

UTCM2107 LINEAR INTEGRATED CIRCUIT

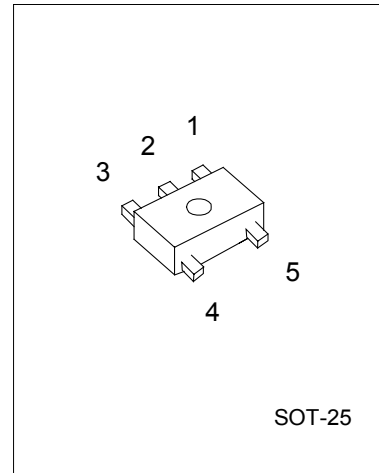
SINGLE OPERATIONAL AMPLIFIER

DESCRIPTION

The UTC M2107 is the single operational amplifier of ultra miniature surface mount package. It has features of low operating supply voltage and low saturation output voltage. It is suitable for small electronic equipments and hybrid circuits.

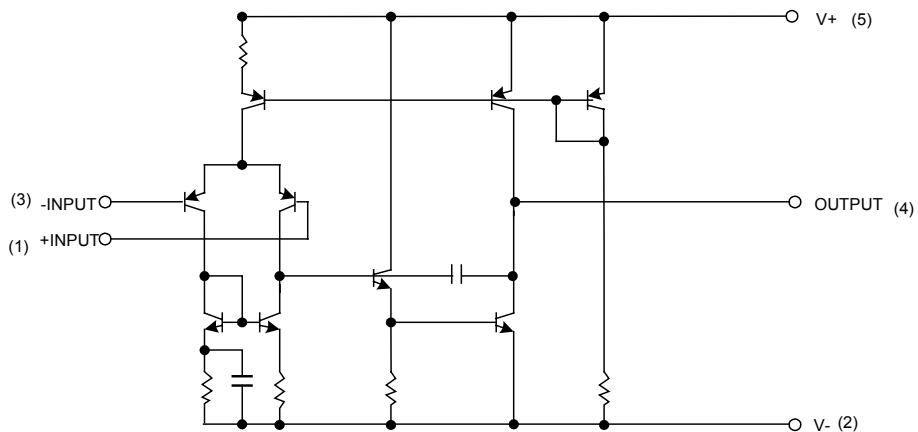
FEATURES

- *Operating Voltage ($V^+/V^- = \pm 1.0V$ to $\pm 3.5V$)
- *Low Output Saturation: (4Vp-p at single 5V supply)
- *V Shield Plate Between +Input and -Input
- *Suitable Pin Arrangement for Application
- *Bipolar Technology



1:+INPUT 2:V- 3:-INPUT
4:OUTPUT 5:V+

EQUIVALENT CIRCUIT



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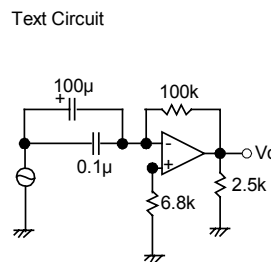
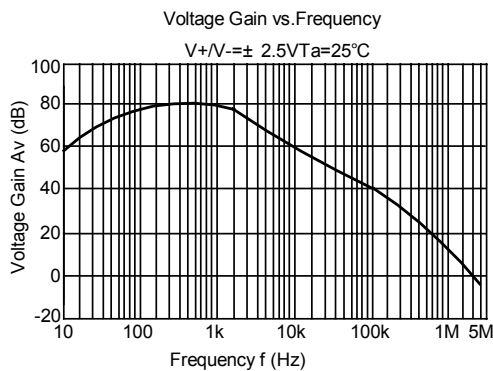
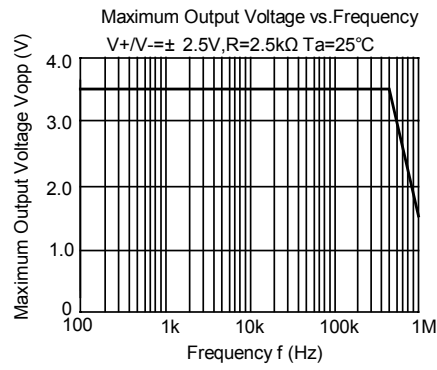
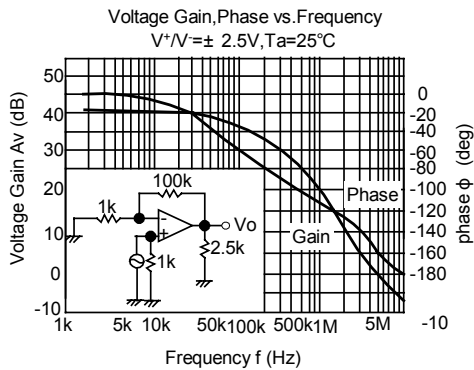
ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺ (V ⁻ /V ⁻)	+7 (or ±3.5)	V
Differential Input Voltage	V _{ID}	±7	V
Input Voltage	V _{IC}	±3.5	V
Power Dissipation	P _D	200	mW
Operating Temperature Range	T _{opr}	-40 to +85	°C
Storage Temperature Range	T _{stg}	-40 to +125	°C

