	7	mA
Slew Rate	SR			4		V/μs
Gain Bandwidth Product	GB			10		MHz
Equivalent Input Noise Voltage	V <sub>NI</sub>	RIAA, R <sub>s</sub> = 2.2k Ω, 30kHz LPF		1.2		μVrms

# UTC M4565 LINEAR INTEGRATED CIRCUIT

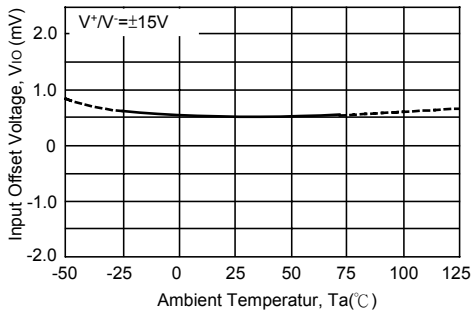
## TYPICAL CHARACTERISTICS



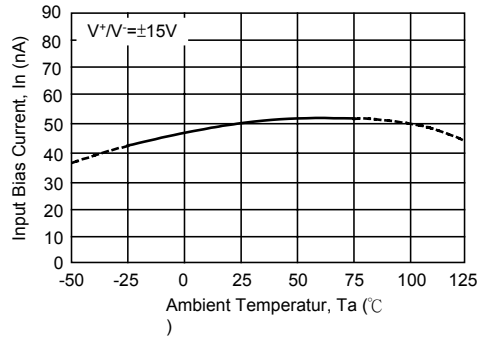
# UTC M4565 LINEAR INTEGRATED CIRCUIT

## TYPICAL CHARACTERISTICS

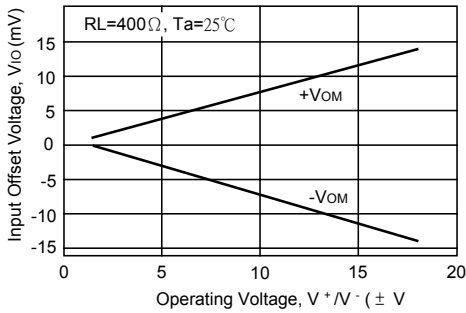
Input Offset Voltage vs. Temperature



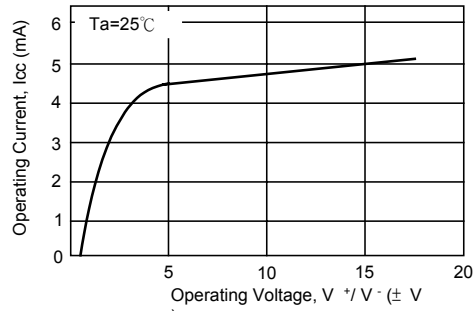
Input Bias Current vs. Temperature



Maximum Output Voltage Swing vs. Operating Voltage



Operating Current vs. Operating Voltage



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.