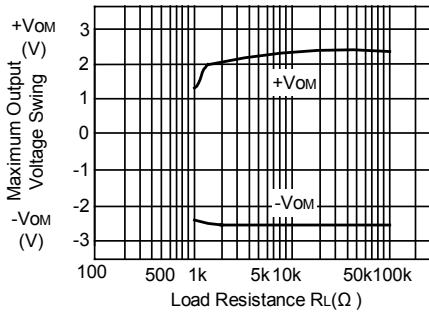
ELECTRICAL CHARACTERISTICS (V⁺/V⁻=±2.5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Offset Voltage	V _{IO}	R _S =10kΩ	-	1	6	mV
Input Offset Current	I _{IO}	I ⁺ -I ⁻	-	5	200	nA
Input Bias Current	I _B		-	100	500	nA
Large Signal Voltage Gain	A _V	(V _O =±2.0V, R _L =10kΩ)	60	80	-	dB
Supply Voltage Rejection Ratio	SVR	R _S ≤10kΩ	60	70	-	dB
Input Common Mode Voltage Range	V _{ICM}		±1.5	-	-	V
Common-mode Rejection Ratio	CMR	R _S ≤10kΩ	60	80	-	dB
Output Voltage Swing	V _{OM}	R _L =2.5kΩ	±2.0	±2.2	-	V
Slew Rate	SR	V _{IN} =±1Vp-p, A _{CL} =+1	-	3	-	V/μs
Operating Current	I _{CC}		1	2	3	mA

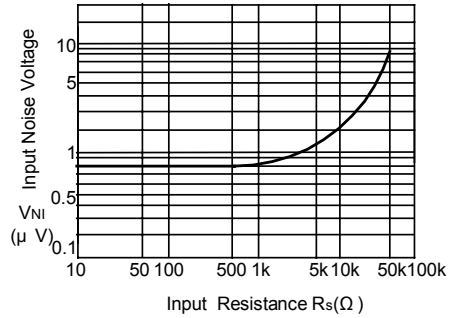
TYPICAL CHARACTERISTICS



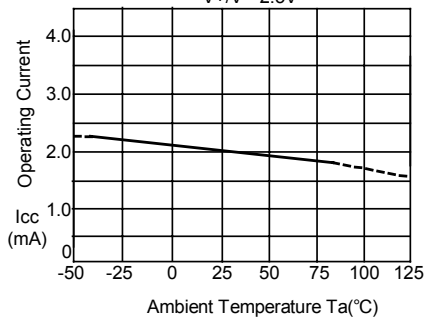
Maximum Output Voltage Swing vs. Load Resistance
 $V+ / V- = \pm 2.5V$ $T_a = 25^\circ C$



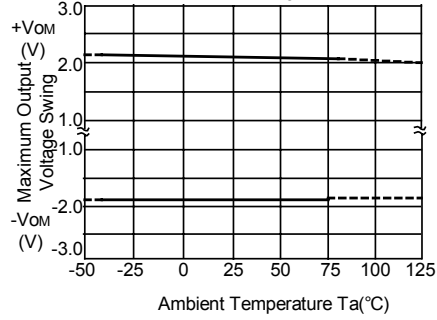
Input Noise Voltage vs. Input Resistance
 $V+ / V- = \pm 3.0V$ $T_a = 25^\circ C$



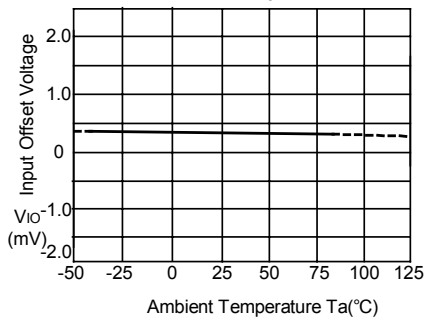
Operating Current vs. Temperature
 $V+ / V- = 2.5V$



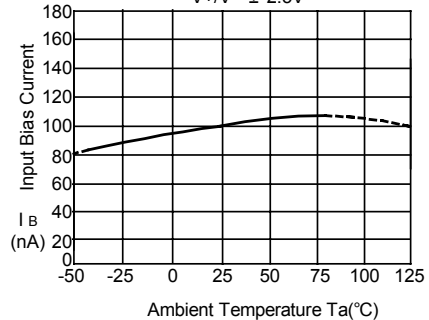
Maximum Output Voltage Swing vs. Temperature
 $V+ / V- = \pm 2.5V$



Input Offset Voltage vs. Temperature
 $V+ / V- = \pm 2.5V$



Input Bias Current vs. Temperature
 $V+ / V- = \pm 2.5V$



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